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Accelerating towards Climate Neutrality with the U.S. Government Stuck in Neutral:

The Emerging Role of U.S. Businesses, Cities, States, and Universities in Aggressively Reducing Greenhouse Gas Emissions

*By Dan Worth**

Introduction

Leadership on climate change is lacking at the federal level in the United States. Progress at the international level is little better. Although the Kyoto Protocol has finally gone into effect with Russia's recent ratification, it only requires an actual 2.5% reduction of greenhouse gas ("GHG") emissions by 2012 for developed countries.[1] China, India, and other important developing countries currently are outside the regime. These realities stand in sharp contrast to the 70-95% immediate reductions in GHG emissions many credible scientists believe is necessary to prevent further irreparable harm to the planet.[2]

Despite the federal vacuum, an increasing number of businesses, cities, states, and universities have launched aggressive efforts to reduce GHG emissions. These efforts have come in response to increasing pressure from various sources, including impending litigation, international regulation, fear of domestic regulation, and climate-focused shareholder resolutions. As successful GHG emissions reduction case studies emerge, businesses, governments, institutions, and individuals are discovering that aggressively reducing GHG emissions can make good business sense on many levels.[3]

Recently, the concept of "climate neutrality"[4] has come into vogue given the growing calls to move beyond carbon cuts to carbon negative strategies in order to return to the 280 parts per million ("ppm") atmospheric carbon concentration of pre-industrial times from today's level of 380 ppm. Many scientists believe these measures are necessary to mitigate and reverse – where still possible – the impacts already set in motion, including the now possible loss of the Greenland Ice Sheet.[5]

This move is important for two reasons. First, the U.S. now emits as many GHGs as 2.6 billion people in 151 developing nations.[6] Given the global consequences of climate change, we are morally responsible for reducing our own contributions. Second, the U.S. must play an increasing international role in curbing the emissions of countries like China, whose emissions are predicted to grow by 3.3% per year through 2025, increasing China's share of global carbon dioxide emissions from twelve percent in 2000 to eighteen percent in 2025.[7] As the world's largest market and largest GHG emitter with the second highest gross domestic product per capita, the U.S. could be an incredibly effective technological and moral leader on this issue.

This article will explore the roots of climate neutrality, identify some of the drivers of the growing movement towards climate neutrality in the absence of federal action, and highlight leading case studies from businesses, cities, states, and universities.

The Roots of Climate Neutrality

"Climate neutrality" is a concept that originated at the end of the last millennium through the work of the Climate Neutral Network ("CNN"), which certifies products and companies as "Climate Cool."[8] According to the CNN, a product, company, or process is climate neutral if it is determined to have little or no effect on the Earth's climate.[9] In 2000, Oberlin College commissioned a report from the Rocky Mountain Institute on how to move the college campus to climate neutrality by 2020.[10] Since 2002, event planners have also begun reducing and offsetting emissions associated with their events and advertising them as climate neutral.[11] Achieving climate neutrality consists of reducing as large of a percentage of GHGs as possible, estimating the remaining emissions, and then funding clean energy or other GHG reduction efforts to offset any remaining emissions.

Another way to think about climate neutrality is to think about net zero GHG emissions. This concept has already hit auto showrooms in California, where the concepts of zero emissions vehicles ("ZEVs") and low emissions vehicles ("LEVs") were born.[12] Under this new framework, we can think of moving towards national climate neutrality as pursuing the goal of a Zero Emissions Nation ("ZEN").

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The Sticks: The Drivers of Change

Fear of Litigation

On July 21, 2004, Connecticut, New York, California, New Jersey, Rhode Island, Vermont, Wisconsin, and the City of New York filed a tort-based suit against electric power corporations[13] in the U.S. District Court for the Southern District of New York.[14] The plaintiffs allege that the cumulative 650 million tons of carbon dioxide emitted from defendants' power plants are contributing to a public nuisance under both state and federal common law.[15] They seek an order holding each of the defendants jointly and severally liable for damages associated with global warming and enjoining them to abate their nuisance by capping emissions of carbon dioxide and reducing them by a specified percentage for at least the next decade.[16] This is just one of several climate-related lawsuits being considered or brought against major U.S. industries. The threat of liability and negative public relations associated with these and other suits provide an incentive for U.S. corporations to comply now to mitigate their liability.[17]

