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When Scientific Palmers Make Policy: The Impact and Future of Cap-and-Trade in the United States

Sophia Hamilton

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WHEN SCIENTIFIC PALMERS¹ MAKE POLICY: THE IMPACT AND FUTURE OF CAP-AND-TRADE IN THE UNITED STATES

BY SOPHIA HAMILTON*

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¹ See WILLIAM SHAKESPEARE, *ROMEO AND JULIET* act 2, sc. 5. A “palmer” is defined in Webster’s 1913 Dictionary as “[a] wandering religious votary; especially, one who bore a branch of palm as a token that he had visited the Holy Land and its sacred places.” PALMER, WEBSTER’S 1913 DICTIONARY, <http://www.webster-dictionary.org/definition/palmer> (last visited Oct. 7, 2010). The votaries of climate change are devoted followers of a different creed than the palmers of old, but they may well hold a place beside them in fervor and belief in their cause.

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INTRODUCTION

*Some say the world will end in fire,
Some say in ice.²*

The political debate over climate change has over the past several years grown from a murmur to a raging cacophony in the United States, and it now appears to be simmering just below the surface.³ This debate has centered on the existence and cause of climate change, a term that has become nearly synonymous with the term “global warming”⁴ in American politics, and on the manner in which this change can be stopped if it is in fact happening and stoppable.⁵ Amidst a sea of information and misinformation,⁶ politicians⁷ have devised several policy

² ROBERT FROST, ROBERT FROST’S POEMS 237 (St. Martin’s Press 2002) (1916). Today, many scientists predict that the world will be ravaged by catastrophe because of global warming. See, e.g., Michael McCarthy, *Climate Change: Countdown to Global Catastrophe*, INDEP./U.K., Jan. 24, 2005, available at <http://www.commondreams.org/headlines05/0124-11.htm>. In the 1970s, the media was reporting on another kind of earth-ending catastrophe: global cooling. See, e.g., Peter Gwynne, *The Cooling World*, NEWSWEEK, Apr. 28, 1975, at 64, available at http://www.denisdutton.com/cooling_world.htm. Newsweek, for example, reported that there were “ominous signs that the earth’s weather patterns ha[d] begun to change dramatically and that these changes m[ight] portend a drastic decline in food production” due to the earth’s cooling. *Id.* This article predicted that the drop in food output could have begun “perhaps only ten years” from the date of publication, April 28, 1975. *Id.* The article further reported, “[e]vidence in support of these predictions has now begun to accumulate so massively that meteorologists are hard-pressed to keep up with it.” *Id.*

³ See Giles Whittell, *Democrats Pose Threat to President Obama’s Cap-and-Trade Climate Bill*, THE TIMES, Dec. 28, 2009, available at http://www.timesonline.co.uk/tol/news/world/us_and_americas/article6969108.ece (Jan. 1, 2010).

⁴ BJORN LOMBORG, THE SKEPTICAL ENVIRONMENTALIST: MEASURING THE REAL STATE OF THE WORLD 410 (Cambridge Univ. Press 2003) (2001). “Global warming is the concern that the global temperature, due to the greenhouse effect, will increase.” *Id.* The technical term the Intergovernmental Panel on Climate Change uses is “the more inclusive *climate change attributable to human activities*.” *Id.* (emphasis added).

⁵ John M. Broder, *House Passes Bill to Address Threat of Climate Change*, N.Y. TIMES, June 26, 2009, at A1, available at <http://www.nytimes.com/2009/06/27/us/politics/27climate.html>.

⁶ For a discussion of Climategate and an example of misinformation, see *infra* notes 347-71 and accompanying text; see also Kimberley A. Strassel, *Cap and Trade is Dead*, WALL ST. J., Nov. 26, 2009, available at <http://online.wsj.com/article/SB10001424052748703499404574558070997168360.html>.

⁷ Some of the most prominent politicians propounding and involved in legislating climate change policy are President Barack Obama, Representatives Henry A. Waxman and Edward J. Markey, and Senator John F. Kerry. Lomborg, *supra* note 4, at 258; Whittell, *supra* note 3; Media Advisory, HOUSE OF REPRESENTATIVES, COMMITTEE ON ENERGY AND COMMERCE, CHAIRMAN WAXMAN, MARKEY RELEASE DISCUSSION DRAFT OF NEW CLEAN ENERGY LEGISLATION (Mar. 31, 2009) (on file with

approaches aimed at reducing greenhouse gas emissions.⁸ Prominent among these approaches is a plan to create a cap-and-trade system⁹ to control carbon emissions in the United States, a method that can boast of many high profile and powerful political and scientific proponents.¹⁰

The debate as to whether climate change is a natural or a man-made occurrence is complex and is the hotly contested subject matter of many books and treatises,¹¹ and this debate is beyond the scope of this article. Here it is worthwhile to note, however, that it is vitally important that the people of the U.S. and its political leaders honestly and accurately seek to ascertain the impact and ultimate effectiveness of the current vogue climate change policy approaches as well as the accuracy of the ideas and science espoused by its proponents, for this information is critical. Though the author agrees that reducing pollution is vitally important to the health of the Earth and its inhabitants, it is not enough to say that the current warming of the Earth could be manmade, and, thus, it must be changed by immediately taking drastic steps to reduce carbon emissions or the result may be a great catastrophe, perhaps even the end of the world.¹² Any number of disastrous things could happen to this planet; the critical question is what is most likely to happen, “what the temperature development will be in the future.”¹³ Author Bjorn

author), available at http://energycommerce.house.gov/index.php?option=com_content&view=article&id=1560:chairmen-waxman-markey-release-discussion-draft-of-new-clean-energy-legislation&catid=122:media-advisories&Itemid=55. A discussion of the legislative history of the leading climate change bill can be found in The American Clean Energy and Security Act of 2009, which is currently before Congress. See *infra* notes 84-91 and accompanying text.

⁸ Carbon Taxes vs. Cap-and-Trade, THE NEW YORKER, <http://www.newyorker.com/online/blogs/stevecoll/2009/01/carbon-taxes-vs.html>, Jan. 9, 2009. See also *infra* notes 397-469 and accompanying text.

⁹ See *infra* notes 221-68 and accompanying text (explaining a cap-and-trade system that could potentially be implemented in the U.S.).

¹⁰ See Robert Stavins, *Cap-and-Trade versus the Alternatives for U.S. Climate Policy*, HARVARD UNIV. BELFER CTR. FOR SCI. AND INT’L AFFAIRS (Oct. 5, 2009), <http://belfercenter.ksg.harvard.edu/analysis/stavins/?p=355#>; Broder, *supra* note 5, at A1; Whittell, *supra* note 3. President Obama, Secretary of State Hillary Rodham Clinton and former Vice President Al Gore were each active in the passage of a cap-and-trade bill in the House in 2009 for capping greenhouse gas emissions. Broder, *supra* note 5, at A1. All three have lobbied lawmakers, especially “fence-sitters,” to support and pass such legislation. *Id.* The Royal Society is one prominent organization that propounds man-made global warming. Press Release, The Royal Society, Royal Society Restates the Science for Copenhagen (Dec. 16, 2009) (on file with The Royal Society), available at <http://royalsociety.org/The-Science-for-Copenhagen/>. This organization prepared and released a statement “in consultation with 30 leading scientists” in December of 2009 in preparation for the United Nations’ Copenhagen talks. *Id.* In this statement, the Royal Society affirmed its belief in climate change. *Id.* Although the Royal Society does not expressly endorse a cap-and-trade system, they counsel that countries should create policies to mitigate and reduce greenhouse gas emissions. See The Royal Society, *Preventing Dangerous Climate Change* (Dec. 2009), <http://royalsociety.org/WorkArea/DownloadAsset.aspx?id=4294969323>.

¹¹ See, e.g., LOMBORG, *supra* note 4, at 258-324; ROY W. SPENCER, CLIMATE CONFUSION: HOW GLOBAL WARMING HYSTERIA LEADS TO BAD SCIENCE, PANDERING POLITICIANS AND MISGUIDED POLICIES THAT HURT THE POOR 1-178 (2008) (discussing why man-made global warming is unlikely); RUSSELL J. DALTON, THE GREEN RAINBOW: ENVIRONMENTAL GROUPS IN WESTERN EUROPE 3-261 (1994) (explaining the emergence of the environmentalist movement and clarifying the motivations and strategies that underlie these contemporary social movements).

¹² YouTube video: The Most Terrifying Video You’ll Ever See, <http://www.youtube.com/watch?v=zORv8wwiadQ&feature=fvw>. To borrow an apropos phrase from Russell Kirk, this kind of argument has the “odor of demagoguery.” RUSSELL KIRK, REDEEMING THE TIME 228 (Jeffrey O. Nelson ed., Intercollegiate Studies Inst. 1996).

¹³ LOMBORG, *supra* note 4, at 263.

Lomborg¹⁴ writes that “[g]etting the state of the world right is important because it defines humanity’s problems and shows us where our actions are most needed.”¹⁵ This is as far as this article will delve into the issue of whether or not climate change is man-made. Here it is sufficient to say that the way in which the U.S. answers this question will determine where our nation expends its limited resources and whether we have the means to address some of our nation’s and humanity’s most pressing needs.¹⁶

Because of the prevalence in U.S. politics of the belief that climate change is manmade – and perhaps because a new government-run carbon cap-and-trade system has the potential to become a powerful political tool to wrest power from the people and impose higher taxation on U.S. citizens¹⁷ – short of continued economic instability¹⁸ or a shift in the political ideology of the U.S. Legislature’s (“Legislature”) majority,¹⁹ it seems likely that the U.S. government will either enact some form of regulation to control greenhouse emissions in the near future or

¹⁴ Bjorn Lomborg has written numerous books addressing the issues involved in the debate about global warming. Lomborg.com, <http://www.lomborg.com/publications/> (last visited Jan. 3, 2010). Lomborg argues in his book, *COOL IT: THE SKEPTICAL ENVIRONMENTALIST’S GUIDE TO GLOBAL WARMING*, that:

[M]any of the elaborate and expensive actions now being considered to stop global warming will cost hundreds of billions of dollars, are often based on emotional rather than strictly scientific assumptions, and may very well have little impact on the world’s temperature for hundreds of years. Rather than starting with the most radical procedures, Lomborg argues that we should first focus our resources on more immediate concerns, such as fighting malaria and HIV/AIDS and assuring and maintaining a safe, fresh water supply-which can be addressed at a fraction of the cost and save millions of lives within our lifetime. He asks why the debate over climate change has stifled rational dialogue and killed meaningful dissent.

Id. Lomborg “is [an] adjunct professor at the Copenhagen Business School. He is the organizer of the Copenhagen Consensus Center, which brings together some of the world’s top economists, including five Nobel laureates, to set priorities for the world.” Lomborg.com, <http://www.lomborg.com/about/biography/> (last visited Jan. 3, 2010). Lomborg has also been honored by Time Magazine, which named him “one of the world’s 100 most influential people in 2004.” *Id.* (internal quotation marks omitted). Also, “[i]n 2008 he was named “one of the 50 people who could save the planet” by the U.K. Guardian; “one of the top 100 public intellectuals” by Foreign Policy and Prospect magazine; and “one of the world’s 75 most influential people of the 21st century” by Esquire.” *Id.*

¹⁵ LOMBORG, *supra* note 4, at 3.

¹⁶ Margaret Thatcher’s commonly paraphrased quote regarding socialism might be equally applicable here: “eventually you run out of other people’s money.” Wikiquote.org, Talk: Margaret Thatcher, http://en.wikiquote.org/wiki/Talk:Margaret_Thatcher (last visited Feb. 4, 2010). For an explanation of the science in opposition to man-made climate change, see Warren Meyer, *Denying the Catastrophe: The Science of the Climate Skeptic’s Position*, FORBES, Oct. 15, 2010, available at <http://blogs.forbes.com/warrenmeyer/2010/10/15/denying-the-catastrophe-the-science-of-the-climate-skeptics-position/?boxes=opinionschannellatest>.

¹⁷ “The experience of the past few decades indicates that ‘pollution control’ is often a pretext by which the federal government regulates the minutiae of each and every industrial process and economic transaction.” Jonathan H. Adler, *Making the Polluters Pay*, 45 THE FREEMAN, Mar. 1995, at 167, available at <http://www.thefreemanonline.org/featured/making-the-polluter-pay/#>.

¹⁸ Nebraska Democratic Senator Ben Nelson said during the 111th Congress that he would “just as soon see [climate change bills] set aside until we work through the economy.” Whittell, *supra* note 3.

¹⁹ Elections, such as the Senate midterm elections, can also impact the timing of a strong push for a cap-and-trade bill in the Senate. Whittell, *supra* note 3. “Fearful of a drubbing” in mid-term Senate elections on November 2, 2010, “senior Democrats are asking the Administration to postpone the next big climate change push until at least 2011.” *Id.*

find another method by which to control these emissions.²⁰ If factors such as the environment and a change in ideological power in the Legislature do impact this argument, likely preventing the legislation of a cap-and-trade system in the U.S., the issue of greenhouse gas emission reduction will not quietly fade away. Whether or not such legislation is adopted by the 111th Congress or during the next several sessions, climate change and government regulation of greenhouse gas emissions are issues that will continue to be debated among politicians into the foreseeable future, both nationally and internationally.

The bill currently before the Legislature that would limit carbon emissions in the U.S. is the American Clean Energy and Security Act of 2009 (“ACES”), a bill that the House passed in June of 2009.²¹ Should ACES be enacted, it would set up programs and authorize agencies to begin taking measures to reduce global warming, which “has become the overriding environmental concern [in the U.S.] since the 1990s.”²² President Barak Obama (“President Obama”) and many federal legislators²³ are among the supporters of this bill.²⁴ ACES would attempt to remedy global warming using one primary method, a cap-and-trade system, as well as a number of less hotly disputed methods.²⁵ The cap-and-trade system would reduce carbon pollution by placing a cap on the total amount of greenhouse gasses the U.S. could emit.²⁶ Under the ACES provision that sets up a cap-and-trade system,²⁷ companies and industries would buy or sell emissions allowances in a government-regulated marketplace that would allow these companies to emit an allotted amount of carbon emissions (the cap), sell unused allowances, and buy allowances from companies that have unused credits.²⁸ Some have argued that this cap-and-trade provision will amount to the “largest tax hike in world history.”²⁹ Numerous voices have proposed alternative means by which the U.S. can limit its

²⁰ See Whittell, *supra* note 3; *but see* Copenhagen a Eulogy for US Cap-and-Trade, REUTERS, <http://blogs.reuters.com/james-pethokoukis/2009/12/22/copenhagen-a-eulogy-for-us-cap-and-trade/> (Dec. 22, 2009). If cap-and-trade legislation is not enacted, the Environmental Protection Agency (“EPA”) may possess the power to regulate greenhouse gas emissions by command-and-control methods. See *infra* notes 453-94 and accompanying text.

²¹ Broder, *supra* note 5, at A1.

²² LOMBORG, *supra* note 4, at 258.

²³ See American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (June 26, 2009), available at <http://www.govtrack.us/congress/vote.xpd?vote=h2009-477> (Mar. 12, 2010) (listing Representatives who voted for ACES in 2009). In the House of Representatives, Representatives Henry A. Waxman and Chairman Edward J. Markey, as well as the majority of the Democratic representatives support ACES. See *id.*

²⁴ LOMBORG, *supra* note 4, at 258.

²⁵ H.R. 2454; see also *infra* notes 397-469 and accompanying text (discussing the other methods by which ACES addresses global warming).

²⁶ H.R. 2454.

²⁷ *Id.* at § 3(A)-(E).

²⁸ *Id.*; see also Carbon Taxes, *supra* note 8.

²⁹ See, e.g., Myron Ebell, *Trojan Hearse*, N.Y. POST, June 25, 2009, available at http://www.nypost.com/p/news/opinion/opedcolumnists/trojan_hearse_Oa71EyEOsoyDihCVc3TuMI. Ebell argues that, though a cap-and-trade system would not impose a direct tax, it will amount to a massive tax hike because it “would vastly increase fossil-fuel prices” placing a cost on greenhouse gas emissions. *Id.* This, Ebell comments, will in turn have the effect of forcing Americans “to use less energy and pay much more for it.” *Id.*

greenhouse gas emissions.³⁰

On the macro level, the effects of the cap-and-trade system that ACES would set up would undoubtedly extend beyond its potential impact on the environment; however, the extent of its impact remains a matter of substantial controversy in the U.S. and throughout the world.³¹ According to various studies, the bill would impact the economy, slowing growth of the United State's gross domestic product ("GDP").³² Some critics see more far-reaching effects.³³ Christopher Monckton ("Monckton"), Chief Policy Advisor at the Science and Public Policy Institute, outspoken opponent of cap-and-trade, and disbeliever in global warming, has pointed out that as food has been taken and used to produce biofuels, an occurrence that Monckton attributes primarily to global warming ideology, food prices have significantly increased in the last several years, which can mean the difference between adequate nutrition and starvation for millions of inhabitants of poor countries.³⁴

Some view this bill as more of a detriment than a benefit to the U.S.; these critics point out that this governmental effort to reduce carbon emissions must be balanced against meeting energy needs in the U.S. in a way that will not impose heavy costs on businesses, costs that will ultimately be passed on to consumers.³⁵ A *Wall Street Journal* article predicts that the cost of a cap-and-trade system will impact low-income families more severely than high-income families because low-income families "devote more of their disposable income to energy."³⁶ Also, the article points out that in the U.S., "certain regions and populations will be more severely hit than others—manufacturing states more than service states; coal producing states more than states that rely on hydro or natural gas."³⁷ The Congressional Budget Office ("CBO") did not address these variables in its

³⁰ See *infra* notes 347-469 and accompanying text.

³¹ Obama Admin: *Cap And Trade Could Cost Families \$1,761 A Year*, CBS NEWS, Sept. 15, 2009, available at http://www.cbsnews.com/blogs/2009/09/15/taking_liberties/entry5314040.shtml.

³² *Id.* The way in which ACES would impact the GDP is through the increased costs on carbon-based energy it introduces into the economy. DAVID W. KREUTZER ET AL., HERITAGE CENTER FOR DATA ANALYSIS, THE ECONOMIC CONSEQUENCES OF WAXMAN-MARKEY: AN ANALYSIS OF THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 8 (2009). "The broadest measure of economic activity is the change in GDP after accounting for inflation. GDP measures the dollar value of all goods and services produced in the [U.S.] during the year for final sale to consumers." *Id.* According to the Heritage Center's analysis, the cost a cap-and-trade system would impose on the economy would cause our nation's GDP to be reduced "by nearly \$200 billion each year for the first few years." *Id.* at 9. After the first few years, the annual losses would decrease somewhat. *Id.*

³³ Christopher Monckton is one such critic who has noted the potential negative consequences of climate change legislation. YouTube, Lord Monckton: Global Warming Big Scientific Fad, <http://www.youtube.com/watch?v=bKrw6ih8Gto>; CHRISTOPHER MONCKTON, THE COST AND FUTILITY OF TRADING HOT AIR (Sci. & Pub. Policy Inst. 2008), http://scienceandpublicpolicy.org/images/stories/papers/monckton/Monckton/cost_and_futility_of_trading_hot_air.pdf.

³⁴ YouTube, Lord Monckton, *supra* note 33.

³⁵ *The Cap and Tax Fiction*, WALL ST. J., June 26, 2009, at A12, available at <http://online.wsj.com/article/SB124588837560750781.html>.

