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# U.S. States and Localities In the Lead on Global Warming

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The U.S. federal government – under the U.S. Clean Air Act and through new legislation to enact a comprehensive cap-and-trade program – has been working towards a national federal program to regulate greenhouse gas (GHG) emissions. In the meantime, state and local agencies have taken the initiative to implement an array of innovative programs that reduce GHG emissions, save energy and engage the public in a dialogue regarding the importance of global warming. These programs range from GHG regulatory programs to energy efficiency measures to renewable portfolio standards to public education and outreach. These actions have helped spur federal action on global warming and provide insights into designing a federal program. Below are examples and highlights of state and local climate action.

## Examples and Highlights of U.S. State and Local Climate Action

### Regional Cap-and-Trade Programs

Twenty-three states participate in three regional cap-and-trade programs to reduce GHG emissions.

- The Regional Greenhouse Gas Initiative (RGGI), in which 10 states (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont) participate, began in 2009 and requires electric power plants in the region to reduce their carbon dioxide ($CO_2$) emissions by 10% by 2018.
    - See www.rggi.org

- The Western Climate Initiative (WCI), of which seven U.S. states are full members (Arizona, California, Montana, New Mexico, Oregon, Utah and Washington), was organized to reduce region-wide GHG emissions to 15% below 2005 levels by 2020. The WCI members have agreed to establish a market-based system to meet this target.
    - See www.westernclimateinitiative.org

- The Midwestern Greenhouse Gas Reduction Accord includes six U.S. states (Illinois, Iowa, Kansas, Michigan, Minnesota and Wisconsin). These states are developing a regional GHG cap-and-trade program to reduce GHG emissions to 20% below 2005 levels by 2020 and 80% below 2005 levels by 2050.
    - See midwesternaccord.org/index.html

### GHG Reporting – The Climate Registry

Forty-one states and the District of Columbia are members of The Climate Registry, which has developed standards for the calculation, verification and public reporting of GHG emissions data. The Climate Registry supports both voluntary and mandatory GHG reporting programs. See www.theclimateregistry.org

GHG Emissions Targets or Caps

Twenty-two states have committed to reducing their GHG emissions through a state-wide cap or target. For example –

- California law requires the state to reduce its GHG emissions to 1990 levels by 2020. The California Air Resources Board released its Climate Change Scoping Plan in December 2008; the plan delineates the key strategies California will use to meet this target. The Scoping Plan has a range of GHG emissions reduction actions that include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions and market-based mechanisms such as a cap-and-trade system.
    - See www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm and www.arb.ca.gov/cc/scopingplan/sp_measures_implementation_timeline.pdf

- Massachusetts law (the Global Warming and Solutions Act) requires the Massachusetts Executive Office of Energy and Environmental Affairs, in consultation with other state agencies and the public, to set economy-wide GHG emission reduction goals for Massachusetts that will achieve a reduction of between 10-25% percent below statewide 1990 GHG emission levels by 2020; and a reduction of 80% below statewide 1990 GHG emission levels by 2050.
    - See www.mass.gov/dep/air/climate/index.htm#gwsa

Emission Performance Standards/Cap-and-Trade Programs for Power Plants

In addition to the 10 states who participate in RGGI, six states have emission performance standards or GHG emissions caps for power plants. For example –

- California, Oregon and Washington require all power plants and baseload electric generation in long-term contracts to emit no more than 1,100 pounds of GHGs or $CO_2$/MWhr.

- Illinois has a clean coal portfolio standard that requires utilities to supply 5% of power from clean coal facilities that sequester at least 50% of the carbon dioxide emissions, rising to a 90% sequestration requirement for clean coal facilities that begin operation after 2017, with emissions limited to that of a similarly sized natural gas-fired combined-cycle facility.