Fear of Current and Future Domestic Regulation

The Climate Stewardship Act ("CSA"), introduced by Senators John McCain (R-AZ) and Joseph Lieberman (D-CT) in October 2003, was defeated by a surprisingly close 43 to 55 vote in the U.S. Senate. In March 2004, similar legislation was introduced in the House of Representatives by Wayne Gilchrest (R-MD) and John Olver (D-MA). Earlier this year, the bill was jointly reintroduced into both Houses of Congress.[18]

The Climate Stewardship Act is modeled on the 1990 Clean Air Act acid rain program and would create a market-based emissions cap and trade program around several greenhouse gases. Electric utilities, refiners of transportation fuels, and major industrial and commercial entities would be regulated under the program with large emitters required to report annual emissions and return to 2000 emissions levels by 2010.

Several states have also adopted or are considering adopting Renewable Portfolio Standards ("RPS") that would require public utilities to make a certain percentage of the energy they procure come from renewable sources such as wind, solar, or biomass.[19] Other state mandates, goals, and settlements are leading public utilities to reduce their climate impacts and in the process supporting emerging clean energy markets.

According to a report issued by the Rocky Mountain Institute, future regulation that will cap emissions combined with the uncertainty of energy costs and the energy market could "hurt business performance and lower asset values of carbon-intensive plants and equipment," and threaten a company's market share.[20] Fossil-fuel producers and users, in particular coal and petroleum industries and U.S. electric utilities, most of which rely on coal-fired generation, are likely to be the big losers unless they can adapt to potential new regulations.[21]

The auto industry is also the focus of recent California legislation that calls for the reporting, certification, and reduction of greenhouse gas emissions from mobile sources beginning with 2009 auto models. The California bill notes that passenger cars and light trucks are responsible for approximately 40% of California's total greenhouse gas pollution[22] and requires that the California Climate Action Registry work with the California Air Resources Board ("CARB") to "adopt regulations that ensure reductions in emissions of greenhouse gases."[23] The bill states that finding technological solutions to reduce emissions will stimulate the California economy, provide jobs, and "continue the California automobile worker tradition of building cars that use cutting edge technology."[24]

Pursuant to this legislation, in September 2004, CARB issued regulations that one group predicts would reduce global warming gases by nearly 30 percent by 2016.[25] In December 2004, the auto industry, led by the Alliance of International Automobile Manufacturers, responded with a federal lawsuit in the U.S. District Court for the Eastern District of California challenging the constitutionality of the state statute and a public relations campaign to battle the suit.[26] Currently several environmental nonprofits are putting pressure on the auto industry to comply with these regulations. The California Governor's office is defending the State of California against the lawsuit and the California Public Employees' Retirement System ("CalPERS") is looking into the auto industry's stance.[27] Possibly in response to this pressure as well as proposed shareholder resolutions (see below), Ford Motor Company agreed recently to study the climate impacts of its manufacturing activities and products.[28]

Impact of International Regulation

In February 2005, the Kyoto Protocol went into effect around the world with the U.S. standing on the sideline. U.S. Congressional resistance to Kyoto was codified in 1997 through Senate Resolution 98, sponsored by Senator Robert Byrd (D-WV) and Senator Chuck Hagel (R-NE). In a brilliant legislative move, the Senators proposed a simple, but politically elegant resolution that passed 95-0, "regarding the conditions for the United States becoming a signatory to any international agreement on greenhouse gas emissions under the United Nations Framework Convention on Climate Change."[29] The resolution stated that "(1) the United States should not be a signatory to any protocol…which would – (A) mandate new commitments to limit or reduce greenhouse gas emissions for the Annex I Parties [developed countries], unless the protocol or other agreement also mandates new specific scheduled commitments to limit or reduce greenhouse gas emissions for Developing Country Parties within the same compliance period, or (B) would result in serious harm to the economy of the United States."[30]

In addition, any supporters of a protocol or other agreement to limit GHG emissions must make sure the protocol is "accompanied by a detailed explanation of any legislation or regulatory actions that may be required to implement the protocol or other agreement and should also be accompanied by an analysis of the detailed financial costs and other impacts on the economy of the United States which would be incurred by the implementation of the protocol or other agreement."[31] With these four lines, Senators Byrd and Hagel framed the Kyoto Protocol in such a

way as to effectively block entrance into any agreement that focused on the developed world and to switch the heavy economic burden of proof to protocol supporters.

