



## **TRANSATLANTIC PLATFORM FOR ACTION ON THE GLOBAL ENVIRONMENT (T-PAGE)<sup>1</sup>**

### **Cap and Trade in the United States**

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## 1. INTRODUCTION

Cap and trade is one of the major policy areas identified by US and European participants at the first Transatlantic Platform for Action on the Global Environment (T-PAGE) conference as critical in moving both the EU and US consistently toward a common understanding on the topic of climate change and energy. This paper is a follow-up and update to a paper presented at the last T-PAGE workshop on November 13, 2007<sup>3</sup> and it sets out to explain the environment in which cap and trade policies are currently being discussed in the US. The paper begins with a description of the most recent developments in policy at the federal, regional, and state levels. The paper then describes some of the voluntary and bottom-up approaches being used in the US to reduce greenhouse gas (GHG) emissions, which may provide some lessons for Europe.

## 2. CAP AND TRADE POLICY DEVELOPMENT

### 2.1 Federal Government

The legislative environment at the federal level continues to change rapidly. In the summer of 2007, more than a dozen cap and trade proposals were introduced in Congress. In December 2007, the Lieberman-Warner bill, now called the “America’s Climate Security Act”, passed out of the Senate Environment and Public Works Committee and is currently scheduled to go to floor debate in June 2008. The bill establishes an economy wide cap and trade program and other measures to stabilize and then reduce global warming pollution. Specifically, the legislation provides for a 15% reduction in covered emissions by 2020 and 70% by 2050. It caps and cuts emission in three sectors—electricity, transportation, and industry which together account for about 75% of US greenhouse gas emissions.<sup>4</sup> The bill also includes features to reduce emissions from covered sectors, principally a set of energy efficiency measures for building and key energy-using activities, and a “set-aside” of allowances from within the cap to encourage emission reductions and sequestration in the agriculture and forestry sectors.<sup>5</sup> The bill would implement its cap and reductions through an allowance system and includes “cost containment” provisions that are intended to protect the integrity of the emissions cap and preserve incentives for technology innovation.

Although the legislation had widespread support in the Senate Environment and Public Works Committee, it is difficult to tell where the bill will end up. Senator Boxer (CA), the Committee’s Chair, has said that the bill will be pulled if any weakening amendments are added to it on the Senate floor.<sup>6</sup> She and other supporters and co-sponsors of the bill

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<sup>3</sup> For more information on the cap and trade discussions and copies of the background papers from the T-PAGE workshop on November 13, 2007 see: <http://www.ieep.eu/projectminisites/t-page/climateenergy/capandtrade.php>.

<sup>4</sup> NRDC Legislative Facts, Lieberman-Warner Climate Security Act, December 2007, [http://www.nrdc.org/legislation/factsheets/leg\\_07121101A.pdf](http://www.nrdc.org/legislation/factsheets/leg_07121101A.pdf)

<sup>5</sup> Dan Lashof, “Global Warming Pollution Reductions under the Lieberman-Warner Bill” (October 16, 2007) [http://docs.nrdc.org/globalwarming/glo\\_07102201A.pdf](http://docs.nrdc.org/globalwarming/glo_07102201A.pdf)

<sup>6</sup> U.S. Senate Committee on Environment & Public Works, “Boxer Waves White Flag on Lieberman-Warner Climate Bill,” March 12, 2008,

have threatened to withdraw the bill and bring back stronger legislation in November 2008 with a new Congress and President. Senator Boxer, who is still pushing to increase the 70% by 2050 goal to 80%, has indicated that she does not anticipate being able to move the bill this year since several amendments designed to protect the economy and deploy low emission energy sources, like nuclear energy, are likely to pass during the floor debate. On the other hand, several other co-sponsors of the bill have indicated that they are not as unwilling to compromise as Senator Boxer. Other issues cropping up in the Senate concerning the bill include the projected short-term cost and who will pay the price, how practicable the system is, the allocation of free allowances, and the role that state governments and regional initiatives will play. Thus, it is difficult to tell what the fate of America's Climate Security Act will be in June. While this bill is of critical importance to the U.S.'s effort to solidify a national cap and trade legislation, many US non-governmental groups continue to press for changes in other areas to supplement what is being done in Congress.