Climate Action Plans

Thirty-six states have completed or are in the process of completing climate action plans. For example –

- Maryland's climate action plan includes a governor-led climate initiative supported by state law and regional initiatives. These include a state-wide reduction requirement (25% below 2006 levels by 2025), participation in RGGI, reductions in GHG emission from motor vehicles, adaptation, addressing sea level rise, requiring a 15% reduction in per capita energy consumption by 2015, demand-side management, renewable portfolio standards, smart growth and transit-oriented development. Maryland is also working on over 40 new programs to reduce GHG emissions.
    - See www.mde.state.md.us/Air/climatechange/index.asp

- Wisconsin Governor Jim Doyle commissioned a task force of diverse stakeholders to develop recommendations to guide the state in reducing its GHG emissions while growing its economy. A team staffed by the Wisconsin Legislative Council is preparing instructions for drafting comprehensive state climate change legislation based on the Task Force's final report. The goal is to introduce the new legislation shortly. Geographically-specific guidance, like the Task Force strategy, is important because it accounts for particular challenges and opportunities, such as Wisconsin's position as a production center for renewable biofuels and the state's strong manufacturing history.
    - See dnr.wi.gov/environmentprotect/gtfgw/

Over 1,000 mayors have signed the US Mayors Climate Protection Agreement. See www.seattle.gov/Mayor/Climate/

Adaptation Plans

Eleven states have completed or are completing adaptation plans. For example –

- Delaware is developing an adaptation strategy that will recommend policy changes and practices that will ensure that Delaware makes informed policy and investment decisions today to prevent damage and losses to infrastructure, resources and homes tomorrow.
    - See www.swc.dnrec.delaware.gov/coastal/Documents/Sea%20Level%20Rise/SLR%20Compendium%20September%202009.pdf

- Wisconsin's Initiative on Climate Change Impacts involves staff from the University of Wisconsin and the Wisconsin Department of Natural Resources, as well as other stakeholders from across the state. The purpose of the group is to assess potential impacts of climate change and to develop practical information for decision making concerning natural resources, agriculture, industry and public health in Wisconsin. The organization's combination of scientific experts and public interest groups makes it a unique collaborative model for addressing and adapting to climate change.
    - See www.wicci.wisc.edu/

- Maryland's Climate Action Plan contains a chapter on adaptation and calls for a future adaptation strategy to cover sectors such as agriculture and human health, and Maryland issued a separate report just on sea level rise and coastal storms. Maryland has also enacted several legislative measures that address coastal concerns, including the Living Shoreline Protection Act of 2008, which generally requires the use of nonstructural shoreline stabilization measures instead of "hard" structures such as bulkheads and retaining walls. The Chesapeake and Atlantic Coastal Bays Critical Area Protection law was also amended to, among other things, require the state to update the maps used to determine the boundary of the critical areas at least once every 12 years. Previously, the critical areas were based on a map drawn in 1972 that did not reflect changes caused by sea level rise or other coastal erosion processes.
    - See www.mde.state.md.us/Air/climatechange/index.asp

Renewable or Alternative Energy Generation Requirements

Thirty-seven states have established standards specifying that electric utilities generate a certain amount of electricity from renewable or alternative energy sources. For example –

- California enacted a renewable energy standard that requires 33% of electricity to be generated from renewable resources by 2020.
    - See www.arb.ca.gov/energy/energy.htm

- Illinois has robust standards for both renewable energy and energy efficiency. Illinois' renewable energy standard, which began in 2008, requires Illinois electric utilities to derive 25% of the energy they supply from renewable energy sources by 2025, with at least 75% of the renewable energy generated from wind power. Illinois' energy efficiency standard requires electric utilities to use cost-effective energy efficiency and demand-response measures to reduce delivery load and meet annual energy savings goals beginning with 0.2% of energy delivered in 2008 increasing annually to 2% of energy delivered in 2015.

Residential Building Codes

Twenty-five states have established residential building energy codes that meet or exceed the 2006 International Energy Conservation Code.

Low Carbon Fuel Standards

- California has established a low carbon fuel standard requiring a reduction in the carbon intensity of fuels by at least 10% by 2020.