³⁶ *Id.*

³⁷ *Id.* The CBO also noted that it took into account only the day-to-day costs that would be associated with operating the cap-and-trade program, not "the potential decrease in gross domestic product (GDP) that could result from the cap." *Id.* (internal citations omitted).

analysis of ACES.³⁸ And, after all of its costs and negative effects, the cap-and-trade system implemented by ACES will result in only a small climate change in the foreseeable future.³⁹

If the Senate passes ACES during the 111th Congress, or in the next few years without major amendments, the effect of the act will be to increase energy costs by twenty percent by 2025, according to a study by the Energy Information Administration.⁴⁰ According to one report, this cost would impact economic growth, reducing the GDP by 0.2 percent between 2012 and 2030.⁴¹ And, despite the implication of the catchy political slogan, “making the polluters pay,”⁴² this cost would initially be borne by businesses, the “polluters,” but it would ultimately be passed on to consumers.⁴³

BACKGROUND

Cap-and-Trade Systems – The Basics

The basic concept of any cap-and-trade system is that the government regulates greenhouse gas emissions by “creating a regulated marketplace in which polluters can buy and sell emissions while adhering to aggregate caps.”⁴⁴ This approach includes setting an enforceable limit on the total greenhouse gas emissions that “large emitters⁴⁵ are allowed to produce each year.”⁴⁶ Carbon

³⁸ *Id.*

³⁹ See KREUTZER, *supra* note 32, at 12. Because emissions levels in developing countries, such as China and India, continue to grow unchecked, the cuts made by a cap-and-trade system in the U.S. will be overwhelmed by these emissions. *Id.* The Heritage Foundation reported that ACES’s impact “on world temperature will be too small to even measure in the first several decades If CO₂ emission levels meet the [ACES] target of 17 percent of 2005 emissions by the year 2050, and if they are frozen at that level for the rest of the century, [ACES] would still reduce the world temperature by only 0.2 degree Celsius by 2100.” *Id.*

⁴⁰ *Obama Energy Policies Will Hike Prices by 20 Percent*, DAILY POL’Y DIG., http://www.nepa.org/sub/dpd/index.php?Article_ID=18285 (last visited Aug. 5, 2010); ENERGY INFO ADMIN., ENERGY MARKET AND ECONOMIC IMPACTS OF H.R. 2454, THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 (July 2009), http://www.eenews.net/public/25/12014/features/documents/2009/08/04/document_gw_03.pdf.

⁴¹ *Obama Energy Policies Will Hike Prices*, *supra* note 40.

⁴² Adler, *supra* note 17.

⁴³ *Obama Energy Policies Will Hike Prices*, *supra* note 40.

⁴⁴ Carbon Taxes, *supra* note 8.

⁴⁵ The EPA considers greenhouse gas emitters who “emit 25,000 metric tons or more per year of [greenhouse gas] emissions” to be large emitters. EPA.GOV, Final Mandatory Reporting of Greenhouse Gases Rule, <http://www.epa.gov/climatechange/emissions/ghgrulemaking.html> (last visited Feb. 17, 2010); EPA to Require Greenhouse Gas Reporting by Large Emitters, ENV’T NEWS SERVICE, Mar. 12, 2009, <http://www.ens-newswire.com/ens/mar2009/2009-03-12-092.asp> (last visited Jan. 12, 2010). Small and midsized businesses that emit less than 25,000 tons of carbon dioxide per year would not be regulated under ACES or a similar bill that would set up a cap-and-trade system. See *infra* notes 224-29 and accompanying text. However, small business owners would nonetheless be impacted by the increased energy prices caused by ACES. NFIB.COM, Energy, <http://www.nfib.com/tabid/210/Default.aspx> (last visited Mar. 15, 2010). In a Small Business Problems and Priorities survey, the National Federation of Independent Business (“NFIB”) discovered that “energy costs rank as the second most-pressing problem for small business owners in 2008, two positions higher than in 2004. Today, 43% evaluate the problem as critical, compared to one-quarter of owners in 2004.” *Id.* In its Energy Consumption poll, NFIB found that “energy costs are one of the top three business expenses in 35% of

credits, sometimes referred to as “pollution permits,”⁴⁷ are what companies will use and trade based on their respective needs to emit carbon.⁴⁸ Each credit is equal to one ton of carbon dioxide.⁴⁹ The U.S. government has the option to create a system where the government gives away credits, or a system where it auctions these credits to the highest bidders – or a combination thereof.⁵⁰ President Obama’s plan had been to auction one hundred percent of issued carbon credits; however, under ACES a large portion of the credits would be given away.⁵¹ The U.S. government has not charged companies for greenhouse gas emissions in the past, so this system would place a new cost on businesses.⁵² Despite the added cost to businesses, proponents believe that this system will be flexible enough to “ease necessary changes in the industrial economy” in the U.S.⁵³

Within the a cap-and-trade system, individuals and businesses would be able to voluntarily purchase carbon credits, also called “carbon offsets,” that would be used to prevent rather than permit the emission of greenhouse gasses.⁵⁴ By doing this, these individuals and businesses would be mitigating their own “carbon footprint,” the greenhouse gas emissions they would produce from burning fuel in transportation, electricity use, and other sources.⁵⁵

small businesses.” *Id.* As energy prices rise under ACES, small business owners will have difficulty adjusting the prices “of their goods and services quickly enough to match potentially steep energy cost increases without hurting their customer base.” *Id.*

⁴⁶ Elisa Harley, *A US Federal Carbon Cap and Trade System: Can Obama’s Carbon Credit Plan Deliver a Carbon Dividend to America*, Mar. 17, 2009, <http://www.suite101.com/content/a-us-federal-carbon-cap-and-trade-system-a103236>.

⁴⁷ ECONOMICSHHELP.ORG, *Pollution Permits*, <http://www.economicshelp.org/marketfailure/pollution-permits.html> (last visited Jan. 3, 2010).

⁴⁸ Carbon Taxes, *supra* note 8.

⁴⁹ Harley, *supra* note 46. Sarah Forbes, who leads the Carbon Capture and Sequestration program at the World Resources Institute, said in an interview that an average coal plant produces approximately four million tons of carbon dioxide per year. David Roberts, *What the Heck is CCS and Can It Really Help Fight Climate Change? An Expert Explains*, GRIST, July 13, 2009, <http://www.grist.org/article/2009-07-13-what-the-heck-is-ccs-and-can-it-really-help-fight-climate-change/>.

⁵⁰ *Mexico’s Alternative to Global Cap and Trade Gains Steam*, ENVTL. LEADER, May 13, 2009, <http://www.environmentalleader.com/2009/05/13/mexicos-alternative-to-global-cap-and-trade-gains-steam/>.

⁵¹ Timothy Gardner, *Obama Compromise on Carbon Could Cut Revenues*, REUTERS, Mar. 13, 2009, <http://www.reuters.com/article/idUSTRE52C5QH20090313>.

⁵² Obama Admin, *supra* note 31.

⁵³ *Id.*

⁵⁴ KATHERINE HAMILTON ET AL., *FORTIFYING THE FOUNDATION: STATE OF THE VOLUNTARY CARBON MARKETS 2009* (2009), http://ecosystemmarketplace.com/documents/cms_documents/StateOfTheVoluntaryCarbonMarkets_2009.pdf.

⁵⁵ *Id.*; see also ECOBUSINESSLINKS.COM, *Carbon Emissions Offset*, http://www.ecobusinesslinks.com/carbon_offset_wind_credits_carbon_reduction.htm (last visited Jan. 4, 2010). Journalist Alexander Cockburn has likened the buying of these offsets to the medieval practice of buying indulgences, a way to “offset your carbon guilt.” YouTube, Lord Monckton, *supra* note 33, at minute 3.

History of Environmental Regulation and Cap-and-Trade in the U.S.

There had been little environmental regulation in the U.S. prior to the 1960s.⁵⁶ Before the federal government intervened by creating regulatory agencies and policies, prior to the 1960s, environmental grievances were resolved in courts under common law.⁵⁷ While this approach provided a mechanism by which parties could seek to redress environmental grievances, common law in the U.S. lacked regularity and consistency among states and regions, and expert witnesses could be engaged to persuasively argue either side of environmental issues.⁵⁸ These circumstances created much uncertainty in litigation regarding environmental grievances.⁵⁹ Both industries that were subject to environmental lawsuits and individuals “grew impatient with the lack of a priori environmental standards, both legal and scientific.”⁶⁰ The suggestion came from many quarters, including citizens, state governments, and businesses, for the federal government to step in and determine the levels at which various pollutants were safe.⁶¹ In response, during the 1960s, the federal government established several federal programs “to perform research on air and water pollution[,] and to establish national standards.”⁶²

A decade later, in the 1970s, the formation of the Environmental Protection Agency (“EPA”) brought together several existing federal environmental programs under the control of this one agency.⁶³ After its formation, the EPA began to handle problems of “protection of public health and restoration of the natural environment.”⁶⁴ Eight years after creating the EPA, the Legislature passed the Public Utility Regulatory Policies Act of 1978 (“PURPA”), one important act that ACES, or similar legislation regulating carbon emissions and promoting renewable energy, would likely amend if such legislation should be enacted.⁶⁵

⁵⁶ Jack Lewis, *Looking Backward: A Historical Prospective on Environmental Regulations*, ENVTL. PROTECTION AGENCY J., (Mar. 1988), available at <http://www.epa.gov/history/topics/regulate/01.htm>.

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² Lewis, *supra* note 56. Some of these programs included the Federal Water Quality Administration (“FWQA”), which was formed in 1965, and the National Air Pollution Control Administration (“NAPCA”), which originated in 1955 as a research body and was given its name in 1968. *Id.*

⁶³ William D. Ruckelshaus, *Environmental Regulation: The Early Days at EPA*, ENVTL. PROTECTION AGENCY J., (Mar. 1988), available at <http://www.epa.gov/history/topics/regulate/02>.

⁶⁴ Lewis, *supra* note 56.

⁶⁵ See *infra* notes 148-51 and accompanying text.

The Public Utility Regulatory Policies Act of 1978

The U.S. Legislature passed PURPA amidst an unstable energy climate in the 1970s.⁶⁶ In passing this act, the Legislature sought to “reduce dependence on foreign oil, to promote alternative energy sources and energy efficiency, and to diversify the electric power industry.”⁶⁷ PURPA would achieve these goals in part by creating a new class of non-utility generators from whom utilities were required to buy power.⁶⁸ It also required that utility companies buy whatever electricity was produced by qualifying facilities at “avoided cost,” a cost lower than that which the utility would spend in producing the electricity itself.⁶⁹ PURPA “expanded participation of nonutility generators in the electricity market, and demonstrated that electricity from nonutility generators could successfully be integrated with a utility’s own supply.”⁷⁰ PURPA has been successful in promoting renewable energy.⁷¹ ACES would modify and expand PURPA.⁷²

Previous Cap-and-Trade Regulation in the United States

The press has credited President Obama’s belief in the likely success of a cap-and-trade program in reducing carbon emissions, and thereby slowing climate change, on his witnessing the success of a cap-and-trade program that has been credited with drastically reducing acid rain.⁷³ In 1990, the U.S. Legislature enacted Title IV of the 1990 Clean Air Act Amendments,⁷⁴ better known as the Acid Rain Program, which established cap-and-trade regulations that controlled the total amount of sulfur dioxide and nitrogen oxides that could be emitted by electric power plants nationwide.⁷⁵ The total sulfur dioxide and nitrogen oxides released in the U.S. dropped dramatically after the enactment of these regulations, resulting in cleaner rain, which allowed lakes and streams to begin recovering from acid rain.⁷⁶ In 2008, levels of sulfur dioxide emissions in the U.S. had dropped to under half of

⁶⁶ Public Utility Regulatory Policies Act of 1978 (“PURPA”), Federal Energy Regulatory Commission (“FERC”), Pub. L. No. 95-617 (1978) <http://www.ferc.gov/students/energyweregulate/fedacts.htm> (Dec. 29, 2009).

⁶⁷ UCSUSA.org, PURPA, http://www.ucsusa.org/clean_energy/solutions/big_picture_solutions/public-utility-regulatory.html (last visited Dec. 29, 2009).

⁶⁸ FERC, *supra* note 66.

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ UCSUSA.org, *supra* note 67.

⁷² *See infra* notes 148-51 and accompanying text.

⁷³ Whittell, *supra* note 3.

⁷⁴ With these amendments, Congress took environmental regulation in a new direction. DANIEL H. COLE & PETER Z. GROSSMAN, INSTITUTIONAL AND TECHNOLOGICAL CONSTRAINTS ON ENVIRONMENTAL INSTRUMENT CHOICE: A CASE STUDY OF THE U.S. CLEAN AIR ACT, IN ENVIRONMENTAL POLICYMAKING 225-44 (2005). The Clean Air Act, enacted in 1970, had been designed as a traditional command-and-control framework. *Id.* In the 1990 Clean Air Act Amendments, Congress created a “market for tradable pollution permits.” *Id.* *See infra* notes 452-493 and accompanying text (discussing a command-and-control framework for greenhouse gas emissions regulation).

⁷⁵ U.S. ENVTL. PROT. AGENCY, CAP-AND-TRADE: ACID RAIN PROGRAM RESULTS, <http://www.epa.gov/airmarket/cap-trade/docs/ctresults.pdf>.

⁷⁶ *Id.*

those levels emitted in 1980.⁷⁷ “A 2003 Office of Management and Budget . . . study found that the Acid Rain Program accounted for the largest quantified human health benefits of any major federal regulatory program implemented in the last ten years, with benefits exceeding costs by more than 40:1.”⁷⁸ Many believe that the Acid Rain Program is the reason acid rain is no longer a serious environmental issue in the U.S.⁷⁹ However, some critics believe that the sulfur dioxide cap-and-trade system “did little to improve public health.”⁸⁰ In fact, critics assert that coal emissions “are still significant contributing factors in four of the five leading causes of mortality in the [U.S.]”⁸¹ And according to the EPA, coal emissions account for the majority of U.S. sulfur dioxide emissions even today.⁸² Despite these variant views on the success of the Clean Air Act, cap-and-trade’s proponents in the U.S. and around the globe seem to reason that if the cap-and-trade system worked to reduce acid rain, as many believe it did, a similar cap-and-trade program would work for climate change as well.⁸³

The American Clean Energy and Security Act of 2009 – Legislative History

Chairman Henry A. Waxman (“Representative Waxman”) of the House Energy and Commerce Committee and Chairman Edward J. Markey (“Representative Markey”) of the House Energy and Environment Subcommittee released a draft of ACES on March 31, 2009.⁸⁴ A final version of the bill was introduced on May 15, 2009, under the same name, and it was assigned bill number H.R. 2454.⁸⁵ The bill passed the House on June 26, 2009.⁸⁶ ACE has been under consideration by the Senate in this the 111th Congress.⁸⁷ Bills with the same title have been introduced and died in the 107th, 108th, 109th, and 110th Congresses.⁸⁸ Additionally, ACES has a companion bill⁸⁹ in the Senate, S. 1733,

⁷⁷ U.S. ENVTL. PROT. AGENCY, CLEAN AIR MARKETS – DATA AND MAPS, <http://camddataandmap.s.epa.gov/gdm/index.cfm?fuseaction=factstrends.choose> (choose “Acid Rain Emissions Trends” under “Select Report or Graph”; then click “Get Report”). The U.S emitted 17,260,730 tons of sulfur dioxide in 1980, and 7,616,262 tons in 2008. *Id.*

⁷⁸ CAP-AND-TRADE: ACID RAIN PROGRAM RESULTS, *supra* note 75.

⁷⁹ See Whittell, *supra* note 3. It should be noted here that there is a distinction between climate change and acid rain. There continues to be a question as to whether climate change is in fact man-made. Therefore, a cap-and-trade program, though it could certainly reduce carbon emissions in the U.S., may not actually cool the earth.

⁸⁰ James Hansen, *Cap and Fade*, N.Y. TIMES, Dec. 6, 2009, at A29, available at <http://www.nytimes.com/2009/12/07/opinion/07hansen.html>.

⁸¹ *Id.* The five leading causes of death in the U.S. are diseases of heart, malignant neoplasms (cancer), cerebrovascular diseases (including strokes), chronic lower respiratory diseases, and accidents. CTR. FOR DISEASE CONTROL & PREVENTION, DEATHS, PERCENT OF TOTAL DEATHS, AND DEATH RATES FOR THE 15 LEADING CAUSES OF DEATH: UNITED STATES AND EACH STATE 2006 1 (2009), http://www.cdc.gov/nchs/data/dvs/LCWK9_2006.pdf

⁸² EPA.GOV, Reducing Acid Rain, <http://www.epa.gov/acidrain/reducing/index.html> (last visited Jan. 3, 2010).

⁸³ Whittell, *supra* note 3.

⁸⁴ Media Advisory, *supra* note 7.

⁸⁵ *Id.*

⁸⁶ See Broder, *supra* note 5, at A1.

⁸⁷ H.R. 2454, *supra* note 23.

⁸⁸ Clean Energy Jobs and American Power Act, S. 1733, 111th Cong. (2009), available at <http://>

the Clean Energy Jobs and American Power Act (“CEJAP”).⁹⁰ Senator John Kerry is the Senate bill’s primary sponsor.⁹¹

Cap-and-Trade Regulation on Carbon Emissions Outside the U.S.

Should the Legislature pass ACES into law, the U.S. would not be the first nation to create a cap-and-trade system to limit greenhouse gas emissions. The U.S. would, in fact, become part of an international market for an international commodity: carbon credits.⁹²

The European Union’s Cap-and-Trade System

The European Union (“EU”) modeled its Emission Trading System (“ETS”), a cap-and-trade system, on the Acid Rain Program, the U.S. program to reduce sulfur dioxides, the Acid Rain Program.⁹³ The ETS was launched in 2005, and it sought to reduce “greenhouse gas emissions . . . by allocating carbon pollution allowances to member states to fulfill its obligations under the U.N.’s Kyoto Protocol.”⁹⁴ Under the EU’s cap-and-trade regulations, if a company were to emit less than its allowance, it could sell the difference on the trading market to companies that exceeded their established carbon emission limits.⁹⁵

Bloomberg New Energy Finance (“BNEF”), a prominent research company,⁹⁶ reported that its calculations showed “the largest cause of a reduction

www.govtrack.us/congress/bill.xpd?bill=s111-1733 (last visited Jan. 3, 2010).

⁸⁹ A companion bill is “[s]imilar or identical legislation which is introduced in the Senate and House. House and Senate lawmakers who share similar views on legislation may introduce a companion bill in their respective chambers to promote simultaneous consideration of the measure.” Senate.gov, Glossary: Companion Bill, http://www.senate.gov/reference/glossary_term/companion_bill.htm (last visited Jan. 3, 2010).

⁹⁰ S. 1733. CEJAP is similar to ACES in that it creates a cap-and-trade system to regulate greenhouse gas emissions and mirrors many of ACES other provisions that are discussed at length below. NWF.org, Clean Energy Jobs and American Power Act, <http://www.nwf.org/Global-Warming/Policy-Solutions/Climate-and-Energy/Federal-Climate-Policy/Senate-Climate-and-Energy-Bill/Clean-Energy-Jobs-and-American-Power-Act.aspx> (last visited Mar. 14, 2010). CEJAP has two key differences from ACES. *Id.* First, it would reduce carbon emissions in the U.S. by twenty instead of seventeen percent in the next ten years. *Id.* Second, CEJAP has an added provision that would affirm the EPA’s power to regulate greenhouse gasses. *Id.*

⁹¹ S. 1733, *supra* note 90.

⁹² Harley, *supra* note 46.