In addition to the pending Lieberman-Warner climate bill, the federal government has also passed an energy bill aimed at reducing global warming pollution and protecting the earth's climate. The "Energy Independence and Security Act of 2007 ("The Energy Act"), was passed and signed into law in December of 2007. The new legislation includes a Renewable Fuel Standard (RFS) which requires 36 billion gallons of renewable fuels to be produced in the US by 2022. According to the NRDC, the RFS will reduce global warming pollution by about 114 million metric tons per year by 2022, which is equivalent to about 1 percent of U.S. emissions in 2005.<sup>7</sup> These reductions will be achieved by establishing lifecycle greenhouse gas reduction standards for the renewable fuels covered by the RFS. The full spectrum plan will ensure that the RFS generates climate benefits rather than climate liabilities due to emissions associated with clearing of forests or other damaging production processes.

While the Energy Act is a critical steps in the movement toward more stringent federal climate and energy legislation, with narrow Democratic majorities in the House and the Senate and an Administration that heretofore has strongly opposed mandatory caps, there is a high likelihood that a cap and trade focused legislation will not be passed until after the 2008 election. However, the Lieberman-Warner bill awaiting floor debate in the Senate indicates progress toward a bipartisan compromise. Even if legislation is not passed by this Congress, the work done will provide momentum for legislation in future years. Similarly, another positive signal of progress in the US on addressing climate change is legislation moving through in the energy bill to improve energy efficiency standards and promote renewable energy.

## **2.2 Regional Greenhouse Gas Initiative**

At the regional level, the Regional Greenhouse Gas Initiative (RGGI) is still considered by many environmental groups as the most advanced effort in the US to date to cap and

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[http://epw.senate.gov/public/index.cfm?FuseAction=Minority.Blogs&ContentRecord\\_id=a4eace40-802a-23ad-4260-e3d783eff011](http://epw.senate.gov/public/index.cfm?FuseAction=Minority.Blogs&ContentRecord_id=a4eace40-802a-23ad-4260-e3d783eff011)

<sup>7</sup> NRDC Energy Bill Promotes Clean Biofuels, December 13, 2007, [http://docs.nrdc.org/air/air\\_07121301A.pdf](http://docs.nrdc.org/air/air_07121301A.pdf)

reduce carbon dioxide emissions from power plants. Ten states are currently participating, including Connecticut, Delaware, Maine, Maryland, New Hampshire, New Jersey, New York, Rhode Island, Massachusetts, and Vermont. However, there is some criticism regarding the RGGI plan in that it is not stringent enough to actually reduce carbon dioxide levels for the first few years of the program.<sup>8</sup> It is believed that the 50.6 million metric tons cap that is set to last through 2014 will not produce the desired effect because emissions from power plants were 48.1 million metric tons last year. But notwithstanding this debate, RGGI continues to make progress.

The final model rule was issued in January 2007. There are also several observer states as well as states, such as California, which have expressed interest in joining the initiative. As per the RGGI Memorandum of Understanding, the participating states Governors have committed to complete a rulemaking based on the model rule by the end of 2008. Thus far Vermont, New York, and New Jersey have adopted rules. A review of the proposed design of the regional cap and trade mechanism follows.<sup>9</sup>