Now that the Protocol has gone into effect, however, some are predicting serious harm to the U.S. by *not* ratifying the accord.[32] According to Craig Ebert, a Consulting Managing Director with ICF Consulting, an international energy solution consulting group, "investments by corporate America to improve the operating efficiency will have no value in the emerging $5-10 billion-a-year global carbon credit market. While U.S.-based companies with operations overseas could take advantage of these market opportunities, many do not understand the competitive implications of a carbon-constrained global business environment."[33]

Shareholder Resolutions

Recently, shareholder resolutions have been pushing corporations from within to consider their contributions to global warming and find strategies to reduce emissions. Last year, record numbers of shareholders in oil, gas, and auto companies proposed and voted for resolutions that would require companies to disclose the financial risks climate change poses to their future economic health and lay out steps to compete in an increasingly international pressure-filled and carbon-constrained market.[34] These resolutions have been initiated by environmental non-profits and investor coalitions.

Many companies have reacted to these resolutions with affirmative steps, including disclosing greenhouse gas emissions, setting GHG targets, investing in carbon-constrained energy technologies, integrating climate risk into core business strategies, and making boards responsible for overseeing climate change strategies.[35] These proposed resolutions are forcing companies to realize the serious potential financial impacts of climate change to investors.[36]

The Carrots: The Benefits of Reducing Emissions and Case Studies

Anything but Business as Usual – Businesses Set and Meet Reduction Targets

Aided by groups like the Rocky Mountain Institute, the Pew Center for Global Climate Change, Ceres, Clean Air – Cool Planet, the World Business Council for Sustainable Development, and the World Resources Institute, U.S. corporations are reducing their GHG emissions and saving money in the process.[37] According to the Rocky Mountain Institute, applying whole-systems thinking can provide end-use services at minimum cost[38] and can also lead to other benefits such as motivating employees, attracting and retaining talent,[39] and increasing market positioning.[40]

One of the most successful case studies has come from BP Amoco, which on the first day of the new millennium launched a groundbreaking corporate GHG trading system with a goal of reaching ten percent below 1990 levels by 2010. Slightly more than two years later, BP reported they had met this goal at a projected savings of $650 million over the coming ten years.[41] The Pew Center on Global Climate Change is working with several other businesses that have set and met emissions reduction goals,[42] including:

- Deutshe Telekom, which reduced energy use by fifteen percent from 1995 levels by 2000;
- Dupont, which has reduced emissions by 65 percent from 1990 levels, with an actual reduction by 2002 of 67 percent;
- Royal Dutch/Shell, which reduced emissions by ten percent from 1990 levels; and
- Toyota Motor Manufacturing North America, which reduced energy consumption per unit of production by fifteen percent from 2000 levels.

Thinking Globally and Beating Kyoto Locally

An increasing number of U.S. municipalities are committing to serious emissions reductions that meet and in some cases surpass Kyoto. The U.S. Environmental Protection Agency launched a $mart $avings program to help cities and states reduce energy use.[43] The U.S. Department of Energy runs a Clean Cities Project to "advance the nation's economic, environmental, and energy security by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption."[44] The International Council for Local Environmental Initiatives ("ICLEI"), which was launched in 1990 at United Nations headquarters in New York, runs a Cities for Climate Protection program with 49 U.S. partners to create a framework for reducing emissions.[45]

Two great examples come from the Pacific Northwest, where the City of Seattle predicts a 40 percent reduction in emissions by 2012 and passed a resolution to require its municipal electric utility to mitigate the GHGs from one of its recent power purchases.[46] Seattle Mayor Greg Nickels is also leading a charge to convince mayors from around the country to voluntarily comply with Kyoto.[47] The city of Portland, Oregon also adopted a plan that is slightly more aggressive than the Kyoto Protocol.[48]