⁹³ Steven Mufson, *Europe’s Problems Color U.S. Plans to Curb Carbon Gases*, WASH. POST, Apr. 9, 2007, available at <http://www.washingtonpost.com/wp-dyn/content/article/2007/04/08/AR2007040800758.html>.

⁹⁴ Joshua Rhett Miller, *Fraud in Europe’s Cap-and-trade System a ‘Red Flag,’ Critics Say*, FOXNEWS.COM, Dec. 19, 2009, <http://www.foxnews.com/politics/2009/12/14/fraud-europes-cap-trade-red-flag-critics-say/> (Dec. 31, 2009). See *infra* notes 113-21 and accompanying text (providing more information on the Kyoto Protocol).

⁹⁵ *Id.*

⁹⁶ Bloomberg New Energy Finance is the self-proclaimed “world’s leading provider of industry information and analysis to investors, corporations and governments in clean energy, low carbon technologies and the carbon markets.” BNEF.com, About Us, BLOOMBERG NEW ENERGY FINANCE, <http://bnef.com/about-us/> www.newenergyfinance.com/about-us/ (last visited Feb. 3, 2010). It has a global network of 125 analysts that are based “across 10 offices in Europe, the Americas, Asia & Africa [and] are continuously monitoring market changes, deal flow and financial activity allowing instantaneous transparency into the clean energy and carbon markets.” *Id.* Its Carbon Markets division

in emissions in the [EU] last year was attributable to the trading system — because it had encouraged greater use of gas in power generation rather than dirtier fuels like coal.”⁹⁷ It acknowledged that this result came about despite numerous problems with the EU’s cap-and-trade system.⁹⁸ The price per ton of carbon dioxide in the EU fell to new lows in 2008, and BNEF’s projections suggested that 2008 data would show a surplus in carbon credits,⁹⁹ a surplus which would follow another very large surplus of credits in the EU in 2006.¹⁰⁰ According to New Carbon Finance’s analysis, between 2007 and 2008 carbon emissions in Europe dropped by nearly three percent.¹⁰¹ This report highlighted the successes of the cap-and-trade system in Europe. Critics of Europe’s cap-and-trade system have pointed out some of the problems with the system system’s problems.¹⁰²

Europol, a European law enforcement agency, released a statement in December 2009, reporting that organized crime during the previous eighteen months had victimized Europe’s cap-and-trade system, resulting in the loss of approximately \$7.4 billion Euros.¹⁰³ Europol estimated that “in some countries up to ninety percent of the entire market volume was caused by fraudulent activities.”¹⁰⁴ This defrauding happens, according to a diagram of the scheme that Europol officials created, when fraudulent traders “open an account in a national carbon registry and then purchase[] emission allowances without value added taxes¹⁰⁵ from other companies in other countries.”¹⁰⁶ Next, these EU emission allowances are “transferred to the country where they were registered before the [fraudulent] trader moves them to an unregulated broker, selling the allowances on a trading exchange, often through various buffer companies.”¹⁰⁷ Lastly, the fraudulent trader “charges the value added tax on the transaction but does not

provides “market-leading analysis and research for the global carbon markets. This includes analysis, price forecasting, consultancy and risk management.” *Id.*

⁹⁷ Posting of James Kanter to Green Blog, N.Y. TIMES, <http://greeninc.blogs.nytimes.com/2009/02/16/group-says-european-cap-and-trade-system-reduced-emissions/> (Feb. 16, 2011); Press Release, New Energy Finance Ltd., Emissions from the EU ETS down 3% in 2008 (Feb. 16, 2008) (on file with author). The Guardian, a British newspaper, pointed out that this decrease in emissions did not take into account the CO₂ “released by the goods and services Europeans consumed.” Kyoto Fraud Revealed, THE AM. INT. ONLINE, <http://blogs.the-american-interest.com/wrm/2010/10/14/kyoto-fraud-revealed/> (Oct. 14, 2010). The article pointed out that the EU has been “outsourcing pollution – and jobs – rather than cutting back on greenhouse gasses.” *Id.* Taking these things into account, the article reported that “the EU was responsible for **40% more CO₂ in 2010 than in 1990.**” *Id.*

⁹⁸ Green Blog, *supra* note 97.

⁹⁹ A surplus in carbon credits means that more carbon credits were issued than were needed.

¹⁰⁰ Green Blog, *supra* note 97. A surplus in credits drives down the price of carbon credits. See Posting of James Kanter to Green Blog, N.Y. TIMES, <http://greeninc.blogs.nytimes.com/2009/02/16/group-says-european-cap-and-trade-system-reduced-emissions/> (Jan. 21, 2011).

¹⁰¹ Green Blog, *supra* note 97.

¹⁰² Miller, *supra* note 94.

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ “A value added tax is added to the price of a product at each stage of its manufacture or distribution. As more value is added to a product, value added tax, based on a percentage of the increased value, is paid.” Investorglossary.com, Value Added Tax, <http://www.investorglossary.com/value-added-tax.htm> (last visited Feb. 6, 2010).

¹⁰⁶ Miller, *supra* note 94.

¹⁰⁷ *Id.*

submit that money to authorities.”¹⁰⁸ Opponents of cap-and-trade fear that creating a national greenhouse gas emission cap-and-trade system in the U.S. will lead to similar corruption.¹⁰⁹

In addition to problems with corruption, the EU’s carbon emissions cap-and-trade program has encountered several other problems including escalated energy prices, which have lead to: higher electricity bills for numerous homeowners in Europe;¹¹⁰ routine shut downs of facilities to save electricity;¹¹¹ consumers turning to cheaper imports from countries, such as China, that are not covered by Europe’s regulations; and, fear among workers that jobs would move to countries that had no greenhouse gas emissions regulations, such as China or India.¹¹²

The United Nations’ Greenhouse Gas Emissions Reduction Efforts

The United Nations (“UN”) adopted the Kyoto Protocol in Kyoto, Japan, on December 11, 1997, and the Kyoto Protocol was first entered into force on February 16, 2005.¹¹³ The Kyoto Protocol is a protocol to the United Nations Framework Convention on Climate Change (“UNFCCC”)¹¹⁴ that set “targets for 37 industrialized countries and the European community for reducing greenhouse

¹⁰⁸ *Id.*

¹⁰⁹ *Id.* Cap-and-trade’s critics’ fears appear to have some foundation within the U.S. *Id.* Under another cap-and-trade system in California, there has been at least one instance of significant wire fraud. *Id.* Anne Sholtz, a former environmental executive, co-created the Regional Clean Air Incentives Market (“RECLAIM”) in 1999. Miller, *supra* note 94. RECLAIM was the first trading program in the U.S. created to reduce urban air pollution. Environmental Protection Agency, RECLAIM: An Overview, <http://www.epa.gov/airmarkt/resource/docs/reclaimoverview.pdf> (last visited Feb. 6, 2010). Adopted in October 1993 by California’s South Coast Air Quality Management District (SCAQMD or AQMD), RECLAIM was enacted to help meet the state and federal ambient air quality standards in the Los Angeles Basin, which suffers some of the worst air pollution in the country. *Id.* The program established a cap and trade system to reduce emissions of nitrogen oxides (NOx) by seventy-five percent and sulfur dioxide (SO₂) by approximately sixty percent from affected facilities by 2003 (measured from allocation levels, or allowable emissions, under the first year of the program in 1994). EPA CLEAN AIR MARKETS DIVISION, AN OVERVIEW OF THE REGIONAL CLEAN AIR INCENTIVES MARKET 2 (2006). A company Anne Sholtz owned, named Automated Credit Exchange, “provided a market for companies to buy and sell pollution credits under RECLAIM.” Miller, *supra* note 94. Several years after the creation of RECLAIM, in 2005, “Sholtz pleaded guilty to wire fraud for using counterfeit credits to pocket more than \$12 million.” Miller, *supra* note 94.

¹¹⁰ Mufson, *supra* note 93. In Germany, homeowners paid twenty-five percent more than they did before the EU implemented a cap-and-trade system. *Id.* In Britain, “Taxpayer Alliance estimates the average family there is paying nearly \$1,300 a year in green taxes for carbon-cutting programs in effect only a few years.” *The Cap and Tax Fiction*, *supra* note 35, at A12.

¹¹¹ Mufson, *supra* note 93.

¹¹² *Id.*

¹¹³ UNFCCC.INT, Kyoto Protocol, http://unfccc.int/kyoto_protocol/items/2830.php (last visited Jan. 4, 2010).

¹¹⁴ The United Nations Framework Convention on Climate Change (“UNFCCC”) is an international treaty with a purpose of considering what can be done about global warming and finding solutions to address the issue of global warming. UNFCCC.INT, Essential Background, http://unfccc.int/essential_background/items/2877.php (last visited Jan. 4, 2010.). The objective of the UNFCCC is “to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.” Kyoto Protocol to the United Nations Framework Convention on Climate Change art. 2, Dec. 10, 1997, 37 I.L.M. 22 (1998), <http://unfccc.int/resource/docs/convkp/kpeng.pdf>.

gas . . . emissions.”¹¹⁵ These targets “amount to an average of five percent against 1990 levels over the five-year period 2008-2012.”¹¹⁶ Thirty-seven industrialized countries committed to stabilize their greenhouse gas emissions in compliance with this protocol.¹¹⁷ China and India, along with some other fast developing countries, were exempted from the Kyoto Protocol’s requirements.¹¹⁸ Under former President George W. Bush (“President Bush”), the U.S. signed, but did not ratify the Kyoto Protocol.¹¹⁹ Because it was not ratified, the Kyoto Protocol was not binding on or enforceable against the U.S.¹²⁰ The Kyoto Protocol expires in 2012.¹²¹

During the Copenhagen United Nations Climate Change Conference (“Copenhagen Conference”) in December 2009, world leaders discussed a new climate change international agreement to create a new climate change agreement that would pick up where the Kyoto Protocol will leave off.¹²² With President Bush no longer in office, the “international community felt that the path was clear for the Obama administration to finally include America in binding, verifiable, and enforceable restrictions on greenhouse gas emissions.”¹²³ However, by the conclusion of the Copenhagen Conference on December 19, 2009, the world community had not reached a binding agreement regarding greenhouse gas emissions regulations.¹²⁴ In fact, Ben Lieberman, a specialist in energy and environmental issues and a Senior Policy Analyst at The Heritage Foundation’s Roe Institute for Economic Policy Studies, pointed out that “President Obama’s chief negotiator Todd Stern sounded a lot like his Bush administration predecessor in recognizing that an agreement would be worthless if it exempted China, India and other fast developing nations.”¹²⁵ These nations that were exempted under the Kyoto Protocol were unwilling to agree to binding regulations during the Copenhagen Conference.¹²⁶ The impasse with these countries “sank Copenhagen and will very likely sink the next big UN conference in Mexico City next November [of 2010]” Lieberman wrote.¹²⁷ Ultimately, the Copenhagen Accord

¹¹⁵ Kyoto Protocol, *supra* note 114. According to the EPA, the “principle greenhouse gasses that enter the atmosphere because of human activities” are carbon dioxide, methane, nitrous oxide, and fluorinated gases that include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. EPA.GOV, Climate Change – Greenhouse Gas Emissions, <http://www.epa.gov/climatechange/emissions/> (last visited Feb. 17, 2010).

¹¹⁶ Kyoto Protocol, *supra* note 114.

¹¹⁷ *Id.*

¹¹⁸ Posting of Ben Lieberman to The Foundry Blog, <http://blog.heritage.org/2010/01/06/how-big-a-failure-was-copenhagen/> (Jan. 6, 2010).

¹¹⁹ Rosanne Skirble, *Non-binding Copenhagen Agreement Facing First Tests*, VOICE OF AM., Jan. 25, 2010, <http://www1.voanews.com/english/news/environment/Non-binding-Copenhagen-Agreement-Facing-First-Tests-82390827.html>.

¹²⁰ *Id.*

¹²¹ The Foundry Blog, *supra* note 118.

¹²² *Id.*

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ The Foundry Blog, *supra* note 118.

did not include emissions targets.¹²⁸

The UN issued a press release at the conclusion of the Copenhagen Conference that reported on its “political agreement to cap temperature rise, reduce emissions and raise finance.”¹²⁹ This agreement was negotiated during the conference and was embodied in the Copenhagen Accord.¹³⁰ The UN reported that the Copenhagen Accord was “supported by a majority of countries, including amongst them the biggest and the richest, and the smallest and most vulnerable.”¹³¹ The Copenhagen Accord recognized that “the scientific view that an increase in global temperature below 2 degrees is required to stave off the worst effects of climate change.”¹³² Staving off climate change being its goal, the Copenhagen Accord set out to achieve this goal by agreeing that “industrialized countries will commit to implement, individually or jointly, quantified economy-wide emissions targets¹³³ from 2020, to be listed in the accord before 31 January 2010.”¹³⁴ The UN press release also noted that “[a] number of developing countries, including major emerging economies, agreed to communicate their efforts to limit greenhouse gas emissions every two years, also listing their *voluntary* pledges before [January 31, 2010].”¹³⁵ Because these pledges would be voluntary and might, according to the science the Copenhagen Accord relied on, not be sufficient to keep global temperatures from rising below two degrees or less, UN leaders “called for a review of the accord to be completed by 2015.”¹³⁶

The developing world’s refusal to agree to climate change regulations will impact the debate over climate change policies in the U.S.¹³⁷ Senators from manufacturing states fear that their states will lose jobs to India, China, and other fast developing countries if domestic legislation, such as ACES, were to “unilaterally raise manufacturing costs in America.”¹³⁸ Because the Copenhagen Accord did not include emissions targets, it will be difficult for many legislators to justify supporting a domestic bill that would place a cap on U.S. greenhouse gas emissions.¹³⁹ A cap would add a substantial strain on the U.S. economy while countries emitting large amounts of greenhouse gasses, like China which is the world’s top emitter of greenhouse gasses, are not committed or legally required to adhere to a similar cap and can continue to manufacture and export goods without

¹²⁸ Pethokoukis, *supra* note 20.

¹²⁹ Press Release, United Nations Framework Convention on Climate Change, Copenhagen United Nations Climate Change Conference Ends with Political Agreement to Cap Temperature Rise, Reduce Emissions and Raise Finance (Dec. 19, 2009), http://unfccc.int/files/press/news_room/press_releases_and_advisories/application/pdf/pr_cop15_20091219.pdf.

¹³⁰ *Id.*

¹³¹ *Id.* at 1.

¹³² *Id.*

¹³³ This indicates a preference for an incentive based policy, which includes cap-and-trade and carbon tax systems, rather than a command-and-control system. *See infra* notes 448-69 and accompanying text.

¹³⁴ *Id.*

¹³⁵ *Id.* (emphasis added).

¹³⁶ *Id.*

¹³⁷ The Foundry Blog, *supra* note 118.

¹³⁸ *Id.*

¹³⁹ *Id.*

paying to emit greenhouse gasses.¹⁴⁰ Because of these factors, the conclusion of the Copenhagen Conference will certainly make a cap-and-trade bill regulating greenhouse gas emissions in the U.S. a tough sell to many legislators as long as such circumstances exist.¹⁴¹

ACES, the Bill

Though this paper focuses primarily on the cap-and-trade provision of ACES, the reader would have an incomplete understanding of the bill were he or she not to have, at the very least, a cursory understanding of the bill's various other provisions. This section briefly discusses the provisions of ACES as it passed the house in June of 2009,¹⁴² including cap-and-trade,¹⁴³ in order by title.¹⁴⁴ A final bill, if it were to pass both the House and Senate, would incorporate many of these provisions and possibly include additional amendments and/or exclude some of these provisions.¹⁴⁵

As of the end of February 2010, President Obama had made comments suggesting that he might support separating the sections of the ACES bill into one cap-and-trade bill and a separate bill aimed at producing "green jobs," which could include many of ACES non-cap-and-trade measures.¹⁴⁶ However, President Obama has in the past and may still favor a bill that would include all of the following ACES provisions in one bill.¹⁴⁷

Title I – Clean Energy

Title I focuses primarily on the development of clean energy resources.¹⁴⁸ Subtitle A of Title I would amend PURPA to require that "retail electric suppliers . . . meet a certain percentage of their load with electricity generated from renewable resources and electricity savings."¹⁴⁹ Renewable energy resources would include "wind, biomass, solar, geothermal, certain hydropower projects, marine and hydrokinetic renewable energy, and biogas and biofuels derived exclusively from eligible biomass."¹⁵⁰ Other energy resources like landfill gasses

¹⁴⁰ Pethokoukis, *supra* note 20.

¹⁴¹ *Id.*

¹⁴² The version of the bill that passed the House was 1,480 pages in length, and approximately 400 of those pages addressed cap and trade. *A Federal Leviathan: The American Clean Energy and Security Act of 2009*, DAILY POL'Y DIG, Oct. 2, 2009, available at http://www.nepa.org/sub/dpd/index.php?Article_ID=1850.

¹⁴³ See *infra* notes 44-55 and accompanying text.

¹⁴⁴ See H.R. 2454, *supra* note 23, at 1.

¹⁴⁵ See, e.g., Proposed Amendment to H.R. 2454, 111th Cong. (2009) (authored by Congressman J. Randy Forbes), http://www.rules.house.gov/111/SpecialRules/hr2998/forbes2_hr2998_111.pdf.

¹⁴⁶ Elizabeth Williamson, *Obama Retreats from Goal of Cap-Trade Bill*, WALL ST. J., Feb. 3, 2010, available at <http://online.wsj.com/article/SB10001424052748704022804575041632860721438.html>.

¹⁴⁷ *Id.*

¹⁴⁸ H.R. 2454, *supra* note 23, at 1-8.

¹⁴⁹ *Id.* at 1.

¹⁵⁰ *Id.*

and wastewater treatment gasses would also qualify.¹⁵¹ The bill also sets percentage requirements for renewable energy and electricity savings.¹⁵² In 2012, when the program would begin, these requirements would start at six percent.¹⁵³ By 2020, “the combined renewable electricity and electricity savings requirement” would be twelve percent.¹⁵⁴ Title I also sets up a requirement that federal agencies purchase twenty percent of their electricity from renewable or other qualifying resources by 2020.¹⁵⁵

Title I, Subtitle B sets out requirements regarding carbon capture and sequestration (“CCS”).¹⁵⁶ It requires the EPA Administrator to submit a report to Congress that sets forth a national strategy “to address the key legal and regulatory barriers to the commercial-scale deployment of carbon capture and sequestration.”¹⁵⁷ It also requires the EPA Administrator to promulgate regulations for geologic sequestration sites and to conduct studies and reports on “the legal framework for geologic sequestration sights” and how the multiple EPA administered environment statutes “would apply to geologic sequestration activities.”¹⁵⁸ Title I, Subtitle B also sets up a carbon capture and sequestration demonstration and early deployment program,¹⁵⁹ and employs incentives for companies to use carbon capture and sequestration technologies,¹⁶⁰ and sets up

¹⁵¹ *Id.*

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ H.R. 2454, *supra* note 23, at 1.

¹⁵⁵ *Id.* at 2.