- **Cap:** Regional carbon dioxide emission will be capped at 1990 levels by 2015, and 10% below that level by 2020. Each state will have its own emissions budget, but the cap is regional. Trading will commence in 2009 with three year commitment periods. The cap only covers carbon dioxide from power plants, not the other five Kyoto Protocol Annex A GHGs or other sources.
- **Sector Coverage:** Any fossil fuel fired power generating unit larger than 25 megawatts. Exemptions are given for plants that burn more than 50% biomass and those that provide less than 10% of electricity to the grid. The current coverage design is intended to utilize the existing monitoring devices already in place at power plants for the acid rain cap and trade program. After the initial trading period, caps could be extended beyond the electricity sector.
- **Permit Allocation:** A combination of auction and grandfathered allocation, whereby at least 25% of permits will be auctioned to raise capital for “consumer benefit support,” such as energy efficiency programs. Some states have already opted for 100% auction of permits.
- **Offsets:** RGGI will use a standards-based approach and will agree to memorandums of understanding with other states that produce offsets. Sectors eligible to produce offsets include: landfill gas, SF<sub>6</sub>, end-use energy efficiency, afforestation, farming operations, and natural gas transmission and distribution. Offsets within RGGI states will be awarded one certified credit per ton, while offsets from other US states will require two tons to receive one credit. Where applicable, offsets will only be allowed to meet 50% of a sectors emission reductions.

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<sup>8</sup> Debra Kahn, “States: RGGI goals not strong enough, enviro group says,” ClimateWire (03/22/08) <http://www.eenews.net/climatewire/2008/03/27/4>

<sup>9</sup> RGGI Model Rule. <http://www.rggi.org/modelrule.htm>. See also: Summary of the Draft Model Rule. [http://www.rggi.org/docs/summary\\_of\\_public\\_review\\_draft\\_mr.pdf](http://www.rggi.org/docs/summary_of_public_review_draft_mr.pdf)

- **Cost Control Measures:** The model rule allows for the banking of permits, but not borrowing. The model rule also contains two safety valve provisions. If the price of carbon dioxide is greater than \$7 per ton (adjusted from 2005 dollars) for more than 14 months, a greater number of offsets will be allowed in the market. If the price stays above \$10 per ton (adjusted from 2005 dollars) for more than 12 months, the compliance period will be extended for an extra year.

### 2.3 California

The state of California is continuing its process of establishing a cap and trade market. In addition to the executive order issued in 2005 calling for an 80% reduction in GHG emissions by 2050, in September 2006, Governor Schwarzenegger signed into law California AB32, the “Global Warming Solutions Act.” Under the law, the California Air Resources Board (CARB) has been charged with writing rules for the implementation of the legislation. In June 2007, the Market Advisory Committee of CARB issued the following draft recommendations for rule making:<sup>10</sup>

- **Cap:** AB32 requires emissions levels to be reduced to 1990 levels by 2020, with emissions trading starting in 2012. CARB is currently determining the emissions baseline. The Market Advisory Committee recommends a gradually declining cap with three year commitment periods.
- **Sector Coverage:** The Market Advisory Committee has developed four proposals that CARB can choose from to cap GHG emissions in the state. The first would only cover medium and large GHG-emitting facilities downstream, like the EU ETS and RGGI. For California that would only account for 39% of statewide GHG emissions. The second proposal would also cover the transportation sector, bringing the total coverage to 72%. The third proposal would include the first two categories as well as upstream coverage of all other fossil fuels, amount to 83% of statewide GHG emissions. A fourth proposal would provide upstream coverage for all fossil fuels.
- **Permit Allocation:** The Market Advisory Committee recommends a mix of auctioned and grandfathered permits, with the auctioned share increasing over time. CARB may lack the legal authority to auction permits, so additional legislation may be needed. The Committee recommends that revenue from permit auctions should be dedicated to clean technology R&D.
- **Offsets:** Consensus from the Market Advisory Committee advises CARB to allow offsets, as long as they are “real, additional, independently verifiable, permanent, enforceable, and transparent.” The committee favors a standards-based approach rather than a case by case review, and it opposes geographic or quantitative limitations on offsets. Categories used by RGGI are favored, and the Committee

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<sup>10</sup> California Air Resources Board. “Recommendations for Designing a Greenhouse Gas Cap-and-Trade System for California.” June 12, 2007. [http://www.climatechange.ca.gov/events/2007-06-12\\_mac\\_meeting/2007-06-01\\_MAC\\_DRAFT\\_REPORT.PDF](http://www.climatechange.ca.gov/events/2007-06-12_mac_meeting/2007-06-01_MAC_DRAFT_REPORT.PDF)

is open to CDM and JI credits being used. Voluntary offsets from the Chicago Climate Exchange would not meet these standards.