In Telluride, Colorado, initial research steps are underway to reduce emissions, and to save significant money in the process. A recent report commissioned by the Telluride Town Council, co-authored by Rick Heede (director of Climate Mitigation Services, Inc., and co-author of the initial Oberlin 2020 study) suggests that the Town of Telluride can save 23 percent of its current energy costs, resulting in a savings of $53,650 per year by investing in electricity and gas saving retrofit measures.[49] Cumulative net savings are estimated at $297,000 by 2011 to exceed $1 million in 2016.[50]

Attaining Multiple States of Zen – Progress on the State Level

Many governors and state governments have launched efforts to lead the way through state climate initiatives, including at least eighteen state action plans,[51] state regulations including an increasing number of Renewable Energy Portfolio Standards ("RPSs"),[52] and regional multi-state initiatives. In addition, at least three states, New Hampshire, Wisconsin, and California, have developed greenhouse gas registries.[53]

One of the most ambitious multi-state efforts is the Regional Greenhouse Gas Initiative ("RGGI"), an eleven-state effort by Northeastern and Mid-Atlantic states to reduce carbon dioxide emissions.[54] Participating states and observers[55] will develop a regional strategy for controlling emissions including a cap-and-trade program with a market-based emissions trading system. The plan is scheduled for completion in April 2005 and will limit emissions from electric power generators.[56] The stakeholder process includes representatives from twenty-four groups.[57] This effort is connected to the Regional Greenhouse Gas Registry ("RGGR"), launched by Northeast States for Coordinated Air Use Management ("NESCAUM").[58] Both initiatives have come out of the New England Governors – Eastern Canadian Premiers ("NEG/ECP") Climate Action Plan, adopted in August 2001, which shoots for a long-term goal of 75 to 85 percent GHG reductions.[59]

Changing the Campus Climate: Success Stories within the Campus Greening Movement

The 4,000 colleges and universities in this country play a lead role in training and educating the next generation of U.S. and world leaders. Through their practices they also have a very strong influence on the U.S. economy.[60] In addition, it takes a great deal of energy to provide services and housing to the more than fifteen million students[61] and thousands of professors on today's campuses, resulting in high aggregate GHG emissions.

The past five years have seen the emergence of a handful of universities taking the technological and moral lead in combating climate change. Particularly successful efforts include Harvard's Campus Greening Initiative ("HGCI"),[62] the Tufts Climate Initiative ("TCI"),[63] and work by the Environmental Center at the University of Colorado-Boulder.[64] In March 2005, graduate students at the Bren School of Environmental Science and Management at the University of California – Santa Barbara launched a masters level graduate research project for the National Association of Environmental Law Societies ("NAELS") to develop a long-term plan to aggressively move the campus to climate neutrality.

Where the Buffalo (Sustainably) Roam

In 2000, the University of Colorado Environmental Center released a report called Blueprint for a Green Campus that proposed "a vision of a growing, dynamic campus which steps lightly upon the earth and satisfies additional demands for energy, transportation, and resources through increased efficiency rather than increased consumption."[65] In a recent report, the Center attempted to calculate the avoided costs its activities have saved over the past five years. While noting the inherent difficulties of calculating environmental savings, the authors estimate that *environmental programs save a net of over $5 million dollars annually on the Boulder campus.*[66] The study also noted several non-economic benefits including increased student involvement, enhanced student and faculty recruitment, and better community relations.[67]

Cooling the Crimson

The Harvard Green Campus Initiative ("HGCI") is an inter-faculty organization that works to address the real life challenges of achieving campus environmental sustainability within Harvard University, to "support staff, students and faculty at Harvard University to address campus sustainability through the management of building design, construction, renovation, procurement, landscape, energy, water, waste, emissions, transportation, human health and productivity."[68]

The Center was started in 2000 with a $70,000 grant. In 2001, the President and Provost of Harvard provided an additional $750,000 to further establish the Initiative. In addition, Harvard created a $3 million Green Campus Loan Fund which provides funding to projects that can generate a payback period of five years or less, "generate infrastructure or behavioral improvements that directly decrease Harvard University's current environmental impact," and "demonstrate an innovative design and implementation approach."[69] The Center is currently funded by a combination of funding from the Office of the President and Provost (twenty percent) and fee-for-service partnerships between HGCI and Harvard University departments (80 percent).[70]