¹⁵⁶ *Id.* at 2-3. CCS is a broad term that encompasses a number of technologies that can be used to capture CO₂ from point sources, such as power plants and other industrial facilities; compress it; transport it mainly by pipeline to suitable locations; and inject it into deep subsurface geological formations for indefinite isolation from the atmosphere. SCIENTIFICAMERICAN.COM, Carbon Capture and Sequestration (“CCS”), <http://www.scientificamerican.com/article.cfm?id=us-epa-says-to-ease-carbo> (last visited March 14, 2010). CCS technology has not yet been fully developed. Roberts, *supra* note 49. ACES requires that Federal agencies under the direction of the EPA develop a comprehensive strategy for deployment of CCS, and the bill also promotes research and development of CCS technology by establishing a “Carbon Storage Research Corporation to be run by the Electric Power Research Institute” that would “use funds collected through a feed-in tariff to issue grants and financial assistance for commercial-scale CCS demonstrations.” Sarah Forbes, *Updated: Carbon Capture and Storage and The American Clean Energy and Security Act*, WORLD RESOURCES INST., June 18, 2009, <http://www.wri.org/stories/2009/06/updated-carbon-capture-and-storage-and-american-clean-energy-and-security-act>. The funding of grants would be capped at 1.1 billion dollars and would be available for ten years. *Id.*

¹⁵⁷ H.R. 2454, *supra* note 23, at 2.

¹⁵⁸ *Id.*

¹⁵⁹ The Carbon Capture and Sequestration Demonstration and Early Deployment Program would be “financed by a micro-carbon fee on all electricity sold in the United States.” Jesse Jenkins, *Climate Bill Analysis, Part 10: Smart Provisions Could Spur Clean Technology - If They Are Funded*, BREAKTHROUGH INST., June 5, 2009, http://www.thebreakthrough.org/blog/2009/06/climate_bill_analysis_part_x_s.shtml. Over the next ten years, this program would devote ten billion dollars “to promote the commercialization and large-scale demonstration of carbon capture and sequestration technologies for coal plants and other major point-source emitters of [carbon dioxide].” *Id.*

¹⁶⁰ ACES “provides bonus allowances to the first facilities that implement capture and secure geologic storage that results in a 50 percent reduction in annual carbon dioxide emissions.” Forbes, *supra* note 156. Bonus allowances are “available for electric generating units fired by coal or petroleum coke at least 50 percent of the time and with a nameplate capacity of 200MW or greater, and to industrial sources that emit more than 50,000 tons of carbon dioxide per year and do not produce liquid

performance standards for coal-fueled power plants.¹⁶¹

Title 1, Subtitle C would promote clean transportation.¹⁶² It would do this by amending the Public Utility Regulatory Policies Act “to require utilities to consider developing plans to support electric vehicle infrastructure and to consider establishing protocols for integration with smart grid programs.”¹⁶³ It would also provide for financial assistance for developing regional grid systems,¹⁶⁴ and for retooling facilities to enable them to manufacture plug-in electric drive vehicles or batteries for such vehicles.¹⁶⁵ Additionally, it would establish advanced technology vehicle manufacturing incentive loans,¹⁶⁶ give the Secretary of Transportation the authority to “require light-duty automobile manufacturers to make vehicles capable of operation on ethanol and methanol-based fuels,”¹⁶⁷ and requires a report from the EPA on natural gas vehicle emissions reductions.¹⁶⁸

Title I, Subtitle D focuses on state energy and environment development accounts.¹⁶⁹ It would create a program that would allow states to set up State Energy and Environment Development (“SEED”) accounts that would serve as repositories to “manage and account for all emission allowances designated primarily for renewable energy and energy efficiency purposes.”¹⁷⁰ It would also provide support for state renewable energy and energy efficiency programs in the form of emission allowances that the state governments could distribute.¹⁷¹

Title I, Subtitle F will amend the Energy Policy Act of 2005 in such a way as to “establish a federal policy on electric grid planning that recognizes the need for new transmission capacity to deploy renewable energy as well as the potential for more efficient operation of the current grid through new technology, demand-side management, and storage capacity.”¹⁷² It will also adopt a standard that will require utilities that sell more than 4,000,000 megawatt hours of electricity to “interconnect with and to provide net metering of power deliveries to and receipts from Federal agencies that own, operate or site facilities generating renewable

transportation fuel.” *Id.* An advantage of this program is that it would allow businesses to offset “the technical risk assumed by early-adopters and [provide] a financial incentive to capture and store greater percentages of carbon dioxide than is required under the performance standards.” *Id.*

¹⁶¹ H.R. 2454, *supra* note 23, at 2-3.

¹⁶² *Id.* at 3.

¹⁶³ *Id.*

¹⁶⁴ *Id.* These funds could be used for “offsetting the incremental cost of purchasing new plug-in electric drive vehicles, deployment of electric charging station smart battery charging locations, or facilitating the integration of smart grid equipment with plug-in electric drive vehicles.” *Id.*

¹⁶⁵ *Id.*

¹⁶⁶ *Id.* The authorization for increases for loan guarantees under the Energy Independence and Security Act of 2007 would be increased to fifty billion. *Id.*

¹⁶⁷ H.R. 2454, *supra* note 23, at 2-3. The Secretary of Transportation can only require this if it finds that it would be a cost-effective means to achieve “the nation’s energy independence and environmental objectives.” *Id.*

¹⁶⁸ *Id.*

¹⁶⁹ *Id.*

¹⁷⁰ *Id.* at 4.

¹⁷¹ *Id.*

¹⁷² *Id.* at 5.

energy.”¹⁷³

Title I, Subtitle G simply makes technical corrections in the Energy Independence and Security Act of 2007.¹⁷⁴ Title I, Subtitle H establishes a program that will “support development and commercialization of clean energy technologies through eight regional Energy Innovation Hubs.”¹⁷⁵ These Hubs would be competitively selected under the direction of the Secretary of Energy.¹⁷⁶ Subtitle H also provides for advanced energy research by providing distribution of allowances each year that will “support research and development on innovative energy technologies.”¹⁷⁷ It establishes building assessment centers at institutions of higher education to “identify opportunities to optimize the energy and environmental performance of buildings.”¹⁷⁸ Additionally, this subtitle would provide for the establishment of ten or less “regional centers for energy and environmental knowledge and outreach.”¹⁷⁹ These centers would coordinate “various energy related research centers” which institutions of higher education would house while running internship programs to train students in energy efficiency.¹⁸⁰ The programs would be funded up to fifty percent by federal funding.¹⁸¹

Title I, Subtitle I establishes a new corporation wholly owned by the U.S. government, the Clean Energy Deployment Administration (“CEDA”).¹⁸² This corporation would work to “promote the domestic development and deployment of clean energy technology” through partnering with and supporting private capital markets to provide affordable financing for “a range of clean energy technologies that might otherwise be unable to secure financing.”¹⁸³ CEDA would support a “variety of next generation technologies” including nuclear and advanced technologies.¹⁸⁴

¹⁷³ H.R. 2454, *supra* note 23, at 6. The net metering service must also be offered to these federal agencies based on rates that are non-discriminatory and time-sensitive. *Id.*

¹⁷⁴ *Id.*

¹⁷⁵ *Id.*

¹⁷⁶ *Id.* The Department of Energy will establish three Energy Innovation Hubs in the year 2010, independent from ACES. Energy.gov, Energy Innovation Hubs, <http://www.energy.gov/hubs/overview.htm> (last visited Feb. 1, 2010). The purpose of these Hubs will be “to advance highly promising areas of energy science and technology from their early stages of research to the point where the risk level will be low enough for industry to move them into the marketplace.” *Id.* The idea is for these Hubs to “support cross-disciplinary research and development focused on the barriers to transforming energy technologies into commercially viable materials, devices, and systems.” *Id.* These Hubs’ structures will be modeled after “the forceful centralized scientific management characteristic of the Manhattan Project (e.g., Los Alamos and the Metallurgical Laboratory at the University of Chicago), Lincoln Lab at MIT that developed radar, and AT&T Bell Laboratories that developed the transistor.” *Id.*

¹⁷⁷ H.R. 2454, *supra* note 23, at 6.

¹⁷⁸ *Id.* These assessment centers would also be used to “promote emerging technologies and research and development to improve buildings’ energy and environmental performance.” *Id.*

¹⁷⁹ *Id.*

¹⁸⁰ *Id.* at 6-7.

¹⁸¹ *Id.* at 7.

¹⁸² *Id.*

¹⁸³ H.R. 2454, *supra* note 23, at 7.

¹⁸⁴ *Id.*

Title II – Energy Efficiency

Title II focuses on promoting energy efficiency.¹⁸⁵ Title II, Subtitle A would establish building energy efficiency programs.¹⁸⁶ It would amend the Energy Conservation and Production Act to establish “targets for improved energy efficiency building codes that would achieve 30% reductions in energy use in new buildings upon enactment and 50% reductions in 2014 for residential buildings or 2015 for commercial buildings.”¹⁸⁷ States and localities would be “responsible for adopting and enforcing energy efficiency building codes that [would meet] the targets.”¹⁸⁸ These states and localities would also “receive allowances to cover the costs of developing, adopting, implementing, and enforcing such energy efficiency building codes.”¹⁸⁹ Homeowners would not be required to audit or to retrofit their homes to meet code requirements.¹⁹⁰ This subtitle would also establish a retrofit for Energy and Environmental Performance program that would “provide allowances to states to conduct cost-effective building retrofits.”¹⁹¹ This program would allow local governments or other agencies to assist building owners to retrofit their buildings “by providing up to fifty percent of the costs of retrofits, with funding increasing in proportion to efficiency achievement.”¹⁹²

This same Title and subtitle would establish a program that would allow low-income families to acquire “federal rebates of up to \$7,500 toward purchases of new Energy Star-rated manufactured homes.”¹⁹³ Under this Title, the EPA would be required to develop a building energy performance labeling program that states could voluntarily adopt to “label new buildings for their energy performance characteristics.”¹⁹⁴ Beyond simply funding programs that would make buildings more energy efficient, Title II, Subtitle A also “[a]uthorizes a grant program through the Department of Energy to provide technical and financial assistance to retail power providers that carry out targeted tree planting programs.”¹⁹⁵

Title II, subtitle B deals with lighting and appliance energy efficiency programs.¹⁹⁶ This section would amend the Energy Policy and Conservation Act (“EPCA”) in several ways.¹⁹⁷ First, it would amend it to “adopt negotiated agreements on technical standards for lighting, including outdoor lighting . . . and portable light fixtures such as typical household and commercial plug-in lamps.”¹⁹⁸

¹⁸⁵ *Id.* at 8-13.

¹⁸⁶ *Id.* at 8.

¹⁸⁷ *Id.*

¹⁸⁸ *Id.*

¹⁸⁹ H.R. 2454, *supra* note 23, at 8.

¹⁹⁰ *Id.*

¹⁹¹ *Id.*

¹⁹² *Id.*

¹⁹³ *Id.*

¹⁹⁴ *Id.*

¹⁹⁵ H.R. 2454, *supra* note 23, at 8.

¹⁹⁶ *Id.* at 9.

¹⁹⁷ *Id.*

¹⁹⁸ *Id.*

Second, this section would amend EPCA by adopting “consensus agreements on technical standards for hot food holding cabinets, bottle-type drinking water dispensers, portable spas (hot tubs), and commercial-grade natural gas furnaces.”¹⁹⁹ Third, it would amend EPCA to “improve the Department of Energy process for setting energy-efficiency standards.”²⁰⁰

This subtitle would also create a Department of Energy program “to provide rewards to retailers for successful marketing of high-efficiency appliances . . . and providing bonuses based on efficiency improvement compared to average product.”²⁰¹ Subtitle B would authorize an EPA WaterSense program.²⁰² This program would be voluntary and would allow for the labeling of “water-efficient high-performance products and services.”²⁰³ Subtitle B would also authorize grants to “eligible entities” that offer incentives for customers to buy water-efficient products and services.²⁰⁴ It would direct the EPA to establish a program that would “assist in the replacement of old polluting inefficient wood stoves or pellet stoves with cleaner burning units.”²⁰⁵

Title II, subsection C deals with transportation efficiency.²⁰⁶ It would amend Title VIII of the Clean Air Act to (1) “require the EPA to establish greenhouse gas emissions standards for new heavy-duty vehicles and engines, and for non-road vehicles and engines,”²⁰⁷ and (2) to “expand an existing EPA loan and fuel saving technology deployment program, the SmartWay Transport Partnership, to help American truckers upgrade to more fuel efficient and less polluting vehicles.”²⁰⁸

Title II, subtitle D deals with industrial energy efficiency requirements.²⁰⁹ This section would require the Secretary of Energy to set “standards for industrial energy efficiency.”²¹⁰ The Secretary of Energy would also be required to assess “the stock and usage of electric motor-driven equipment from an energy efficiency perspective and to identify opportunities for upgrading such motors to improve energy efficiency.”²¹¹ The Secretary would then be required to establish an informative program that would educate motor end-users about the benefits of

¹⁹⁹ *Id.*

²⁰⁰ *Id.* It would accomplish this by enabling adoption of consensus testing procedures; requiring the adoption of a new television standard; improving standard-setting cost-effectiveness formula; authorizing the Secretary to obtain product-specific information as needed; authorizing state injunctive enforcement of standards violations; changing the role of appliance efficiency in building codes; and including greenhouse gas emissions, smart grid capability, and availability of more-efficient models among factors affecting efficiency standard ratings. *Id.*

²⁰¹ *Id.*

²⁰² H.R. 2454, *supra* note 23, at 10.

²⁰³ *Id.*

²⁰⁴ *Id.*

²⁰⁵ *Id.*

²⁰⁶ *Id.*

²⁰⁷ *Id.*

²⁰⁸ H.R. 2454, *supra* note 23, at 10.

²⁰⁹ *Id.*

²¹⁰ *Id.*

²¹¹ *Id.*

using more efficient motors.²¹²

This section would also set up an award program that would encourage utilities to increase innovation and use of thermal energy.²¹³ It would amend the Energy and Policy Conservation Act to set up a “rebate program for replacement of low efficiency industrial-scale electric motors with high-efficiency motors. The rebate amount is \$25 per unit of nameplate horsepower of the new motor to the purchaser of that motor, and \$5 to the distributor of that motor.”²¹⁴

This provision would directly impact business by amending the National Institute of Standards and Technology Act (“NISTA”) in two ways.²¹⁵ First, it would amend NISTA to require the Secretary of Commerce to set up a program that would award grants to states in order to “establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology.”²¹⁶ Second, it would amend NISTA to “create partnerships to help manufacturers find new markets, improve competitiveness, reduce greenhouse gas emissions, and adopt innovative manufacturing technologies.”²¹⁷

Title II, subsection E simply “[a]mends the National Energy Conservation Policy Act to establish competition requirements for specific energy savings performance contract task orders.”²¹⁸ Title II, subsection F would allow non-profit hospitals and public health facilities to be eligible for grants and loans under the Energy Independence and Security Act.²¹⁹ It would also authorize “grants to community development organizations that would provide financing to improve energy efficiency, develop alternative, renewable, and distributed energy supplies, promote opportunities for low-income residents, and increase energy conservation in low income rural and urban communities.”²²⁰

Title III – Reducing Global Warming

Title III of ACES, as it passed the House, would “amend the Clean Air Act to set up a cap-and-trade system²²¹ that is designed to reduce greenhouse gas . . . emissions from covered entities 17% below 2005 levels by 2020 and 83% below 2005 levels by 2050.”²²² These “covered entities” would be “phased into the program over a four-year period from 2012 to 2016.”²²³ After the phase-in

²¹² *Id.*

²¹³ *Id.*

²¹⁴ H.R. 2454, *supra* note 23, at 10.

²¹⁵ *Id.*

²¹⁶ *Id.*

²¹⁷ *Id.*

²¹⁸ *Id.*

²¹⁹ *Id.*

²²⁰ *Id.*

²²¹ *See supra* notes 40-51 and accompanying text.

²²² LARRY PARKER & BRENT D. YACOBUCCI, CLIMATE CHANGE: COSTS AND BENEFITS OF THE CAP-AND-TRADE PROVISIONS OF H.R. 2454 (Cong. Research Serv. 2009), http://energy.senate.gov/public/_files/R40809.pdf.

²²³ *Id.*

schedule, “the cap [would] apply to entities that account for 84.5% of U.S. total [greenhouse gas] emissions.”²²⁴

This title adopts a market-based approach to greenhouse gas emissions reduction that would “establish an absolute cap on the emissions from covered sectors and would allow trading of emissions permits (“allowances”) among covered²²⁵ and non-covered entities.”²²⁶ ACES would achieve broad coverage “through an upstream compliance mandate on petroleum, most fluorinated gas producers and importers, a downstream mandate on electric generators and industrial sources, and a midstream mandate on natural gas local distribution companies.”²²⁷ The emissions cap “would limit greenhouse gas emissions from entities that produce or import more than 25,000 metric tons annually (carbon dioxide equivalent) of greenhouse gases (or produce or import products that when used will emit more than 25,000 metric tons of greenhouse gases).”²²⁸

²²⁴ *Id.*

²²⁵ Covered entities would generally be those emitting over 25,000 tons of carbon dioxide per year. Alliance to Save Energy American Clean Energy and Security Act of 2009 – Title III: Global Warming Pollution Reduction Program, (2009), <http://ase.org/resources/american-clean-energy-and-security-act-2009-title-iii> (last visited Feb. 11, 2011). Below is a list of the types of entities that will be covered and the minimum emissions required to qualify them to be covered entities. All electric sources and Geologic Sequestration Sites would be considered covered entities under ACES regardless of their size. *Id.* Producers or importers of petroleum based or coal-based liquid fuel, petroleum coke, or natural gas liquid are covered entities if “the combustion of the[ir] product emits a minimum of 25,000 tons of carbon dioxide equivalent (CO₂e) in 2008 or any subsequent year.” *Id.* Stationary sources in industries including primary aluminum production, ammonia manufacturing, cement production, excluding grinding-only operations, hydrochlorofluorocarbon production, petroleum refining, coal-based liquid or gaseous fuel production, and petrochemicals are covered entities if they emit a minimum of 25,000 or more of carbon dioxide per year. *Id.* Stationary sources in sectors including food processing, glass production, hydrogen production, iron and steel production, lead production, and pulp and paper manufacturing are covered entities if in 2008 or any subsequent year they emitted a minimum of 25,000 tons or more of carbon dioxide. *Id.* “Various other fossil fuel-fired combustion devices” are also covered entities if they emitted a minimum of 25,000 tons or more of carbon dioxide in 2008 or any subsequent year. *Id.* “Any local natural gas distribution company or any group of affiliated local distribution companies” is a covered entity if it delivered “a minimum of 460,000,000 cubic feet of natural gas in 2008 or any subsequent year to customers that are not covered entities.” Alliance to Save Energy American Clean Energy and Security Act of 2009 – Title III: Global Warming Pollution Reduction Program, (2009), <http://ase.org/resources/american-clean-energy-and-security-act-2009-title-iii> (last visited Feb. 11, 2011). Producers or importers of fossil fuel-based carbon dioxide, nitrous oxide, perfluorocarbons, sulfur hexafluoride, any other fluorinated gas, and (emitters of) nitrogen trifluoride are covered entities if they produced, imported, or emitted more than 25,000 tons of carbon dioxide in 2008 or any subsequent year. *Id.* “Any stationary source in the chemical or petrochemical sector that produces” acrylonitrile, carbon black, ethylene, ethylene dichloride, ethylene oxide, or methanol, are covered entities without a set limit for emissions. *Id.* Any other “stationary source in the chemical or petrochemical sector that produces” a chemical or petrochemical product is a covered entity if it produces a minimum of “combustion plus process emissions of 25,000 tons of [carbon dioxide] in 2008 or any subsequent year.” *Id.*

²²⁶ PARKER, *supra* note 222, at 54.