- **Cost Control Measures:** The Market Advisory Committee favors banking and opposes borrowing or a price ceiling. AB32 was written with a specific environmental objective, which excludes the possibility of a safety valve or a circuit breaker. The Market Advisory Committee suggests that government investments in energy efficiency and renewable energy will be sufficient to contain costs.

In January 2008, CARB determined the statewide 1990 baseline and set the statewide 2020 GHG emissions limit.<sup>11</sup> At that time, CARB also adopted a mandatory reporting program for significant sources. In 2009, CARB is expected to prepare and approve a scoping plan for achieving the 2020 statewide GHG emissions limit. The scoping plan is set to take effect in January of 2012, the same time at which market-based cap and trade regulations will become effective in California.

In March 2008, CARB also issued a draft outline for California's Low-Carbon Fuel Standard program, which became law in January 2007. CARB, who has also been charged with writing the rules for this plan, revealed that they intend to apply different approaches to various fuels covered by the standard, to include gasoline, diesel, liquefied natural gas, propane, electricity, hydrogen, and sever blends of ethanol and biodiesel. The proposed rules will regulate refiners and importers at production or importation facilities for diesel and ethanol. However, for natural gas, propane, electricity and hydrogen, the regulation will occur at the point where the fuel is transferred to the vehicle by the retail provider. The draft also outlines different baselines, regulation methods, and sliding scales for gasoline and diesel. Some criticize the proposed program for its complexity and the possibility that some fuels will be more regulated than others.

Many environmental organizations anticipate that California's initiatives will serve as a springboard for more regional and national action.

## 2.4 New York

In December 2006, New York Mayor Michael Bloomberg launched PLANYC, a ten point program for improving the sustainability of the city by 2030. In December 2007, the plan was codified and signed into legislation. One of the major points of PLANYC is a goal of reducing GHG emissions 30% below current levels by 2030. There are four wedges of the climate change plan that will produce this 30% reduction.<sup>12</sup>

- **Avoided Sprawl:** PLANYC aims to attract 900,000 new residents to the city who would have otherwise moved to the suburbs. To achieve the goal the city intends

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<sup>11</sup> California Air Resources Board, "Timeline- California Global Warming Solutions Act of 2006" September 25, 2006, <http://www.arb.ca.gov/cc/factsheets/ab32timeline.pdf>

<sup>12</sup> PLANYC: Climate Change. [http://www.nyc.gov/html/planyc2030/downloads/pdf/report\\_climate\\_change.pdf](http://www.nyc.gov/html/planyc2030/downloads/pdf/report_climate_change.pdf)

to add additional affordable housing stock, promote brownfield development, improve urban infrastructure, and plant trees and increase the number of parks.

- **Clean Power:** To reduce emissions from New York City's electricity supply, the city intends to replace inefficient plants with current technology and expand the use of renewable energy.
- **Efficient Buildings:** PLANYC calls for policies to improve energy efficiency in existing buildings, require efficiency in new buildings, improve the city's building and energy codes, and increase awareness to promote behavior change.
- **Transportation:** The plan calls for a reduction in vehicle use through improvements in public transit and policies like a proposed congestion pricing scheme, an improvement in vehicle efficiency through the use of hybrid vehicles for taxis and the city fleet, and a reduction in the carbon intensity of fuels.