After four years of existence, the HCGI has reduced utility costs by over *$1 million* and reduced GHG emissions *by over 20 million pounds of carbon dioxide equivalent*.[71]

Stabilizing the Ivory Tower

In 1999, Tufts University in Medford, Massachusetts committed to meeting or beating the Kyoto target for university-related greenhouse gas emissions, which translates into real reductions of 30 percent emissions by the year 2012. To support these efforts, Tufts launched the Tufts Climate Initiative ("TCI") – composed of two faculty members, a full time staff member, an outreach coordinator, and a graduate intern.[72] The goal of the TCI is to steer Tufts University towards a cleaner energy path. TCI focuses on several areas including climate education, carbon dioxide reductions, research and monitoring, and events and outreach.[73] TCI's carbon dioxide emissions reduction program focuses on several areas including new construction, renovations, alternative fuels and fuel switching, energy efficient technologies, personal action initiatives, and a clean electricity aggregation project.[74] A recent five-year report notes that Tufts' goal to meet Kyoto is possible but requires both commitment and resources.[75]

Campus Climate Neutral

In 2004, the National Association of Environmental Law Societies ("NAELS") launched a national project called Campus Climate Neutral ("CCN") to mobilize the university community in support of climate solutions while engaging graduate students in for-credit, supervised research projects to develop long-term climate neutral action plans for university campuses. In February 2005, a group of Masters students at the Donald Bren School of Environmental Science and Management at the University of California – Santa Barbara

launched the first CCN project. Working with NAELS and the California Climate Action Registry,[76] under the supervision of Professors Oran Young and Durwood Zaelke,[77] these students will do a comprehensive analysis of campus GHG emissions; analyze technological, political, social, and financial hurdles; and prepare a plan outlining several different paths to overcoming these hurdles and achieving climate neutrality. The effort was launched at a California University Climate Summit at the Bren School in February, 2005.[78] This effort comes on the heels of a study, now online, to achieve carbon neutrality at Middlebury College supported by Clean Air – Cool Planet.[79]

The Next National Movement

In addition to these and other[80] exciting university case studies, a grassroots, university-based movement to address GHG emissions has been developing this decade, leading to the recent emergence of two very promising coalitions. On a student level, a growing coalition of youth and student groups are pushing for green energy purchases and other national and international emissions reduction efforts.[81] On a professor and administrator level, a growing coalition of professional groups are working together and beginning to explore the possibility of a Higher Education Climate Action Partnership ("HECAP"). These coalitions will compliment ongoing campus campaigns by established and nascent professional groups.[82] These efforts represent a growing interest at all levels of higher education to catalyze campus GHG emissions reduction efforts, while educating and training a new generation of world citizens and leaders in the process.

Conclusion

At a recent April 2005 Ceres Conference, U.N. Foundation President and former Colorado Senator Tim Wirth described the current decade as one where climate change will be viewed as an incredible opportunity rather than an interesting idea (1970s), a problem (1980s), or a crisis (1990s).[83] As this article shows, increasing domestic and international pressure combined with potential market opportunities are leading forward-thinking cities, businesses, and universities to voluntarily adopt aggressive emissions reduction efforts. While these efforts are no substitute for action at the federal level, they are promising first steps in a long-term push in this country to become a climate neutral, and eventually climate negative, society.

Endnotes: Accelerating Towards Climate Neutrality with the U.S. Government Stuck in Neutral

[1] Following the creation of the Kyoto Protocol, the European Union calculated that the effect of the treaty, after considering offsets by clean development mechanisms ("CDMs"), joint implementation projects ("JI"), emissions trading, and carbon sinks, would yield only a two percent reduction by the 2008 to 2012 target period from the 1990 base year levels in actual carbon dioxide emitted by industrialized countries. The Marrakech Accords in 2001 further clarified the rules surrounding the flexibility mechanisms of the agreement with agreements on CDMs (up to 2.5 percent of emissions can be banked toward a country's assigned initial carbon allowance), JI, emissions trading (up to 2.5 percent of emissions can be banked toward a country's assigned initial carbon allowance between JI and emissions trading), and carbon sinks (up to one percent of a country's carbon emissions can be made up for through carbon sinks), which the EU has now calculated will lead to only a 1.5 percent reduction in overall carbon dioxide emissions by industrialized countries for the 2008 to 2012 period. For more information, *see* European Commission website on Climate Change, *at* http://europa.eu.int/comm/environment/climat/home_en.htm (last visited Apr. 16, 2005).