²²⁷ *Id.*

²²⁸ *Id.*

Emission Allowance Allocation

To mitigate a regressive distribution problem that could result without a corrective measure, this title would allocate a percentage of emission allowances “for the benefit of energy consumers and low-income households.”²²⁹ To achieve this, ACES would allocate some allowances to entities such as local distribution companies, “with the express purpose of mitigating energy cost increases.”²³⁰ Another way this title would assist low-income households would be by allowing the EPA to auction allowances and distribute the proceeds to eligible recipients.²³¹ The energy cost relief and other free allocations would be phased out “[a]s the program proceeds, between 2026 and 2035.”²³² The allocations would then be replaced by “more government auctioning with most of the proceeds returned to households on a per-capita basis.”²³³ As far as industry is concerned, ACES allocation of carbon credits also attempts to “smooth the economy’s transition to a less carbon-intensive future through free allowance allocations to energy-intensive, trade-exposed industries, merchant coal-fired electric generators, and petroleum refiners.”²³⁴ Industries may gain bonus allotments of allowances “for emission reductions achieved by carbon capture and storage technology.”²³⁵ These free allocations will be phased out by the middle of the 2030s, except for the carbon capture and storage bonuses.²³⁶

Price Control

Because of the potential for volatility in allowance prices, ACES uses five main mechanisms to stabilize these prices: “(1) unlimited banking and limited borrowing, (2) a two- year compliance period, (3) a strategic reserve auction with a pool of allowances available at a minimum reserve price, (4) periodic auctions with a reserve price, and (5) broad limits on the use of offsets.”²³⁷ Notably, ACES does not have a “safety valve” which many cap-and-trade bills include.²³⁸ A safety valve is “an alternative compliance option that permits covered entities to pay an excess emissions fee instead of reducing emissions.”²³⁹

ACES also has two design elements that could lesson volatility in allowance price to some extent.²⁴⁰ The first measure would allow “entities to borrow (without interest) allowances from the year immediately following the current

²²⁹ *Id.*

²³⁰ *Id.*

²³¹ *Id.*

²³² PARKER, *supra* note 222, at 5.

²³³ *Id.*

²³⁴ *Id.* at 7.

²³⁵ *Id.*

²³⁶ *Id.*

²³⁷ *Id.*

²³⁸ *Id.*

²³⁹ PARKER, *supra* note 222, at 7.

²⁴⁰ *Id.*

year, effectively creating a rolling two-year compliance period.”²⁴¹ The second measure directs the EPA to “hold strategic reserve auctions.”²⁴² This would involve the auctioning of “[a] strategic reserve of allowances borrowed from future years . . . in the early years of the program.”²⁴³ This would increase the availability of the allowances early “but maintain[] the overall emissions cap. The strategic reserve auction would include a reserve price: \$28/allowance in 2012 that would increase annually in 2013 and 2014. Starting in 2015, the reserve price would be 60% above the 36-month rolling average allowance price.”²⁴⁴ The regular auctions ACES mandates will have a reserve price of “\$10 (in 2009 dollars) in 2012, increasing at 5% real annually.”²⁴⁵ This reserve price is meant to produce an allowance price floor and moderate price spikes.²⁴⁶

Because of the fear of potential abuse in the U.S. carbon allowance market, a market that “could be in the hundreds of billions of dollars,” Title VI also provides for oversight of this new market.²⁴⁷ ACES has “detailed provisions for Federal Energy Regulatory Commission (FERC) oversight of the cash allowance market, and enhanced Commodity Futures Trading Commission (CFTC) oversight of allowance derivatives.”²⁴⁸ Also, “the CFTC is required to establish position limits, thus setting ceilings on the number of energy contracts that any person could hold.”²⁴⁹

Title IV – Transitioning to a Clean Energy Economy

Title IV focuses on ensuring that reductions in industrial emissions actually do occur, while it simultaneously aims to ease that transition.²⁵⁰ It uses the following measures to achieve this: an emissions allowance rebate program and the promotion of international reductions in industrial emissions; creating green jobs and programs to transition workers to those jobs; assistance to energy consumers; the exportation of clean energy technology; and ways to adapt to climate change.²⁵¹

To help ensure reduction of industrial emissions, Subtitle A of Title IV would create a program under the Clean Air Act that would “ensure real reductions in industrial greenhouse gas emissions through emission allowance rebates and an international reserve allowance program.”²⁵² The emissions allowance rebate program under this section would rebate “emission allowances to eligible industrial

²⁴¹ *Id.*

²⁴² *Id.*

²⁴³ *Id.*

²⁴⁴ *Id.*

²⁴⁵ PARKER, *supra* note 222, at 7.

²⁴⁶ *Id.*

²⁴⁷ *Id.* at 8.

²⁴⁸ *Id.*

²⁴⁹ *Id.*

²⁵⁰ *Id.*

²⁵¹ H.R. 2454, *supra* note 23, at 22-29.

²⁵² *Id.* at 22.

sectors” to compensate them for costs they incur from compliance with the Title VII of the Clean Air Act which would be added by ACES.²⁵³ This subtitle would also promote international reductions in industrial agreements primarily through working under the UNFCCC and “in other forums to establish binding agreements committing all major-emitting countries to contribute equitably to the reduction of global greenhouse gas emissions.”²⁵⁴

Subtitle B of Title IV addresses how ACES will attempt to create green jobs and transition workers into these green jobs.²⁵⁵ One way it would do this is by amending the Carl. D. Perkins Career and Technical Education Act of 2006 to allow the Secretary of Education to “award grants to universities and colleges to develop programs . . . that prepare students for careers in renewable energy, energy efficiency, and other forms of global warming mitigation and adaptation.”²⁵⁶ It also increases the authorization for the Green Jobs Act from \$125 million to \$150 million to fund its energy worker training program.²⁵⁷ This subtitle would also require the Secretary of Labor to “establish a Green Construction Careers demonstration project to promote middle class careers and quality employment practices in the green construction sector.”²⁵⁸ Additionally, it would establish a significant program under the Clean Air Act that would provide that any worker who had been displaced by “Title VII of the Clean Air Act would be entitled to 156 weeks of income supplement, 80% of their monthly health care premium, up to \$1,500 for job search assistance, up to \$1,500 for moving assistance, and additional employment services for skills assessment, job counseling, training, and other services.”²⁵⁹ However, payments under this program would be limited to “the proceeds from the auction of allowances set aside for this purpose.”²⁶⁰

Subtitle C of this title would set up an Energy Refund Program under the Social Security Act that would “provide monthly cash energy refunds to low-income individuals to compensate for any reduced purchasing power resulting from this Act.”²⁶¹ These refunds would not be included in taxable income.²⁶² Lowest-income households will also be given tax credits to compensate them for reduced purchasing power that results from ACES.²⁶³

Subtitle D would aim at exporting clean technology by assisting eligible countries, which generally would include only “developing countries that have ratified an international treaty or agreement or have undertaken nationally appropriate mitigation activities achieving substantial greenhouse gas reductions are eligible for bilateral assistance,” through distributing allowances either

²⁵³ *Id.* at 23.

²⁵⁴ *Id.*

²⁵⁵ *Id.* at 24.

²⁵⁶ *Id.* at 25.

²⁵⁷ H.R. 2454, *supra* note 23, at 25.

²⁵⁸ *Id.*

²⁵⁹ *Id.*

²⁶⁰ *Id.*

²⁶¹ *Id.*

²⁶² *Id.*

²⁶³ H.R. 2454, *supra* note 23, at 25.

“bilaterally, through an international fund, or through a multilateral institution pursuant to UNFCCC.”²⁶⁴

Subtitle E uses various methods and measures to help the United States adapt to climate change.²⁶⁵ It begins by establishing an “interagency Global Change Research Program under the White House Office of Science and Technology Policy to manage funding for interagency research activities.”²⁶⁶ It establishes a National Climate Service that would “develop information, data, forecasts, and warnings at national and regional scale and to distribute information on climate impacts to state and local decisionmakers [sic].”²⁶⁷ This subsection also addresses public health and climate change by stating that “it is the sense of Congress that the federal government should take all means and measures to prepare for and respond to the public health impacts of climate change.”²⁶⁸ And it would require that the Secretary of Health and Human Services “prepare a strategic plan to assist health professionals in preparing for and responding to the impacts of climate change on public health with disease surveillance, research, communications, education, and training programs.”²⁶⁹

Title V – Agriculture and Forestry Related Offsets

Title V, Subtitle A establishes an offset credit program from Domestic Agriculture and Forestry Services.²⁷⁰ This subsection directs that this program be established by the Secretary of Agriculture and govern “the generation of offset credits from domestic agricultural and forestry sources, and issue rules to implement program requirements.”²⁷¹ It will also require the Secretary of Agriculture to “establish methodologies for domestic agriculture and forestry offset practices.”²⁷² In addition to establishing various procedures and details for administration of the offset credit program, this section also creates “an independent USDA Greenhouse Gas Emissions Reduction and Sequestration Advisory Committee and specifies its structure and responsibilities.”²⁷³

This section amends section 211(o) of the Clean Air Act in two ways.²⁷⁴ First, a Clean Air Act amendment will “exclude indirect land use changes that occur outside the country where the biofuels feedstock is produced from consideration in the lifecycle greenhouse gas emissions analysis for renewable fuels.”²⁷⁵ The second Clean Air Act amendment will “provide that up to one

²⁶⁴ *Id.* at 26.

²⁶⁵ *Id.*

²⁶⁶ *Id.*

²⁶⁷ *Id.* at 27.

²⁶⁸ *Id.*

²⁶⁹ H.R. 2454, *supra* note 23, at 27.

²⁷⁰ *Id.* at 29.

²⁷¹ *Id.*

²⁷² *Id.* These practices include “standardized methodologies for activity baselines . . . quantification methods, and leakage.” *Id.*

²⁷³ *Id.* at 30.

²⁷⁴ *Id.*

²⁷⁵ H.R. 2454, *supra* note 23, at 30.

billion gallons of biomass-based diesel or the amount of biomass-based diesel that is mandated by EPA under the Renewable Fuel Standard (RFS), whichever is greater, is exempted from the lifecycle greenhouse gas calculation mandated by the RFS for biomass-based diesel.”²⁷⁶

DISCUSSION

The Cost of ACES

Economists of various political persuasions have attempted to forecast the cost of a potential cap-and-trade system in the U.S. under ACES, and some have questioned whether climate change risks justify extreme mitigation measures.²⁷⁷ These economists have, unsurprisingly, come to differing conclusions. A September 14, 2009 report of the Congressional Research Service²⁷⁸ examines seven studies²⁷⁹ that project the economic cost of the cap-and-trade provisions of ACES.²⁸⁰ This report notes that “long-term cost projections are at best speculative, and should be viewed with attentive skepticism.”²⁸¹ Though the report acknowledges that cost projections are not necessarily able to reliably predict the future, it also states that these cost projections can “indicate the sensitivity of a program’s provisions to varying economic, technological, and behavioral assumptions that may assist policymakers in designing a greenhouse gas reduction strategy.”²⁸²

The Congressional Research Service’s report, after comparing and analyzing these seven reports, reaches the following conclusions concerning the cost of

²⁷⁶ *Id.*

²⁷⁷ See, e.g., LOMBORG, *supra* note 4, at 258-324.

²⁷⁸ The Congressional Research Service prepares reports for members and committees of congress. See PARKER, *supra* note 222.

²⁷⁹ The first study this paper refers to is “a comprehensive analysis [that] has been conducted by the [EPA]. The report is entitled, *EPA Analysis of the American Clean Energy and Security Act of 2009: H.R. 2454 in the 111th Congress* (June 23, 2009).” *Id.* at 1. This paper also references “[a] second comprehensive analysis [that] has been conducted by the Energy Information Administration (EIA). The report is entitled *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009).” *Id.* The third analysis this report draws on was “conducted for the National Black Chamber of Commerce by Charles River Associates (CRA) International. The report is entitled *Impact on the Economy of the American Clean Energy and Security Act of 2009 (H.R. 2454)* (May 2009).” *Id.* at 2. The fourth report was conducted by The Heritage Foundation and was “based on projections from the Global Insight model—a macroeconomic model with energy sector modeling. Focused on the economic impacts of H.R. 2454, the results were first disseminated in a series of ‘WebMemos’ as H.R. 2454 was developed, then released in a report.” *Id.* The fifth analysis this report draws on was a legislative analysis “conducted by the Congressional Budget Office (CBO) on various aspects of H.R. 2454 during its movement through the House of Representatives.” *Id.* The sixth was “conducted for the American Council for Capital Formation (ACCF) and National Association of Manufacturers (NAM) by Science Applications International Corporation. The report is entitled *Analysis of The Waxman-Markey Bill ‘The American Clean Energy and Security Act of 2009’ (H.R. 2454)*.” *Id.* The seventh analysis was “conducted by the Massachusetts Institute of Technology (MIT) Joint Program on the Science and Policy of Global Change.” *Id.* at 3.

²⁸⁰ *Id.* at 93.

²⁸¹ *Id.*

²⁸² *Id.* at 294.

ACES.²⁸³ First, it concludes that “[i]f enacted, the ultimate cost of [ACES] would be determined by the response of the economy to the technological challenges presented by the bill.”²⁸⁴ Second, the way in which allowances are allocated under ACES “will determine who ultimately bears the cost of the program.”²⁸⁵ Third, “[t]he cases generally indicate that the availability of offsets (particularly international offsets) is potentially the key factor in determining the cost of [ACES].”²⁸⁶ Fourth, the report speculates that “[t]he interplay between nuclear power, renewables, natural gas, and coal-fired capacity with carbon capture and storage technology among the cases emphasizes the need for a low-carbon source of electric generating capacity in the mid- to long-term.”²⁸⁷ Because of this, “[a] considerable amount of low-carbon generation will have to be built under H.R. 2454 in order to meet the emission reduction requirement,” which will add to the overall cost of ACES.²⁸⁸ Finally, the report pointed out that “[a]ttempts to estimate household effects (or other fine-grained analyses) are fraught with numerous difficulties that reflect more on the philosophies and assumptions of the cases reviewed than on any credible future effect.”²⁸⁹

In analyzing the cost of greenhouse gas emissions, studies begin by forecasting the amount of greenhouse gas emissions there will be in the future.²⁹⁰ The studies that the Congressional Research Service included in its report used “three primary drivers of greenhouse gas emissions” to forecast future emissions: “(1) population, (2) incomes (measured as per capita [GDP]), and (3) intensity of greenhouse gas emissions relative to economic activities (measured as metric tons of greenhouse gas emissions per million dollars of GDP).”²⁹¹ The reports plugged these drivers into a formula to calculate “a country’s annual greenhouse gas emission.”²⁹² The studies included in the Congressional Research Service report estimated that greenhouse gas emissions in 2050 would be 8.4, 9.7, and 10.1 billion metric tons, respectively, “a 20% difference from the lowest to the highest.”²⁹³ Because of the differences in views in these reports, “the economic impact of the bill is almost lost in the differences in the model’s references case assumptions.”²⁹⁴

²⁸³ PARKER, *supra* note 222, at Summary.

²⁸⁴ *Id.*

²⁸⁵ *Id.* President Obama had supported a system where all carbon credits would be auctioned; however, as ACES passed the House in 2009, over half of the allowances will be distributed to various groups at no cost. KREUTZER, *supra* note 32, at 4.

²⁸⁶ PARKER, *supra* note 222, at Summary.

²⁸⁷ *Id.*

²⁸⁸ *Id.*

²⁸⁹ *Id.* The Congressional Research Service report emphasized that the cost of a cap-and-trade system is speculative and can ultimately vary significantly from projections as the program unfolds. *Id.* at 13. This was the case with the cap-and-trade system sulfur dioxide cap-and-trade system adopted under the Clean Air Act, which ended up costing significantly less than studies projected. *Id.* at 12.

²⁹⁰ PARKER, *supra* note 222, at 12.

²⁹¹ *Id.*

²⁹² *Id.* at 13. The formula for this calculation is “(Population) x (Per Capita GDP) x (Intensity_{ghg}) = Emissions_{ghg}.” *Id.*

²⁹³ *Id.* at 14.

²⁹⁴ *Id.*

Despite the problems with projecting cost because of differing economic methods and conclusions, reports seem to uniformly indicate that the cost of ACES would be significant.²⁹⁵ A report by the EPA estimated that the cost per household in 2050 would be \$1,287.²⁹⁶ Further, the U.S. Department of Treasury estimated that “the total in new taxes would be between \$100 billion to \$200 billion a year. At the upper end of the administration’s estimate, the cost per American household would be an extra \$1,761 a year.”²⁹⁷

Cost to Industry

ACES would have the strongest economic impact on industries that are more energy-intensive and, thus, more sensitive to higher energy prices.²⁹⁸ This factor, in combination with whether an industry will be given allowances free of charge, will have a strong bearing on which industries will be most impacted by the ACES cap-and-trade system.²⁹⁹ A Heritage Foundation study indicates that the industry that will be hit the hardest is America’s manufacturing base.³⁰⁰ Its study estimates that by the year 2035, “durable manufacturing employment will have lost 1.17 million jobs.”³⁰¹ Other industries that The Heritage Foundation study indicated would be greatly impacted by the negative effects of high energy prices brought about by ACES, including significant job loss, will be the fabricated-metal industry, the machinery industry, the plastic and rubber products industry, the employment services industry, the transportation and trade industries, agriculture, and finally, gas stations.³⁰² Allowance giveaways would cushion the transition for some industries as they adjust to paying the additional cost of carbon credits and increased energy prices.³⁰³ The total amount of carbon credits issued in 1212 under ACES would be 4,581, measured in millions of metric tons.³⁰⁴ ACES provides that 29.6 percent of these would be sold, and 70.4 percent would be freely allocated.³⁰⁵ The industry that would receive the largest percentage of free

²⁹⁵ KREUTZER, *supra* note 32, at 8-12; Obama Admin, *supra* note 31.

²⁹⁶ ENVIRONMENTAL PROTECTION AGENCY, EPA ANALYSIS OF THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 H.R. 2454 IN THE 111TH CONGRESS 13 (2009), http://www.epa.gov/climatechange/economics/pdfs/HR2454_Analysis.pdf. Some of the numbers estimating cost into the future have been “discounted.” KREUTZER, *supra* note 32, at 12. “Discounting” means that a number is adjusted to represent the amount a “household would have to pay into an interest-bearing account today so the interest would . . . grow to \$1,287 by the time the amount would be due,” the year 2050 in this case. *Id.* If discounting were to be applied to the EPA’s cost estimate of \$1,287 for 2050, the number would be \$140. *Id.* This method of reporting estimated future cost can be misleading because it is not a widely understood concept.

²⁹⁷ Obama Admin, *supra* note 31.

²⁹⁸ KREUTZER, *supra* note 32, at 3.

²⁹⁹ *See id.* at 3-5.

³⁰⁰ *Id.* at 3.

³⁰¹ *Id.*

³⁰² *Id.*

³⁰³ *Id.*

³⁰⁴ CONGRESSIONAL BUDGET OFFICE, COST ESTIMATE OF H.R. 2454 AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 6 (2009).