As part of this movement, Mayor Bloomberg also signed legislation in February 2008 requiring the use of Ultra Low Sulfur Diesel Fuel by diesel powered city-owned ferries.<sup>13</sup> The state of New York continues to take steps towards implementing laws targeted at carbon emissions and climate change.

## 2.5 Other State Initiatives

Today, a large portion of the action happening to address cap and trade issues in the US is happening at the state level. Below is a list of initiatives happening at the state level from Renewable Portfolio Standards to caps on greenhouse gas emissions.

### Renewable Portfolio Standards

Legislatures in twenty-six states<sup>14</sup> now require their electric utilities to generate some energy from renewable sources. The features of these Renewable Portfolio Standards (RPSs) vary in terms of the amount of renewable energy required and the types of generation accepted.

### Greenhouse Gas Emission Caps

Four western states are developing GHG emission caps like that in California, and two other states have proposed caps. Sixteen states also have mandatory GHG targets.<sup>15</sup>

In February 2007, Governor Jon Corzine of New Jersey signed an executive order establishing new greenhouse gas emissions targets for the state of 1990 levels by 2020

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<sup>13</sup> For more information on the ULSDF ferry legislation, visit [http://www.nyc.gov/portal/site/nycgov/menuitem.c0935b9a57bb4ef3daf2f1c701c789a0/index.jsp?pageID=mayor\\_press\\_release&catID=1194&doc\\_name=http%3A%2F%2Fwww.nyc.gov%2Fhtml%2Fom%2Fhtml%2F2008a%2Fpr063-08.html&cc=unused1978&rc=1194&ndi=1](http://www.nyc.gov/portal/site/nycgov/menuitem.c0935b9a57bb4ef3daf2f1c701c789a0/index.jsp?pageID=mayor_press_release&catID=1194&doc_name=http%3A%2F%2Fwww.nyc.gov%2Fhtml%2Fom%2Fhtml%2F2008a%2Fpr063-08.html&cc=unused1978&rc=1194&ndi=1)

<sup>14</sup> U.S. Department of Energy, Energy Efficiency and Renewable Energy, Information Resources webpage, "States with Renewable Portfolio Standards,"

[http://www.eere.energy.gov/states/maps/renewable\\_portfolio\\_states.cfm](http://www.eere.energy.gov/states/maps/renewable_portfolio_states.cfm)

<sup>15</sup> Map of states with greenhouse gas emission targets from Pew Center on Global Climate Change, [http://www.pewclimate.org/what\\_s\\_being\\_done/in\\_the\\_states/emissionstargets\\_map.cfm](http://www.pewclimate.org/what_s_being_done/in_the_states/emissionstargets_map.cfm)

and 80 percent below 2006 levels by 2050.<sup>16</sup> The order directs the New Jersey Department of Environmental Protection to spend the next six months developing a plan for achieving the emissions targets. New Jersey will need to develop some new initiatives, but the state already has in place a number of climate and energy policies that reduce greenhouse gas emissions. For example, the state is already a member of the Northeast Regional Greenhouse Gas Initiative. New Jersey also requires its electric utilities to obtain 20 percent of their power from renewable sources by 2020. The state has also committed to California's vehicle greenhouse gas standards.

Both Oregon and Washington have established emissions caps for new power plants.<sup>17</sup> While Oregon's program requires new power plants to meet at stringent carbon dioxide emissions cap or offset excess emissions, Washington's legislation requires new fossil-fueled plants to mitigate 20% of their projected carbon emissions. Both plans allow plants to purchase permanent carbon credits traded on a recognized trading authority of exchange, pay a third party to provide mitigation, or directly implement carbon mitigation projects.

Both New Hampshire and Massachusetts have set emissions caps for existing power plants that may be met through offsets now and through carbon trading in the future.<sup>18</sup>

In addition to capping emissions and addressing renewable portfolio standards, state action is also taking place in the implementation of various green energy policies such as public benefit funds (approximately half of the states), statewide net metering (twenty states), green pricing (forty four states), energy efficiency standards (nineteen states), climate action plans (twenty-nine states, eight in progress), and statewide GHG inventories (forty-two states). Many environmental groups expect that state initiatives based on the climate and cap and trade will only continue to expand over the next few decades.