[2] Peter Reada and Jonathan Lemit, Abrupt Climate Change Strategy website, *Bio-energy with carbon storage (BECS): A sequential decision approach to the threat of abrupt climate* 2, *available at* http://www.accstrategy.org/draftpapers/R&L.pdf (last visited Apr. 16, 2005).

[3] *See*, *e.g.*, Amory B. Lovins & L. Hunter Lovins, *Making Sense AND Making Money* (1997), *available at* http://www.rmi.org/images/other/Climate/C97-13_ClimateMSMM.pdf (last visited Apr. 16, 2005); *see also* Joel Swisher, Rocky Mountain Institute, The New Business Climate: A Guide to Lower Carbon Emissions and Better Business Performance (2002) [hereinafter Swisher].

[4] The term "Climate Neutral" is the trademark property of the Climate Neutral Network.

[5] *See, e.g.,* Abrupt Climate Change Strategy Group website, *at* http://www.accstrategy.org (last visited Apr. 16, 2005) (discussing work on bio-energy as a means of addressing the potential for abrupt climate change).

[6] Gus Speth, Red Sky At Morning (2004), *at* 61.

[7] *Id.*

[8] *See* Climate Neutral Network website, *at* http://www.climateneutral.com/pages/certifications.html (last visited Apr. 16, 2005).

[9] *See* Climate Neutral Network *website, at* http://www.climateneutral.com/pages/background.html (last visited Apr. 16, 2005).

[10] Richard Heede & Joel Swisher, Rocky Mountain Institute, Oberlin College: Climate Neutral by 2020 (2000).

[11] *See* Climate Neutral Network, Olympic Winter Games of 2002, *Norm Thompson and Bonneville Environmental Foundation fight global warming by going Climate Cool, at* http://www.climateneutral.com/downloads/CN_PressRelease-01.31.pdf (last visited Apr.16, 2005); *see also* Marty Hair, *TACKLING POLLUTION: The NFL plans to plant acres of trees in metro Detroit to offset the carbon gases generated by Super Bowl XL*, Detroit Free Press (Mar. 9, 2005), *available at* http://www.freep.com/features/living/tree9e_20050309.htm (last visited Apr. 16, 2005).

[12] *See* California Air Resources Board ZEV website, *at* http://www.arb.ca.gov/msprog/zevprog/zevprog.htm (last visited Apr. 17, 2005).

Endnotes: Accelerating Towards Climate Neutrality *Continued on page 75*

[13] *See e.g.,* State of Connecticut, et al. v. American Electric Power Company, Inc., et al., No. 1:04-CV-05669-LAP (S.D.N.Y., 2004) [hereinafter American Electric]; *see also* Open space Institute, Inc., et al. v. American Electric Power, et al., No. 04-CV-05670-LP *(S.D.N.Y., 2004).*

[14] American Electric, *id.*

[15] American Electric, *id.*

[16] American Electric, *id.*

[17] Friends of the Earth, Inc. et al. v. Watson et al., No. 3:02cv4106 (N.D.Cal. Aug. 27, 2002) (bringing suit under NEPA against federal agencies that finance fossil fuel projects without Energy Impact Assessments required under NEPA); Commonwealth of Massachusetts, et al. v. United States Environmental Protection Agency, No. 03-1361 (consolidated with Nos. 03-1362 through 03-1368), (D.C. Circ. Oct. 23, 2003)(challenging under the Clean Air Act the EPA contention that they have no authority to regulate CO_2 greenhouse has emissions).

[18] *See* S.342 and H.R.759 (2005).

[19] *See U.S. Department of Energy, Energy Information Administration,* State Renewable Energy Requirements and Goals: Status through 2003, *at* http://www.eia.doe.gov/oiaf/analysispaper/rps (last visited Apr. 16, 2005).

[20] *See* SWISHER, *supra* note 3, at 4.

[21] *Id,* at 11.