³⁰⁵ *Id.*

allowances under ACES would be the electric utilities industry.³⁰⁶ It would “receive 43.75 percent of the emission allowances” that would be given away between 2012 and 2013.³⁰⁷ These free allowances would be incrementally reduced each year until they reached zero in the year 2030.³⁰⁸ The other industries that would receive significant relief from allowances giveaways would be: energy sectors, including the natural gas industry, which will receive nine percent of the free allowances beginning in 2016 and fall to zero by the year 2030; and trade-affected industries, to which ACES allocates two percent of the free allowances in 1212-1213, then increases to fifteen percent in 1214, and then slowly phases out by 2035.³⁰⁹

Under ACES, the Congressional Budget Office estimates that the cost of one greenhouse gas allowance, or carbon credit, would be fifteen dollars in the 2011 fiscal year, sixteen dollars in 2012, seventeen dollars in 2013, and would increase at a similar rate until at least 2019, when the report’s estimations end.³¹⁰ These prices are an estimate however, and “[a] key factor in determining the price of an allowance is how quickly and cheaply firms and households can decrease CO₂ emissions by reducing their use of fossil fuels (either directly or indirectly via the goods and services that they consume),” and this is something that only time can reveal.³¹¹

Effects

Environmental

After expending the effort and cost to enact ACES and implement its provisions’ requirements, with the purpose of staving off climate change, what will the environmental impact of ACES be? The answer may be surprising. By including other provisions in addition to the cap-and-trade provision that ACES contains, the World Resources Institute (“WRI”) “estimates that the overall potential net reductions in [greenhouse gas] emissions from the economy as a whole (as opposed to just covered entities) from [ACES] could range from 28%-33% below 2005 levels in 2020 and 75%-81% in 2050.”³¹² This sounds promising, but it is only part of the story. Climatologists estimate that ACES’s impact on world temperature will be “too small to even measure in the first several decades.”³¹³ This is partly due to the unchecked growth of carbon emissions from developing countries such as China and India.³¹⁴ Theoretically, under ACES the

³⁰⁶ KREUTZER, *supra* note 32, at 3.

³⁰⁷ *Id.*

³⁰⁸ *Id.* at 4-5.

³⁰⁹ *Id.*

³¹⁰ *Id.* at 13.

³¹¹ *Id.* at 14.

³¹² PARKER, *supra* note 222, at 4.

³¹³ KREUTZER, *supra* note 32, at 12.

³¹⁴ *Id.* at 11-12.

world's temperature could be moderated by "0.05 degree centigrade by 2050."³¹⁵ And, if carbon "emission levels meet the [ACES] target of 17 percent of 2005 levels by the year 2050, and if they are frozen at that level for the rest of the century, [ACES] would still reduce the world temperature by only 0.2 degree Celsius by 2100."³¹⁶ This reduction would not be enough to avert the feared effects of global warming if, as the Copenhagen Accord recognized, "global temperature below 2 degrees is required to stave off the worst effects of climate change."³¹⁷

Economic Impact

ACES would impact the economy by causing increased "prices for carbon-based energy, which reduces the quantity demanded, and thus, the quantity supplied of energy from carbon fuels."³¹⁸ Energy prices would rise "because energy producers must pay a fee for each ton of carbon they emit."³¹⁹ This added cost to carbon-based energy is intended to create an incentive to use alternatives to coal-produced energy.³²⁰

The Heritage Foundation report estimates that cumulative GDP losses will be "\$9.5 trillion between 1212 and 2035" as a result of ACES.³²¹ The Congressional Research Service report stated that the estimations of GDP are so tied to the future size of the economy, about which there is much uncertainty at present, that the results of many studies are meaningless.³²² However, the report goes on to say that "[i]n another sense, the figures indicate the cases' consistent expectations that the economy continues to grow under [ACES], albeit at a slower rate than under their respective reference cases."³²³ Any sort of economic slowing agent, as ACES seems sure to be, could hardly come at a worse time in the U.S. as the economy continues to struggle.³²⁴ Though the economy has shown some "tentative signs of a rebound, the human toll of the recession continues to mount, with millions of Americans remaining out of work, out of savings and nearing the end of their unemployment benefits."³²⁵ ACES could prolong the process of getting back to a healthy economy.

³¹⁵ *Id.* at 12.

³¹⁶ *Id.*

³¹⁷ United Nations Framework Convention, *supra* note 129.

³¹⁸ *Id.* at 8.

³¹⁹ *Id.*

³²⁰ *Id.*

³²¹ *Id.* at 2.

³²² PARKER, *supra* note 222, at 33.

³²³ *Id.*

³²⁴ Peter S. Goodman, *Millions of Unemployed Face Years Without Jobs*, N.Y. TIMES, Feb. 20, 2010, at A1, available at <http://www.nytimes.com/2010/02/21/business/economy/21unemployed.html?th&emc=th>.

³²⁵ *Id.*

Governmental Impact

The passage of ACES would also have an impact on government.³²⁶ The Congressional Budget Office estimated that “implementing this legislation would result in additional revenues, net of income and payroll tax offsets, of \$253.2 billion over the 2010-2014 period and \$845.6 billion over the 2010-2019 period.”³²⁷ At the same time they estimated that “direct spending would increase by \$241.3 billion and \$821.2 billion over the same periods, respectively.”³²⁸

Those changes in revenues and direct spending would mainly stem from the process of auctioning and freely distributing allowances under the cap-and-trade programs established under [ACES]. In addition, [the Congressional Budget Office] estimates that implementing this legislation would increase discretionary federal spending by \$49.9 billion over the 2010- 2019 period, assuming appropriation of the amounts estimated to be necessary.³²⁹

The passage of ACES would also require more regulation and oversight from the government, which would add cost.³³⁰

Recent Events Impacting ACES

As citizens of the U.S. many of us would assume or wish that the opinions of our nation’s citizens direct or at least impact the actions of our legislative and executive branches of government, both on a state and federal level. However, public opinion may not be the most important factor in determining what policies are adopted or prioritized and what courses of action our government takes. In a January 2010 CNN poll, U.S. citizens were asked to rank the importance of national governmental issues for the U.S. President and Congress.³³¹ These citizens prioritized the environment – which has been one of the Obama administration’s top priorities³³² – below the economy, unemployment, terrorism, the federal budget deficit, health care, education, the situation in Iraq, the situation in Afghanistan, taxes, regulation of big banks, and illegal immigration; and they ranked the environment in priority above only energy policy, abortion, and gay marriage.³³³ Some of the above priorities that citizens ranked as having greater importance than the environment have had an impact on the likelihood of the

³²⁶ Cost Estimate, *supra* note 304, at 10.

³²⁷ *Id.*

³²⁸ *Id.* at 10-11.

³²⁹ *Id.* at 11.

³³⁰ COLE, *supra* note 74, at 239.

³³¹ *Problems and Priorities*, POLLINGREPORT.COM, <http://www.pollingreport.com/prioriti.htm> (last visited Feb. 6, 2010). The poll gathered data nationwide from 1,009 Americans, eighteen years of age or older. *Id.* These adults answered the question: “How important is it to you that the President and Congress deal with each of the following issues in the next year? Will it be extremely important, very important, moderately important, or not that important?” *Id.* They were then given the following options: the environment, the economy, unemployment, terrorism, the federal budget deficit, health care, education, the situation in Iraq, the situation in Afghanistan, taxes, regulation of big banks, illegal immigration, energy policy, abortion, and gay marriage. *Id.*

³³² Williamson, *supra* note 146.

³³³ *Problems and Priorities*, *supra* note 331.

passage of ACES, or similar legislation, in the Senate during the 111th legislative session.³³⁴

The Economy

The state of the economy in the U.S. is among the most influential factors currently impacting the probability of the passage of ACES during the 111th Congress.³³⁵ In December of 2009, Democratic Nebraska Senator Ben Nelson (“Senator Nelson”) made a statement that may be indicative of how the state of the economy will impact the passage of ACES or similar legislation, by creating reluctance among legislators to address the issue until the economy in the U.S. has recovered.³³⁶ Senator Nelson said he would “just as soon see [climate change] set aside until we work through the economy.”³³⁷ ACES will strain the economy in the U.S.,³³⁸ and Senator Nelson, for one, seems to recognize that enacting a bill that implements a cap-and-trade system in the U.S. will slow the recovery of an already struggling economy.

This apprehension appears to be based on legitimate concerns, despite the fact that ACES’s most vocal champions have touted the bill as being economically advantageous.³³⁹ One goal of U.S. legislators and President Obama in seeking to enact legislation such as ACES is to “transition to a clean energy economy,” a transition these legislators insist will strengthen the economy.³⁴⁰ In a media advisory discussing a draft of ACES released in March of 2009, Representative Waxman stated that ACES would “create millions of clean energy jobs, put America on the path to energy independence, and cut global warming pollution.”³⁴¹ He went on to explain that ACES would “strengthen our economy by making America the world leader in new clean energy and energy efficiency technologies.”³⁴² These potential effects, however, are not certain to occur, and they come only after the initial compliance cost³⁴³ has been paid by American

³³⁴ See, e.g., *infra* notes 334–45 and accompanying text.

³³⁵ Williamson, *supra* note 146.

³³⁶ Whittell, *supra* note 3.

³³⁷ *Id.* (internal quotation marks omitted).

³³⁸ ACES will strain the economy by increasing the cost of carbon-based energy. KREUTZER, *supra* note 32, at 8.

³³⁹ Media Advisory, *supra* note 7. An analysis by the Political Economy Research Institute at the University of Massachusetts, Amherst indicated that ACES, in conjunction with existing law, can “generate roughly \$150 billion per year in new clean-energy investments in the United States over the next decade. This estimated \$150 billion in new spending annually includes government funding but is notably dominated by private-sector investments.” ROBERT POLLIN ET AL., DEP’T OF ECON. AND POLITICAL ECON. RESEARCH INST., THE ECONOMIC BENEFITS OF INVESTING IN CLEAN ENERGY 1-2 (Univ. of Mass., Amherst 2009). This report estimated that “sustained expansion in clean-energy investments” that will be brought about by ACES and current law “can generate a net increase of about 1.7 million jobs.” *Id.*

³⁴⁰ U.S. HOUSE OF REPRESENTATIVES, DISCUSSION DRAFT SUMMARY, THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 1 (2009).

³⁴¹ *Id.* (internal quotation marks omitted).

³⁴² *Id.*

³⁴³ “A compliance cost is expenditure of time or money in conforming with government requirements such as legislation or regulation.” Wikipedia.com, Compliance Cost,

businesses,³⁴⁴ after these costs have impacted the GDP, and after the government collects and redistributes the wealth “created by the establishment of valuable permits required for emitting greenhouse gasses.”³⁴⁵ Far from increasing the overall number of jobs in the U.S., business leaders predict that, even taking into account the “green jobs” ACES may create, ACES will destroy millions of jobs.³⁴⁶

Though the proponents of ACES emphasize the potential jobs that may be created by the bill in the future, and though they may discount the cost of initial compliance, Legislators cannot be ignorant of the impact ACES will have on existing business, the initial job loss it will cause, and the reduction in economic output that will follow its implementation. These factors will cause some legislators, like Senator Nelson, to question whether there might be a more appropriate time for the U.S. Legislature to address the issue of greenhouse gas emissions.

Climategate

In November 2009, computer hackers³⁴⁷ acquired more than 1,000 e-mails that were sent to and from Britain’s University of East Anglia’s Climate Research Unit (“CRU”),³⁴⁸ an organization that is widely recognized as “one of the world’s leading institutions concerned with the study of natural and anthropogenic³⁴⁹

http://en.wikipedia.org/wiki/Compliance_cost (last visited Mar. 22, 2010). Bill Kleese testified on behalf of the National Petrochemical and Refiners Association that “‘Industrywide,’ . . . ‘we estimate the compliance cost for process emissions, with carbon at \$20 a ton, to be \$4.1 billion a year, and the cost of consumer emissions to be \$63 billion a year, for a total cost to domestic refiners - and potentially consumers - of more than \$67 billion a year.’” *U.S. Senate Climate Bill Runs the Gauntlet of Opinions*, ENV’T NEWS SERVICE, Oct. 28, 2009, <http://www.ens-newswire.com/ens/oct2009/2009-10-28-01.asp>.

³⁴⁴ The income collected from the establishment of emission allowances, or carbon credits, “could be used to mitigate the impact of the program on specific entities or groups.” PARKER, *supra* note 222, at 65.

³⁴⁵ *Id.* at 64.

³⁴⁶ A study by the National Black Chamber of Commerce concludes that as a result of ACES, “2.3 million to 3 million net jobs will be lost - a figure that accounts for all the “green” jobs created.” Letter from R. Bruce Josten, Executive Vice President, Government Affairs, U.S. Chamber of Commerce, to Members of the U.S. House of Representatives (June 24, 2009) (on file with author), http://www.uschamber.com/NR/rdonlyres/etw532ei7gyhupclrgo4vew6lxudwxd3thr7bkpescpf3a6twxhfiimlng5rjc56pdcnppyeam7rfnxu52tgrez6ch/090624_hr2454_cleanenergy.pdf.

³⁴⁷ The Climategate computer hackers have not been identified. Tony Halpin, *Is Russia Behind the Climategate Hackers?*, TIMESONLINE, Dec. 7, 2009, <http://www.timesonline.co.uk/tol/news/environment/article6946385.ece>. However, the media has entertained a number of theories as to who was behind the Climategate hacking. *Id.* These theories have included suggestions that the hackers could have been Russian hackers, “freelance hackers hired by climate-change skeptics,” or mischievous students. *Id.* Still another possibility suggested was that the person who leaked the information was a whistleblower, not a hacker. Chris Horner, *Climate-gate E-mails Released by Whistleblower, Not Hacker*, THE EXAMINER, Nov. 30, 2009, available at http://www.washingtonexaminer.com/opinion/columns/OpEd-Contributor/Climate-gate-e-mails-released-by-whistleblower_-not-hacker-8604302-78098572.html.

³⁴⁸ “The CRU is one of the most important climate-research centers in the world, and one of a handful of scientific agencies that keep the global temperature records used in most major climate models.” Bryan Walsh, *Has ‘Climategate’ Been Overblown?*, TIME, Dec. 7, 2009, available at <http://www.time.com/time/health/article/0,8599,1946082,00.html>.

³⁴⁹ Read, “manmade.”

climate change.”³⁵⁰ These e-mails were sent to and from a number of researchers³⁵¹ from around the world who shared similar ideologies.³⁵² Officials at East Anglia confirmed that the e-mails were genuine.³⁵³ Michael Mann (“Mann”), a well-know climate scientist, professor at Pennsylvania State University, and proponent of climate change ideology, authored many of the e-mails.³⁵⁴ Some commentators reported that the communications in these e-mails “brazenly discusse[d] the destruction and hiding of data that did not support global warming claims.”³⁵⁵ This incident has come to be referred to as Climategate, “with obvious intimations of scandal and cover-up.”³⁵⁶

Some of the most infamous Climategate correspondences include an e-mail correspondence between Mann and Phil Jones (“Jones”), an environmental scientist, the head of CRU, and “author of several incriminating e-mails.”³⁵⁷ In the e-mail exchange between these two influential men, they discussed “ways to pressure [the] academic journal *Climate Research* to stop publishing submissions from climate skeptics, with Mann suggesting that they consider encouraging colleagues not to submit papers to the journal until it change[d] its editorial stance.”³⁵⁸ Further, “Jones also wrote repeatedly about rebuffing requests by climate skeptics for raw temperature data from CRU, and seemingly encourage[d] his colleagues to delete e-mails concerning a Freedom of Information request for the data.”³⁵⁹ Another e-mail sent from Mann to Jones discussed “a pair of papers that criticize the case for man-made global warming.”³⁶⁰ In this e-mail “Jones wrote that he and his colleagues would be sure to keep the papers out of consideration for the forthcoming climate assessment by the Intergovernmental Panel on Climate Change (IPCC), ‘even if we have to redefine what the peer-review literature is.’”³⁶¹ And in still more e-mails exposed during Climategate, “scientists appear to have trouble reconciling recent temperature data with the warming expected from climate models.”³⁶² Other e-mails discussed “hiding” evidence of a decline in Earth’s temperature.³⁶³

The opponents of cap-and-trade, and those who question the accuracy of the science espoused by man-made climate change scientists, have pointed out that the

³⁵⁰ John Lott, Foxnews.com, Why You Should be Hot and Bothered About ‘Climate-gate,’ Nov. 24, 2009, <http://www.foxnews.com/opinion/2009/11/24/john-lott-climate-change-emails-copenhagen/>; *History of the Climatic Research Unit*, CLIMATE RESEARCH UNIT, <http://www.cru.uea.ac.uk/cru/about/> (last visited Feb. 3, 2010).

³⁵¹ See *infra* notes 353-56 and accompanying text.

³⁵² Lott, *supra* note 350.

³⁵³ Walsh, *supra* note 348.

³⁵⁴ Mann’s Fate in Climategate, NYTIMES.COM, <http://dotearth.blogs.nytimes.com/2010/02/03/manns-fate/> (Feb. 3, 2010).

³⁵⁵ Lott, *supra* note 350.

³⁵⁶ Walsh, *supra* note 348.

³⁵⁷ *Id.*

³⁵⁸ *Id.*

³⁵⁹ *Id.*

³⁶⁰ *Id.*

³⁶¹ *Id.*

³⁶² Walsh, *supra* note 348.

³⁶³ Lott, *supra* note 350.

information uncovered in the Climategate incident indicates that the “science” behind global warming ideology is contrived rather than reliable.³⁶⁴ These opponents want to see the science purporting to support man-made climate change reevaluated before Congress pushes forward to regulate greenhouse gas emissions in the U.S.³⁶⁵ Wisconsin Representative James Sensenbrenner, a republican, in a press conference even went so far as to call the behavior of scientists involved in Climategate “scientific fascism.”³⁶⁶ On the other side of the debate, scientists and organizations that were implicated by the e-mails have argued that their e-mails “do little to change the overwhelming scientific consensus on the reality of man-made climate change.”³⁶⁷

The impact of Climategate on federal legislators’ policy approaches to climate change appears to be minimal. President Obama for one appears to have been unconvinced and undeterred by Climategate in his quest to reduce greenhouse gas emissions in the U.S. by implementing a cap-and-trade system.³⁶⁸ After the Climategate e-mails first hit the news in November 2009, some, including Sarah Palin, called for President Obama to skip the climate summit in Copenhagen.³⁶⁹ Still others, including Representative Darrell Issa, a member of the House Oversight and Government Reform Committee, and Senator James Inhofe, both Republicans, called for “the Obama administration and Congress to investigate the Climategate e-mails.”³⁷⁰

Though Climategate seemed to have little to no impact on whether legislators supported or opposed man-made climate change ideology, the impact on the public was a different story. A poll by Rasmussen Reports conducted on December 3, 2009 indicated that in the aftermath of Climategate, “52% of Americans polled believe there remains significant disagreement within the scientific community over global warming, and that 84% of Americans believe it is at least somewhat likely that some scientists have falsified data to support their theories on global warming.”³⁷¹ Similarly, the January 2010 CNN poll, discussed at the beginning of this section, indicated that the environment is low on the list of American citizens’ priorities.³⁷² Thus, the way in which Climategate could impact the debate over whether the government should impose a cap on greenhouse gas emissions will be through public opinion and a good old democratic classic, the vote.

³⁶⁴ See Walsh, *supra* note 348.

³⁶⁵ *Id.*

³⁶⁶ *Sensenbrenner to Tell Copenhagen: No Climate Laws Until ‘Scientific Fascism’ Ends*, FOXNEWS.COM, Dec. 9, 2009, <http://www.foxnews.com/politics/2009/12/09/sensenbrenner-climate-fascism/>.

³⁶⁷ Walsh, *supra* note 348.

³⁶⁸ See Wendell Goler, *Obama Ignores ‘Climategate’ in Revising Copenhagen Plans*, FOXNEWS.COM, Dec. 9, 2009, <http://www.foxnews.com/politics/2009/12/05/obama-s-shift-copenhagen-visit-defies-climate-gate-controversy/>.

³⁶⁹ *See id.*

³⁷⁰ *See id.*

³⁷¹ *See id.*

³⁷² *See Problems and Priorities, supra* note 331.