## **2.6 Voluntary and Bottom-Up Approaches**

Despite the lack of a functioning GHG emissions market in the US, many voluntary and bottom-up approaches to GHG emissions reduction continue to emerge. Voluntary targets are inherently not enforceable nor are they independently verified. Furthermore, city level governments often lack the capacity to do some of the things they promise, particularly control urban sprawl and implement comprehensive public transport systems.<sup>19</sup> Nevertheless, such initiatives have accomplished some progress in a political environment that is not conducive to implementing market-based policies. Voluntary agreements and bottom-up approaches, especially when combined with a market mechanism that internalizes the price of carbon, can facilitate the transition to a low carbon economy. This is potentially one area in which Europe can learn from the US.

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<sup>16</sup> Pew Center on Global Climate Change, "Governor Establishes New Emissions Targets for New Jersey" <http://www.pewclimate.org/node/4040>

<sup>17</sup> Id.

<sup>18</sup> Id.

<sup>19</sup> See, for example: Rusk, David, *Cities Without Suburbs* (1995) and Orfield, Myron, *American Metropolitanities: The New Suburban Reality* (2002).

One example, the US Mayors' Climate Protection Agreement, led by Seattle Mayor Greg Nickels, commits mayors to "strive to meet or exceed the Kyoto Protocol targets" of a 7% reduction in GHG emissions by 2012.<sup>20</sup> To date, it has since been endorsed by the US Conference of Mayors and has been signed by 710 Mayors representing more than 66 million Americans.<sup>21</sup>

In addition, the Western Governors' Association, an independent, nonprofit organization representing the governors of 19 states and three U.S.-Flag islands in the Pacific, has played a major role in identifying and addressing key policy and governance issues in the area of climate change. The Association has urged Congress to act quickly to approve federal tax incentives under the Energy Independence and Security Act.<sup>22</sup> The Western Governors' have also adopted a Clean and Diversified Energy Initiative (CDEi), which addresses climate change on three fronts: promoting widespread adoption of energy efficiency measures, promoting aggressive market penetration of renewable energy, and promoting that a portion of new Tier 1 coal generating plants use advanced technologies with carbon capture and sequestration.<sup>23</sup>

### 3. CONCLUSION

Even with the progress the US has made in terms of federal and state initiatives to curb the effects of climate change through cap and trade regimes, there remains a significant gap between that which has been accomplished and that which still needs to get done. Political considerations continue to stand in the way of cap and trade legislation at every level and the policies that emerge from the political process may not include some of the more ambitious proposals, or they may include some of the cost control measures that undermine the objective of GHG reductions. In the meantime, it is expected that voluntary and bottom-up efforts will continue to expand, along with the implementation of federal and state standards. The political momentum behind such efforts continue to build, and when effective cap and trade policies are implemented the US will have a powerful combination of top-down and bottom-up policies.

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<sup>20</sup> "Endorsing the US Mayors Climate Protection Agreement."

[http://www.seattle.gov/mayor/climate/PDF/Resolution\\_FinalLanguage\\_06-13-05.pdf](http://www.seattle.gov/mayor/climate/PDF/Resolution_FinalLanguage_06-13-05.pdf)

<sup>21</sup> US Mayors Climate Protection Agreement. <http://www.seattle.gov/mayor/climate/default.htm#what>

<sup>22</sup> Western Governors' Association, Press Release, "Western Governors call for Swift, Decisive Action on Energy Independence and Security Act," <http://www.westgov.org/wga/press/energy12-6-07.htm>

<sup>23</sup> Western Governors' Association, "Clean and Diversified Energy Index" <http://www.westgov.org/wga/initiatives/cdeac/index.htm>