[22] AB 1492, Assem. (Cal. 2002) at § 1(e), *available at* http://ssl.csg.org/dockets/24cycle/2004A/24Abills/0224a04ca.htm (last visited Apr. 16, 2005).

[23] *Id.* at § 1(h).

[24] *Id.* at § 1(g).

[25] *See* Union of Concerned Scientists, Automakers v. The People, *at* http://www.ucsaction.org/action/index.asp?step=2&item=23415 (last visited, Apr. 16, 2005).

[26] *Id.*

[27] Press Release, Fran Pravley, Cal. Assembly Member, 41st Dist., Legislature Reviews Pavley Car Law (Feb. 7, 2005), *at* http://democrats.assembly.ca.gov/members/a41/press/p412005002.htm (last visited Apr. 16, 2005).

[28] *See* Ford website, *Ford to issue report on global climate change,* at http://media.ford.com/article_display.cfm?article_id=20566 (last visited Apr. 16, 2005).

[29] S. Res. 98, 105th Cong. (1997).

[30] *Id.*

[31] *Id.*

[32] *See,* US Companies at Competitive Disadvantage in Global Marketplace (2004), *at* http://www.icfconsulting.com/news_&_events/us-kyoto-2004.asp (last visited, Apr. 17, 2005).

[33] *Id.*

[34] *See* GreenBiz.com, *U.S. Oil and Gas Companies Bow to Shareholders on Climate*, *at* http://www.GreenBiz.com (last visited Apr. 16, 2005).

[35] *Id.*

[36] Ford, *supra* note 28.

[37] *See* Pew Center for Global Climate Change*, Business Environmental Leadership Council, available at http://www.pewclimate.org/companies_leading_the_way_belc (last visited Apr. 16, 2005); see also* SWISHER, *supra* note 3.

[38] *See* SWISHER, *supra* note 3, at 7.

[39] *See* SWISHER, *supra* note 3, at 18.

[40] *See* Ford, *supra* note 28.

[41] *See* SWISHER, *supra* note 3, at 71-72.

[42] *See* Pew Center on Global Climate Change, GHG Reduction Targets, *at* http://www.pewclimate.org/companies_leading_the_way_belc/targets/index.cfm (last visited Apr. 17, 2005)

[43] *See* U.S. Environmental Protection Agency, $mart $avings, *at* http://yosemite.epa.gov/oar/globalwarming.nsf/content/ActionsLocalSmartSavings.html (last visited Apr. 16, 2005).

[44] *See* U.S. Department of Energy, Clean Cities Program*, at* http://www.eere.energy.gov/cleancities/index.html (last visited Apr. 16, 2005).

[45] *See* International Council for Local Environmental Initiatives, Cities for Climate Protection program, *at* http://www.iclei.org/co2/index.htm (last visited Apr. 16, 2005).

[46] *See* SWISHER, *supra* note 3, at 71-72.

[47] *See, Seattle dreams of "green" team: Mayor urging other US cities to enact Kyoto Protocol,* SEATTLE POST-INTELLIGENCER, Feb. 17, 2005, *available at* http://seattlepi.nwsource.com/local/212425_kyoto17.html?search-pagefrom=1&searchdiff=59 (last visited Apr. 17, 2005).

[48] *See* SWISHER, *supra* note 3, at 66.

[49] Richard Heede, David Houghton PE, and August Hasz, *Town of Telluride Energy and Cost Savings Report, Municipal buildings and facilities, Final Report*, at 8 (June 2004), *available at* http://www.naels.org/projects/ccn/dcn/cities.htm (last visited Apr. 17, 2005).

[50] *Id.*

[51] *See* NAELS, State Action Plans*,* at http://www.naels.org/projects/ccn/dcn/states.htm#e (last visited Apr.17, 2005).

[52] Id.

[53] *See* Northeast States for Coordinated Air Use Management ("NESCAUM"), Regional Greenhouse Gas Registry, *available at* http://www.rggr.us/registriesother.html (last visited Apr. 17, 2005).

[54] *See* Regional Greenhouse Gas Initiative ("RGGI") website, *at* http://www.rggi.org (last visited Apr. 17, 2005).

[55] Participants include: Maine, New Hampshire, Vermont, Rhode Island, Connecticut, Massachusetts, New York, Delaware, and New Jersey; Observers include: Maryland, the District of Columbia , Pennsylvania, the Eastern Canadian Provinces, and New Brunswick.