Elections

The November 2010 election will be held for thirty-six of the 100 seats in the U.S. Senate,³⁷³ and for all 435 seats in the U.S. House of Representatives.³⁷⁴ Historically, cap-and-trade legislation has been primarily supported by Democratic legislators and primarily opposed by Republican legislators.³⁷⁵ Consequently, these elections could have a large impact on whether ACES or similar cap-and-trade legislation will pass once the newly elected legislators are in office. Looking ahead to these elections, in December of 2009 “senior Democrats³⁷⁶ [began] asking the Administration to postpone the next big climate change push until at least 2011.”³⁷⁷ This will likely turn out to be a wise tactic for legislators who support a cap-and-trade bill, especially if the CNN poll accurately represents the American voters’ feelings, that the environment is currently not a top priority.³⁷⁸

Another poll conducted by The Washington Post and ABC News in February 2010 showed that the Republican Party had been gaining support from voters while the Democratic Party had been losing support.³⁷⁹ In this pole, participants were asked “which party they will support in the November House elections, [and] Americans split evenly between the parties, with 46 percent choosing Democrats and the same percentage choosing the [Republicans].”³⁸⁰ The Republican Party’s popularity in this pole had risen from just four months before, when “Democrats held a clear advantage on this question: Fifty-one percent said they would choose Democrats to 39 percent for Republicans.”³⁸¹ If this trend continues and Republicans gain more seats in the House and Senate, it will make the passage of ACES less likely. At present, even before the midterm elections, the Democratic majority in the Senate no longer has a filibuster-proof³⁸² majority of sixty Democratic senators because of the election of Massachusetts Republican Senator

³⁷³ See Wikipedia.com, United States Senate Elections 2010, http://en.wikipedia.org/wiki/United_States_Senate_elections_2010 (last visited Feb. 13, 2010).

³⁷⁴ *Id.*

³⁷⁵ See H.R. 2454, *supra* note 23 (listing representatives who voted for ACES in the House on June 26, 2009).

³⁷⁶ See Whittell, *supra* note 3. Some of these senators included Senator Mary Landrieu of Louisiana, Senator Kent Conrad of North Dakota, and Senator Ben Nelson of Nebraska.

³⁷⁷ *See id.*

³⁷⁸ See *Problems and Priorities*, *supra* note 331.

³⁷⁹ See *Washington Post-ABC News Poll*, WASH. TIMES, Feb. 4-8, 2010, http://www.washingtonpost.com/wp-srv/politics/polls/postpoll_021010.html. The poll “was conducted by telephone February 4-8, 2010, among a random national sample of 1,004 adults The results from the full survey have a margin of sampling error of plus or minus three percentage points. Sampling, data collection and tabulation by TNS of Horsham, Pa.” *Id.*

³⁸⁰ See Brian Montopoli, *Republicans Gain Ground With Public, Poll Shows*, CBS NEWS POL. HOTSHEET, Feb. 10, 2010, http://www.cbsnews.com/blogs/2010/02/10/politics/politicalhotsheet/entry_6194701.shtml.

³⁸¹ *Id.*

³⁸² See Wikipedia.com, Filibuster, <http://en.wikipedia.org/wiki/Filibuster> (last visited Mar. 15, 2010). In the U.S. Senate, a filibuster is a parliamentary procedure that allows a senator or a succession of senators to speak as long as they choose on any topic. *Id.* Filibusters are used to either stall or completely prevent a vote on a bill or other proposal. *Id.* A three-fifths vote of the Senate, sixty votes, brings the filibuster and the “debate to a close by invoking cloture under Senate Rule XXII.” *Id.*

Scott Brown.³⁸³

Added to this is the difficulty of procuring votes for a cap-and-trade system from senators – even Democratic senators – from coal states³⁸⁴ and oil states.³⁸⁵ Legislators from states whose economies are largely powered by oil, like Louisiana, and coal, like North Dakota, will have a difficult time supporting a bill that caps greenhouse gas emissions, such as ACES.³⁸⁶ This is because such a bill would add a large cost to coal and gas industries, industries on which the states' economies rely.³⁸⁷

The coal lobby is a powerful force in the Legislature.³⁸⁸ A Department of Energy study found that from 2007, coal has provided “about half of all American power and [has] employed more than 80,000 people in mines. Each one of those positions creates another 3½ jobs on railways, barges and elsewhere in the economy, according to the National Mining Association.”³⁸⁹ In the U.S., “coal provides more jobs than nearly any other energy source.”³⁹⁰ Further, most coal-related jobs are unionized.³⁹¹ With such economic power combined with the influence of labor unions whose workers' jobs depend on the coal industry, the coal lobby is positioned to have a powerful impact on the passage of any bill that would cap greenhouse gas emissions.³⁹² “[The Senate] do[esn't] have a deal until they get the coal-state senators, and they are a long way from doing it,” said Democrat Senator John Rockefeller of West Virginia, a coal state.³⁹³ “They're going to need us to pass a bill.”³⁹⁴

The coal industry lobbied for some specific changes in cap-and-trade legislation.³⁹⁵ Instead of the “20 percent reduction in greenhouse gas emissions by

³⁸³ See Gail Russell Chaddock, *Will Scott Brown Make the 'Party of No' More Obstructionist?*, ABCNEWS.COM, Feb. 7, 2010, <http://abcnews.go.com/Politics/scott-brown-make-senate-gop-obstructionist/story?id=9761019&page=1>. The balance in the Senate from 60-40 Democrat to Republican to 59-41 was due to the election and swearing in of Senator Scott Brown, a Republican from Massachusetts who filled the seat left vacant by the death of Democratic Senator Edward Kennedy. See Naftali Bendavid, *An Era Ends with Death of Kennedy*, WALL ST. J., Aug. 27, 2009, at A1, available at <http://online.wsj.com/article/SB125025308215331811.html>.

³⁸⁴ See Ket.org, COAL: Ancient Gift Serving Modern Man, <http://www.ket.org/Trips/Coal/AGSM/M/agsmmwhere.html> (last visited Feb. 16, 2010). Ten states contain ninety percent of the coal in the U.S. These states include Montana, Illinois, Wyoming, West Virginia, Kentucky, Pennsylvania, Ohio, Colorado, Texas, and Indiana. *Id.*

³⁸⁵ See Wikipedia.com, List of Oil-Producing States, http://en.wikipedia.org/wiki/List_of_oil-producing_states#North_America (last visited Feb. 16, 2010). The ten states in the U.S. who extract the largest quantity of crude oil are Louisiana, Alaska, Texas, California, Oklahoma, New Mexico, Wyoming, Kansas, North Dakota, and Montana. *Id.*

³⁸⁶ See Sarah Gardner, *Controversy Over Pollution Permits*, AM. PUB. MEDIA, May 5, 2009, http://marketplace.publicradio.org/display/web/2009/05/05/pm_free_carbon_credits/.

³⁸⁷ See Lisa Lerer, *In Senate, Coal Fuels Climate Deals*, POLITICO.COM, Nov. 17, 2009, <http://www.politico.com/news/stories/1109/29596.html>.

³⁸⁸ *Id.*

³⁸⁹ *Id.*

³⁹⁰ *Id.*

³⁹¹ *Id.*

³⁹² *Id.*

³⁹³ See Lerer, *supra* note 387 (internal quotation marks omitted).

³⁹⁴ *Id.* (internal quotation marks omitted).

³⁹⁵ *Id.*

2020,” the coal industry would like the percentage to be somewhere between fourteen and seventeen percent.³⁹⁶ This would give the industry more time “to develop new technologies like carbon capture and sequestration — a still-experimental technology that would catch greenhouse gas emissions before they enter the air and bury them in holes in the ground or under the ocean.”³⁹⁷ It remains to be seen how the coal industry and legislators will resolve this issue. What is certain is that this additional challenge will make passage of cap-and-trade legislation even less probable.

Cap-and-Trade Alternatives – National and International

Despite the predominance of support for a cap-and-trade system among politicians and scientists in the U.S. and Europe, various voices have proposed and are supporting alternative methods to reduce greenhouse gas emissions in the U.S. and internationally.³⁹⁸ The various policy approaches to reduce greenhouse gas emissions generally fall into one of two main approaches: (1) incentive based policies, which includes cap-and-trade and carbon tax systems, and (2) command-and-control³⁹⁹ approaches, which includes measures such as imposing technological standards on electricity generators.⁴⁰⁰ The following are some proposed alternatives to a cap-and-traded system of carbon emission regulation.

Carbon Tax

Early in 2009, ExxonMobil’s chief executive, Rex Tillerson (“Tillerson”), announced his support of a carbon tax system that would aim to reduce carbon emissions as an alternative to a cap-and-trade system.⁴⁰¹ “A carbon tax would be a more direct and transparent approach,” Tillerson said.⁴⁰² This is because the cost imposed on companies by the tax would be predictable.⁴⁰³ Another notable supporter of a carbon tax, and one of the most “high-profile spokesmen for the

³⁹⁶ *Id.*

³⁹⁷ *Id.*

³⁹⁸ See, e.g., *Mexico’s Alternative*, *supra* note 50; see also Pete Harrison, *EU Warms to Mexico’s Path to Global Climate Deal*, REUTERS, May 13, 2009, <http://www.reuters.com/article/idUSTRE54C2X820090513>.

³⁹⁹ See COLE *supra* note 74, at 225. Authors Daniel Cole and Peter Grossman write that “[i]t is an article of faith among economists, legal scholars, and policymakers that economic forms of regulation such as effluent taxes and emissions trading are inevitably more efficient than traditional command-and-control regimes for environmental protection.” *Id.* They argue that this is simply not true. *Id.* “The prevailing view—that command-and-control is inevitably inefficient or less efficient than alternative economic instruments such as effluent taxes and marketable pollution permits—is inaccurate both as a matter of economic theory and practice.” *Id.*

⁴⁰⁰ *Approaches to Reduce Carbon Dioxide Emissions: Hearing Before the Comm. on the Budget*, 112th Cong. (2007) (statement of Peter Orszag, Economist, H. Comm. on the Budget), <http://www.cbo.gov/ftpdocs/87xx/doc8769/11-01-CO2Emissions.pdf>.

⁴⁰¹ See Posting of Keith Johnson to Environmental Capital Blog, WALL ST. J., <http://blogs.wsj.com/environmentalcapital/2009/01/08/exxons-tillerson-give-me-a-carbon-tax-not-cap-and-trade/> (Jan. 8, 2009).

⁴⁰² *Id.*

⁴⁰³ Orszag, *supra* note 400, at 4.

virtues of a carbon tax over a cap-and-trade program,”⁴⁰⁴ has been Peter Orszag (“Orszag”), the current Director of the Office of Management and Budget.⁴⁰⁵ In a 2007 report to the U.S. House of Representatives discussing both the cap-and-trade system and a carbon tax, Orszag stated that “a tax is generally the more efficient approach.”⁴⁰⁶ He based this conclusion on several factors. First, Orszag noted that studies indicated that over the next few decades “a well-designed tax would yield higher net benefits than a cap-and-trade approach.”⁴⁰⁷ This is partly because “[a] tax creates relative certainty about the *cost* of emission reductions each year, because firms will undertake such reductions until the cost of decreasing emissions by another ton just equals the tax on an additional ton of emissions.”⁴⁰⁸ A cap-and-trade program, by contrast, reliably limits the quantity of carbon regardless of cost.⁴⁰⁹ However, Orszag points out that, in terms of the impact emission reductions have on the climate, “it does not matter greatly whether a given cut in emissions occurs in one year or in the next.”⁴¹⁰ Taking this into account, he points out that a tax would have an “important advantage: it [would] allow[] emission reductions to take place in years when they are relatively cheap.”⁴¹¹ Numerous factors, such as weather, level of economic activity, and availability of low-carbon technologies, can affect the cost of reducing emissions from year to year.⁴¹² “By shifting emission-reduction efforts into years when they are relatively less expensive, a tax can allow the same cumulative reduction to occur over many years at lower cost than can a cap-and-trade program with specified annual emission levels.”⁴¹³ Also, because a tax would avoid potential volatility of allowance prices, a tax “could be less disruptive for affected companies.”⁴¹⁴ It seems that even a small amount of savings and stability would appeal to businesses and industries in the United States.

The American Energy Act

The American Energy Act (“AEA”) was introduced in the House on June 12, 2009⁴¹⁵ by Republican Representative John Boehner, the bill’s primary sponsor.⁴¹⁶ The AEA “promote[s] new, clean and renewable sources of energy such as nuclear, clean-coal-technology, wind and solar energy;” it seeks to “increase

⁴⁰⁴ Johnson, *supra* note 401.

⁴⁰⁵ The White House, OMB Leadership Bios, http://www.whitehouse.gov/omb/organization_office/ (last visited Jan. 3, 2010).

⁴⁰⁶ Orszag, *supra* note 400, at 1.

⁴⁰⁷ *Id.* at 4.

⁴⁰⁸ *Id.*

⁴⁰⁹ *Id.*

⁴¹⁰ *Id.* at 4-5.

⁴¹¹ *Id.* at 4.

⁴¹² Orszag, *supra* note 400, at 5.

⁴¹³ *Id.*

⁴¹⁴ *Id.*

⁴¹⁵ American Energy Act, H.R. 2846, 111th Cong. (2009).

⁴¹⁶ AM. ENERGY SOLUTIONS GROUP, THE AMERICAN ENERGY ACT: AN “ALL-OF-THE-ABOVE” SOLUTION FOR ENERGY INDEPENDENCE 1 (2009), <http://www.gop.gov/download?folder=energy&file=AEA2PGSummary.pdf>.

production of American-made energy in an environmentally sound manner;” and it promotes “greater efficiency and conservation by extending tax incentives for energy efficiency and rewarding development of greater conservation techniques and new energy sources.”⁴¹⁷ AEA seeks to accomplish all of these things in a way that would restore “economic health to our country”⁴¹⁸ and would avoid the costly increase in energy prices ACES would engender.

Legislators’ goals for AEA would be accomplished in several ways. AEA would promote clean and reliable sources of energy by establishing a “national goal to bring 100 new nuclear reactors online over the next [twenty] years.”⁴¹⁹ It also would provide for “an accelerated regulatory process for new nuclear applications where there is a design already certified by the Nuclear Regulatory Commission (NRC); a site already licensed for operating reactors; an operator in good standing with the NRC; and a full and complete Combined Operations and Construction License application.”⁴²⁰ AEA would reduce “construction costs [of nuclear reactors] by suspending import tariffs and duties on imported nuclear components for five years if there is no domestic manufacturer.”⁴²¹ AEA would also would allow the NRC to “finish its review of the Yucca Mountain repository without political interference, and repeal[] its 70,000 metric ton limitation, letting science and technology dictate how much the repository can safely hold.”⁴²² At the same time AEA would provide for recycling spent nuclear fuel, “[t]he NRC would have two years to establish a process to license . . . recycling facilities.”⁴²³

AEA also would promote clean and reliable sources of energy by creating a Renewable and Alternative Energy Trust Fund that would “provide funding for energy programs authorized by federal law, such as biomass, hydroelectric, clean coal, solar, wind, geothermal and other forms of renewable energy.”⁴²⁴ This fund would support “the development of renewable, alternative and unconventional fuels, and new energy sources, using receipts from the new federal and oil gas leasing in the Arctic Coastal Plain and the Outer Continental Shelf (OCS).”⁴²⁵ Additionally, this fund would promote clean and reliable sources of energy by repealing a current “prohibition on government purchasing fuels derived from sources such as oil shale, tar sands and coal-to liquid technology.”⁴²⁶ AEA would stimulate clean coal-to-liquid technology use “by allowing federal agencies to enter into long-term contracts to buy coal-derived fuel and by authorizing the Secretary of Energy to enter into loan agreements with coal-to-liquid projects.”⁴²⁷

⁴¹⁷ *Id.*

⁴¹⁸ Rep. Doug Lamborn, *Lamborn: Energy Key to Economic Recovery*, ROLL CALL, Feb. 4, 2010, available at http://www.rollcall.com/features/Climate-and-Energy_PolicyBriefing/energy_environment/43002-1.html.

⁴¹⁹ Am. Energy Solutions Group, *supra* note 416.

⁴²⁰ *Id.*

⁴²¹ *Id.*

⁴²² *Id.*

⁴²³ *Id.*

⁴²⁴ *Id.*

⁴²⁵ Am. Energy Solutions Group, *supra* note 416, at 1.

⁴²⁶ *Id.*

⁴²⁷ *Id.*

AEA would foster “new and expanding energy technologies by making permanent tax credits for the production of renewable electricity, like wind, solar, and biomass.”⁴²⁸ The bill also would create “permanent investment tax credits for solar energy and for fuel cell properties and extend[] the biodiesel and renewable diesel tax credits.”⁴²⁹

Significant portions of the Outer Continental Shelf (“OCS”), which the Interior Department has estimated to hold “up to 86 billion barrels of oil and 420 trillion cubic feet of natural gas,” is currently unavailable for drilling due to leasing delays.⁴³⁰ AEA would increase the energy supply available in the U.S. by “immediately moving forward with a leasing program on the already open OCS.”⁴³¹ The bill would also simplify “the OCS mileage restrictions, expanding state territorial waters to [twelve] miles offshore (most state borders stop at three miles)[,] and give[] coastal states a share of the receipts from such energy exploration.”⁴³² Part of the revenues OCS exploration would generate “would go to a renewable energy trust fund to pay for a variety of renewable, alternative and advanced energy programs.”⁴³³

The bills would also increase the energy available to the United States by “opening the “Arctic Coastal Plain to exploration in an environmentally-sound manner, which could provide an additional one million barrels of oil per day.”⁴³⁴ Another way the bill would increase the energy available in the United States would be by increasing the availability of oil shale.⁴³⁵ “It is estimated that more than 70 percent of American oil shale lies on federal lands which contain an estimated 1.23 trillion barrels of oil, more than 50 times the nation’s proven conventional oil reserves.”⁴³⁶ AEA would codify “the oil shale lease program and restore[] leasing activities that were already underway prior to being halted in February 2009, by the current Administration.”⁴³⁷

Finally, AEA would encourage energy ingenuity in the U.S. “by providing for competitive award cash prizes to advance the research, development, demonstration and commercial application of innovative energy technologies and new energy sources, including a \$500 million prize to the first U.S. automobile manufacturer to sell 50,000 economically feasible, super fuel-efficient vehicles that get 100 mpg.”⁴³⁸ It would also provide “tax incentives for businesses and homeowners who improve their energy efficiency.”⁴³⁹ AEA would do this by extending “tax credits for using energy efficient appliances and energy efficient

⁴²⁸ *Id.*

⁴²⁹ *Id.*

⁴³⁰ *Id.* at 2.

⁴³¹ Am. Energy Solutions Group, *supra* note 416 at 2.

⁴³² *Id.*

⁴³³ *Id.*

⁴³⁴ *Id.*

⁴³⁵ *Id.*

⁴³⁶ *Id.*

⁴³⁷ Am. Energy Solutions Group, *supra* note 416, at 2.