[56] RGGI, *supra* note 55.

[57] *See* RGGI, Stakeholder Process, *at* http://www.rggi.org/stakeholder_member.htm (last visited Apr. 17, 2005).

[58] *See* NESCAUM, *supra* note 54.

[59] *See* NEW ENGLAND GOVERNORS / EASTERN CANADIAN PREMIERS, CLIMATE CHANGE ACTION PLAN (2001), *available at* http://www.negc.org/documents/NEG-ECP%20CCAP.PDF (last visited Apr. 17, 2005).

[60] In 1999-2000, the expenditures of public degree-granting institutions totaled US$237,727,015,000; In 2001, the top 120 colleges and universities with the largest endowments had endowment funds totaling US$186,390,154,000. *See* National Center for Educational Statistics, *at* http://nces.ed.gov (last visited Apr. 16, 2005).

[61] *Id.*

[62] *See* Harvard Green Campus Initiative ("HGCI"), *at* http://www.greencampus.harvard.edu (last visited Apr. 16, 2005).

[63] *See* Tufts Climate Initiative ("TCI"), *at* http://www.tufts.edu/tie/tci (last visited Apr. 16, 2005).

[64] *See* University of Colorado Student Union Environmental Center, *at* http://ecenter.colorado.edu (last visited Apr.16, 2005).

[65] Ric O'Connell & Will Toor, *Green Investment, Green Return: Measuring Sustainability at the University of Colorado 7* , *available at* http://ecenter.colorado.edu/publications/gigr.pdf (last visited Apr. 16, 2005).

[66] *Id.* at 12.

[67] *Id.* at 6-7.

[68] Harvard Green Campus Initiative, About Us, *at* http://www.greencampus.harvard.edu/about (last visited Apr. 16, 2005).

[69] Harvard Green Campus Initiative, Green Campus Loan Fund, *at* http://www.greencampus.harvard.edu/gclf/criteria.php (last visited Apr. 16, 2005).

[70] Harvard Green Campus Initiative, Funding, *at* http://www.greencampus.harvard.edu/about/funding.php (last visited Apr. 16, 2005).

[71] HGCI, *supra* note 63.

[72] Tufts Climate Initiative, CO_2 Reductions, *at* http://www.tufts.edu/tie/tci/CO2reductions.html (last visited Apr.16, 2005).

[73] TCI, *supra* note 64.

[74] TCI, CO_2 Reductions, *supra* note 73.

[75] TCI, 5 Year Report at 22 (Jul. 1, 2004), *available at* http://www.tufts.edu/tie/tci/pdf/TCI-5-year-report.pdf, (last visited Apr.16, 2005).

[76] *See* http://www.climateregistry.org/, (last visited Apr. 18, 2005).

[77] University of California Santa Barbara, Program on Governance for Sustainable Development, *at* http://fiesta.bren.ucsb.edu/%7Egsd/about/about.php?nav=directors (last visited Apr. 16, 2005)

[78] *See, THE HEAT IS ON: Global Warming Activists Target UCSB for Action,* Santa Barbara Independent, Feb. 10, 2005, *available at* http://www.independent.com/cover/Cover951.htm.(last visited Apr. 18, 2005).

[79] John Isham et al., *Carbon Neutrality at Middlebury College: A Compilation of Potential Objectives and Strategies to Minimize Campus Climate Impact* (2003), *available at* http://community.middlebury.edu/%7Ecneutral/es010_report.pdf (last visited Apr. 16, 2005).

[80] *See,* http://www.naels.org/projects/ccn/dcn/institutions.htm#u. (last visited Apr. 16, 2005).

[81] Energy Action: Youth United for Clean Energy, *at* http://www.energy-action.net (last visited Apr. 16, 2005).

[82] Groups include National Wildlife Federaration ("NWF"), Clean Air – Cool Planet ("CACP"), University Leaders for a Sustainable Future ("USLF"), Education for Sustainability West ("EFS West"), New Jersey Higher Education Partnership for Sustainability ("NJHEPS"), and the Campus 2020 Project. *See* http://www.naels.org/projects/ccn/dcn/institutions.htm#u