⁴³⁸ *Id.*

⁴³⁹ *Id.*

upgrades made to existing homes, a tax credit for individuals who purchase a new energy efficient home and a tax credit for energy efficient commercial buildings, home energy audits and smart meters.”⁴⁴⁰

One obvious difference between AEA and ACES is that AEA would not authorize or require “the regulation of climate change or global warming.”⁴⁴¹ AEA would also prevent the EPA from using the Clean Air Act to “regulate carbon dioxide emissions from fossil fuels.”⁴⁴²

Global Climate Change Fund

Mexico has proposed a global climate change fund instead of a cap-and-trade system.⁴⁴³ This approach would involve establishing a central international fund that every nation in the world would pay into, according to its population, greenhouse emissions, and GDP.⁴⁴⁴ The assets of the fund would then be divided among countries according to “their level of need to cut emissions, build green technologies or adapt to climate change impacts.”⁴⁴⁵ Technologies for adapting to climate change impacts could include things such as drought resistant crops or flood barriers.⁴⁴⁶ Jos Delbeke, the European Commission’s Deputy Director-General for the Environment, said that this approach is not necessarily mutually exclusive with a carbon cap-and-trade system.⁴⁴⁷ He also indicated that a central-fund system “could be funded by programs like the EU’s cap-and-trade facility.”⁴⁴⁸

Command-and-Control Regulation of Greenhouse Gas Emissions

Congress could choose to regulate greenhouse gas emissions by command-and-control regulations rather than, or in addition to, a market mechanism.⁴⁴⁹ Command-and-control regulation focuses on “preventing environmental problems by specifying how a company will manage a pollution-generating process.”⁴⁵⁰ Generally this approach involves detailed regulations⁴⁵¹ and an ongoing inspection

⁴⁴⁰ *Id.*

⁴⁴¹ H.R. 2846.

⁴⁴² Ben Lieberman, *The American Energy Act: An Energy Bill with Some Real Energy in It*, HERITAGE FOUNDATION, June 11, 2009, available at <http://www.heritage.org/Research/Reports/2009/06/The-American-Energy-Act-An-Energy-Bill-with-Some-Real-Energy-in-It>.

⁴⁴³ *Mexico’s Alternative*, *supra* note 50.

⁴⁴⁴ *Id.*

⁴⁴⁵ *Id.*

⁴⁴⁶ *EU Warms to Mexico’s Path to Global Climate Deal*, *supra* note 398.

⁴⁴⁷ *Mexico’s Alternative*, *supra* note 50.

⁴⁴⁸ *Id.*

⁴⁴⁹ COLE, *supra* note 74, at 239. The 1970 Clean Air Act is a classic example of a command-and-control system. *Id.* at 226. This act was not a market based system, but instead it used regulatory instruments, “such as national ambient air quality standards and technology-based emissions limitations,” to regulate emissions. *Id.*

⁴⁵⁰ *Command and Control Regulation*, THEENCYCLOPEDIAOFEARTH.COM, http://www.eoearth.org/article/Command_and_control_regulation (last visited Jan. 5, 2010).

⁴⁵¹ For example, greenhouse gas emitters who emit a certain level of greenhouse gasses per year may be required to install specific technology under a command-and-control system. See Winston Harrington & Richard D. Morgenstern, *Economic Incentives Versus Command-and-Control*,

program.⁴⁵² It appears unlikely that Congress will choose to regulate greenhouse gasses by command-and-control regulations; however, the EPA may have the authority to create command-and-control regulations to regulate greenhouse gas emissions in the U.S., and it may choose to exert this power in the near future.⁴⁵³

Legal scholars, economists, and policymakers today tend to believe that command-and-control regulations are less efficient than incentive based programs such as levying a carbon tax or carbon emissions trading.⁴⁵⁴ Authors Daniel Cole⁴⁵⁵ and Peter Grossman,⁴⁵⁶ in their essay *Institutional and Technological Constraints on Environmental Instrument Choice: A Case Study of the U.S. Clean Air Act*, question whether this assumption is correct, and they conclude that it is not.⁴⁵⁷ They note that the true question should be how and when to use command-and-control rather than a market mechanism, not whether or not to use this system.⁴⁵⁸ They point out that a case-by-case analysis that takes into account the often overlooked monitoring costs associated with market mechanisms is important in determining which kind of system to implement and which would be most efficient.⁴⁵⁹ Cole and Grossman write that their analysis

suggests that where abatement costs are relatively low and monitoring costs are relatively high, command-and-control is likely to be at least as efficient (and effective) as effluent taxes or a tradable emissions program. In the obverse case of relatively high abatement costs and relatively low monitoring costs, market mechanisms are likely to be more efficient.⁴⁶⁰

In December of 2009, President Obama's administration warned Congress that if it did not act to regulate greenhouse gasses then, "the Environmental Protection Agency will take a 'command-and-control' role over the process in a way that could hurt business."⁴⁶¹ Lisa Jackson ("Jackson"), EPA's Administrator,

RESOURCES, Fall/Winter 2004, at 13-17, http://envirohealth.berkeley.edu/271E/2007/S24/RFF_Resources_152_ecoincentives.pdf.

⁴⁵² *Id.*

⁴⁵³ See *infra* notes 469-92 and accompanying text.

⁴⁵⁴ COLE, *supra* note 74, at 239.

⁴⁵⁵ "Daniel H. Cole is the R. Bruce Townsend Professor of Law and a member of the Affiliated Faculty of the Workshop in Political Theory and Policy Analysis at IU-Bloomington. He teaches and writes in the areas of Property, Natural Resources Law, Land Use, Environmental Protection, and Law & Economics." Daniel H. Cole, [INDYLAW.INDIANA.EDU](http://indylaw.indiana.edu/people/profile.cfm?Id=6), <http://indylaw.indiana.edu/people/profile.cfm?Id=6> (last visited Feb. 4, 2010).

⁴⁵⁶ "Peter Z. Grossman has been the Clarence Efroymson Professor of Economics at Butler University, a position he has held since 1994." *American Express: The People Who Built the Great Financial Empire*, BEARDBOOKS.COM, http://www.beardbooks.com/beardbooks/american_express.html (last visited Feb. 4, 2010). Grossman "received his AB in philosophy from Columbia University and MA and Ph.D degrees in economics from Washington University, [and he] has specialized in the fields of law and economics, industrial organization, and economic history." *Id.* He has also "published more than 150 works for both scholarly and general readers. He is a regular columnist on economic issues for The Indianapolis Star, and has contributed commentary to numerous magazines and newspapers." *Id.*

⁴⁵⁷ COLE, *supra* note 74, at 225-39.

⁴⁵⁸ *Id.* at 239.

⁴⁵⁹ *Id.*

⁴⁶⁰ *Id.*

⁴⁶¹ FoxNews.com, Administration Warns of 'Command-and-Control' Regulation Over Emissions,

said that “the EPA’s new powers to regulate greenhouse gases⁴⁶² will be used to complement legislation pending in Congress, not replace it.”⁴⁶³ However, this statement makes two assumptions that recent events challenge: first, that the EPA will have the authority to create and enforce command-and-control regulations, and, second, that legislation in Congress will in fact pass. Neither assumption has come to pass thus far. In January 2010, Alaska Senator Lisa Murkowski (“Senator Murkowski”) introduced a resolution “to prevent the [EPA] from taking any action to regulate carbon dioxide and other climate-altering gases.”⁴⁶⁴ This resolution directly challenged the EPA’s authority to regulate greenhouse gases; and if it had been passed into law, the resolution would have stripped the EPA of its authority to “limit emissions of greenhouse gases under the Clean Air Act.”⁴⁶⁵ Senator Murkowski’s resolution was unsuccessful;⁴⁶⁶ however, Democratic Senator Jay Rockefeller of West Virginia has introduced a similar bill that would “freeze EPA’s ability to regulate emissions from stationary sources for two years.”⁴⁶⁷

Should the EPA’s new powers withstand all Legislative challenges, these powers will be partially founded on the U.S. Supreme Court’s (“the Court”) decision in *Massachusetts v. EPA*,⁴⁶⁸ and on two EPA findings that came about as a result of that decision.⁴⁶⁹

As a result of the Court’s decision in *Massachusetts v. EPA*, the EPA’s Administrator, Jackson, signed two findings regarding greenhouse gasses on December 7, 2009, under section 202(a) of the Clean Air Act.⁴⁷⁰

available at <http://www.foxnews.com/politics/2009/12/09/administration-warns-command-control-regulation-emissions> (last visited Feb. 18, 2011).

⁴⁶² In 2009, the EPA said that it would “require polluters that emit more than 25,000 tons a year of greenhouse gases to obtain permits demonstrating they were using the best available technology to reduce emissions.” Gardner, *supra* note 51. However, “Jackson raised that threshold [in March, 2010], saying the regulations would exempt factories emitting under 75,000 tons of carbon annually in 2011 and 2012.” *Id.*

⁴⁶³ Administration Warns of ‘Command-and-Control’ Regulation Over Emissions, *supra* note 461.

⁴⁶⁴ John M. Broder, *Senators Want to Bar E.P.A. Greenhouse Gas Limits*, N.Y. TIMES, Jan. 21, 2010, at A14, available at <http://www.nytimes.com/2010/01/22/science/earth/22climate.html>. Early in January 2010, North Dakota Representative Earl Pomeroy “introduced a bill that would similarly bar the EPA from acting on greenhouse gas emissions.” Posting of Kim Murphy to Greenspace Blog, L.A. TIMES <http://latimesblogs.latimes.com/greenspace/2010/01/murkowski-greenhouse-gas-emissions-epa.html> (Jan. 19, 2010). Senator Murkowski’s resolution has the support of thirty-five republican senators and three democratic senators, including democratic Arkansas Senator Blanche Lincoln. Siobhan Hughes, *Senator Offers Measure to Overturn EPA Greenhouse-Gas Effort*, WALL ST. J., Jan. 21, 2010, available at http://online.wsj.com/article/SB10001424052748703699204575017270628447134.html?mod=googlenews_wsj.

⁴⁶⁵ Broder, *supra* note 464, at A14.

⁴⁶⁶ Gregg Blesch, *Climate of Confrontation*, MODERNHEALTHCARE.COM, Oct. 4, 2010, available at <http://www.modernhealthcare.com/article/20101004/MAGAZINE/101009985>.

⁴⁶⁷ Gabriel Nelson & Robin Bravender, *Thursday Shaping Up as a Senate Showdown Over EPA’s Greenhouse Gas Regs*, N.Y. TIMES, Sept. 14, 2010, available at <http://www.nytimes.com/gwire/2010/09/14/14/greenwire-thursday-shaping-up-as-a-senate-showdown-over-e-2565.html>.

⁴⁶⁸ *Massachusetts v. Env’tl. Prot. Agency*, 549 U.S. 497 (2007).

⁴⁶⁹ EPA.gov, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, available at <http://www.epa.gov/climatechange/endangerment.html> (last visited Jan. 29, 2010).

⁴⁷⁰ 74 Fed. Reg. 239 (Dec. 15, 2009).

Massachusetts v. EPA: The Road to EPA Command-and-Control Regulation of Greenhouse Gasses

In October of 1999, the International Center for Technology Assessment, joined by eighteen more environmental and renewable energy industry organizations,⁴⁷¹ “petitioned the [EPA] to begin regulating the emissions of four [greenhouse] gasses, including carbon dioxide, under § 202(a)(1) of the Clean Air Act”⁴⁷² The groups specifically sought regulation of greenhouse gas emissions from on-road vehicles.⁴⁷³ After requesting public comment on issues that the petition raised and receiving more than 50,000 comments, the EPA responded in a 2001 report entitled *Climate Change Science: An Analysis of Some Key Questions*.⁴⁷⁴ On September 8, 2003, the EPA denied the rulemaking petition, reasoning that:

(1) the [Clean Air] Act [did] not authorize it to issue mandatory regulations to address global climate change,⁴⁷⁵ and (2) even if it had the authority to set greenhouse gas emission standards, it would have been unwise to do so at that time because a causal link between greenhouse gasses and the increase in global surface air temperatures was not unequivocally established.⁴⁷⁶

The EPA was also reluctant to regulate greenhouse gas emissions because it believed that its regulation of motor-vehicle emissions would be a “piecemeal approach to climate change that would conflict with the President’s comprehensive approach involving additional support for technological innovation, the creation of nonregulatory programs to encourage voluntary private-sector reductions in greenhouse gas emissions, and further research on climate change.”⁴⁷⁷ The EPA also believed that by stepping in to regulate greenhouse gasses it “might hamper

⁴⁷¹ These groups included the Alliance for Sustainable Communities; Applied Power Technologies, Inc.; Bio Fuels America; The California Solar Energy Industries Assn.; Clements Environmental Corp.; Environmental Advocates; Environmental and Energy Study Institute; Friends of the Earth; Full Circle Energy Project, Inc.; The Green Party of Rhode Island; Greenpeace USA; International Center for Technology Assessment; Network for Environmental and Economic Responsibility of the United Church of Christ; New Jersey Environmental Watch; New Mexico Solar Energy Assn.; Oregon Environmental Council; Public Citizen; Solar Energy Industries Assn.; and The SUN DAY Campaign. See *Envtl. Prot. Agency*, 549 U.S. at 510 n.15.

⁴⁷² *Id.* at 497; U.S. ENVTL. PROT. AGENCY, EPA’S ENDANGERMENT FINDING (2009), http://www.epa.gov/climatechange/endangerment/downloads/EndangermentFinding_LegalBasis.pdf. The Clean Air Act requires that the EPA “shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from any class . . . of new motor vehicles . . . which in [the EPA Administrator’s] judgment cause[s], or contribute[s] to, air pollution . . . reasonably . . . anticipated to endanger public health or welfare.” *Envtl. Prot. Agency*, 549 U.S. at 497 (quoting 42 U.S.C. § 7521(a)(1) (2006)).

⁴⁷³ U.S. ENVTL. PROT. AGENCY, *supra* note 472.

⁴⁷⁴ See *Envtl. Prot. Agency*, 549 U.S. at 511.

⁴⁷⁵ The EPA based this conclusion partially on the fact that Congress had comprehensively amended the Clean Air Act in 1990, when Congress was aware that global climate change was an issue, and yet Congress had “declined to adopt a proposed amendment establishing emissions limits,” instead choosing to “authorize further investigation into climate change.” *Envtl. Prot. Agency*, 549 U.S. at 511-12. It seems clear that the EPA was reluctant to act without the direction of Congress.

⁴⁷⁶ *Id.* at 497. This section quotes the Syllabus of *Massachusetts v. Environmental Protection Agency*, a section not included in the opinion of the court and prepared by the Reporter of Decisions for the reader’s convenience. See *id.*

⁴⁷⁷ *Id.*

the President's ability to persuade key developing nations to reduce emissions."⁴⁷⁸

After the EPA denied the groups' petition, the groups sought review in the D.C. Circuit.⁴⁷⁹ The D.C. Circuit Court agreed with the EPA Administrator's decision in to deny the petition; and therefore, the D.C. Circuit Court denied review.⁴⁸⁰ Thereafter, "a group of states,⁴⁸¹ local governments,⁴⁸² and private organizations"⁴⁸³ petitioned the Court for certiorari to determine whether the EPA had an obligation under the Clean Air Act to regulate greenhouse gas emissions resulting from new motor vehicles.⁴⁸⁴ Despite the EPA's arguments to the contrary, the Court, after granting certiorari in this case, held in *Massachusetts v. EPA* that "greenhouse gases fit well within the Clean Air Act's capacious definition of 'air pollutant,'"⁴⁸⁵ and that the "§ 202(a)(1) of the Clean Air Act authorizes [the] EPA to regulate greenhouse gas emissions from new motor vehicles in the event that it forms a 'judgment' that such emissions contribute to climate change."⁴⁸⁶

The Supreme Court held that whether or not the EPA decided to regulate greenhouse gases, it "must ground [its reasons for action or inaction in the [Clean Air Act]."⁴⁸⁷ In so holding, the Court specifically did not address the issue of whether the EPA had to make an endangerment finding, "or whether policy concerns [could] inform EPA's actions in the event that it [made] such a finding."⁴⁸⁸

Following the Court's decision, on December 7, 2009, the EPA produced two findings.⁴⁸⁹ First, under section 202(a) the Clean Air Act, the "endangerment finding," held that six "well-mixed" greenhouse gasses in our atmosphere "threaten the public health and welfare of current and future generations."⁴⁹⁰

⁴⁷⁸ *Id.* Here the EPA was likely thinking mainly of China and India, two nations that have yet to agree to a UN protocol to cap the level of greenhouse gasses they can emit. See Mufson, *supra* note 93.

⁴⁷⁹ *Env'tl. Prot. Agency*, 549 U.S. at 497.

⁴⁸⁰ *See id.*

⁴⁸¹ The states included California, Connecticut, Illinois, Maine, Massachusetts, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington. *Id.* at 504 n.2.

⁴⁸² The local governments included the District of Columbia, American Samoa, New York City, and Baltimore. *Id.* at 504 n.3.

⁴⁸³ The private organizations included the Center for Biological Diversity, Center for Food Safety, Conservation Law Foundation, Environmental Advocates, Environmental Defense, Friends of the Earth, Greenpeace, International Center for Technology Assessment, National Environmental Trust, Natural Resources Defense Council, Sierra Club, Union of Concerned Scientists, and U.S. Public Interest Research Group. *Id.* at 504 n.4.

⁴⁸⁴ *See id.* at 497, 504 (internal footnotes omitted).

⁴⁸⁵ *Env'tl. Prot. Agency*, 549 U.S. at 532.

⁴⁸⁶ *Id.* at 528.

⁴⁸⁷ *Id.* at 534.

⁴⁸⁸ *Id.* at 534-35.

⁴⁸⁹ Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act, *supra* note 469.

⁴⁹⁰ *Id.* The EPA Endangerment Finding reads, "Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)--in the atmosphere threaten the public health and welfare of current and future generations." *Id.*

Second, the “cause or contribute finding,” held that “new motor vehicles” and “new motor vehicle engines” play a part in greenhouse gas pollution.⁴⁹¹

These findings [did] not themselves impose any requirements on industry or other entities. However, this action [was] a prerequisite to finalizing the EPA’s proposed greenhouse gas emission standards for light-duty vehicles, which were jointly proposed by EPA and the Department of Transportation’s National Highway Safety Administration on September 15, 2009.⁴⁹²

Both Democratic and Republican legislators have predicted that command-and-control regulations will be bad for business in the U.S.⁴⁹³ However, it appears that the EPA will take the initiative and regulate greenhouse gas emissions in the U.S. if Congress does not pass ACES or similar legislation during the 111th Congress.⁴⁹⁴ The EPA currently appears to possess the power to use command-and-control regulations; therefore, if no cap-and-trade bill passes, command-and-control regulations may be used to regulate greenhouse gas emissions in the near future.

CONCLUSION

Given the great increase in cost that cap-and-trade legislation as written would give rise to for American businesses, the continuing scientific debate over the cause of climate change, and, assuming for argument’s sake that global warming is in fact manmade and stoppable, the futilely small temperature reduction the U.S. may be able to achieve under ACES without similar regulation of greenhouse gasses in developing countries like China and India, it behooves the Legislature and President Obama to make further inquiry into the science of climate change and into where our nation’s limited resources would currently be most beneficially invested. Should our government decide to attempt to reduce carbon emissions through a cap-and-trade system, first it should step back and determine the most cost-effective way to achieve its goal. It should resist the urge to invest significant amounts of money in greenhouse gas emission reduction, right now and should instead consider reducing greenhouse gas emissions over the long run by pushing large reductions in greenhouse gas emissions into the future after more technology has been developed to make the transition simultaneously less costly and more effective.⁴⁹⁵ By doing this, the Legislature and President would avoid some of the potential negative impacts of ACES while still being able to act in a way that makes them feel, and appear to be, green.

⁴⁹¹ *Id.* The EPA Cause or Contribute Finding reads, “Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.” *Id.*

⁴⁹² *Id.*

⁴⁹³ See Broder, *supra* note 464, at A14.

⁴⁹⁴ See *id.*

⁴⁹⁵ See LOMBORG, *supra* note 4, at 322.