- Washington and Oregon are also pursuing low carbon fuel standards.

- Eleven mid-Atlantic and Northeastern states (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont) are developing a framework for a regional low carbon fuel standard.

**Other Highlights of U.S. State/Local Action**

- ***A state sets an example for the nation to follow:*** California – In 2002, California enacted AB 1493 ("Pavley Global Warming Bill"), a law that requires reductions in GHG emissions from light-duty vehicles. Fourteen states and the District of Columbia opted into these standards, following California's lead. On May 19, 2009, President Obama announced a national standard for passenger vehicles that will be set through a joint rulemaking process between the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Transportation (DOT). By 2016, the federal standard will achieve the same fuel economy improvement as the California standard would have – 35.5 miles per gallon – and the same GHG emissions standard: a fleet-wide level of 250 grams/mile of $CO_2$.

- ***Setting a GHG emissions fee:*** San Francisco, California – The Bay Area Air Quality Management District, a regional government agency overseeing air quality in the 101 cities of the San Francisco Bay Area, has instituted a fee on GHG emissions emitted by industrial

facilities and businesses that are permitted by the Air District. The modest fee of 4.4 cents per metric ton of GHGs is collected from these facilities through their annual permit bill. The purpose of the fee is to recover costs associated with the Air District's Climate Protection Program activities related to these stationary sources of pollution.

- See www.baaqmd.gov/Divisions/Planning-and-Research/Planning-Programs-and-Initiatives/Climate-Protection-Program/Core-District-Initiatives.aspx

- ***Citizens will pay more to help reduce GHG emissions:*** Boulder, Colorado – In 2002, the Boulder City Council passed a resolution committing the city to reduce GHG emissions to 7% below 1990 levels by 2012. In 2006 the Climate Action Plan (CAP) was created as a roadmap for helping the Boulder community achieve this goal, and voters passed a tax on household and business electricity use to fund implementation of the plan. This "carbon tax," known as the CAP tax, garnered global recognition for Boulder as the first city to tax itself to directly address climate change. In 2009, the Climate Action Plan was updated as the Community Guide to Boulder's Climate Action Plan. In addition, Boulder County established environmental sustainability goals in 2005 that include energy and GHG emissions reduction targets. The county's efforts to support these goals are funded through an earmarked portion of property tax revenues. The county adopted the Sustainable Energy Plan in 2008, which recommends 35 actions for local governments and others in Boulder County to take to reduce GHG emissions and make sustainable communities.
    - See www.Beclimatesmart.com

- ***Reducing GHG emissions also reduces local air pollution:*** Houston, Texas – The City of Houston, Texas, created a multi-pollutant emission reduction plan that reduces GHGs by 11% below 2005 levels by 2010. By addressing multiple pollutants, the City hopes to address local ozone problems while reducing GHG emissions.
    - See www.greenhoustontx.gov/reports/emissionreduction20080909.pdf

- ***Turning waste into power:*** Johnson County, Kansas – The Johnson County Wastewater Department is implementing a methane capture and co-generation project at a wastewater treatment plant that will significantly reduce GHG emissions and also dramatically reduce operating costs. The Douglas L. Smith Wastewater Treatment Facility, which processes 14.5 million gallons of wastewater a day, will have the following added to it: an anaerobic digester; a fats, oils and grease (FOG) receiving station; and a cogeneration system and gas storage and handling. Biogas from the digesters will be used to power two new cogeneration units that will generate power for the treatment plant (12,000 megawatt hours). The FOG receiving station will reduce the average distance traveled by FOG waste haulers from 75,000 to 35,000 miles annually, and it will also more than double the biogas production capability of the treatment plant.

- ***Using the money GHG polluters pay to help low-income families and promote energy efficiency and GHG reductions:*** New Jersey – New Jersey is using funds garnered from the auctioning of RGGI allowances for:
    - The Clean Energy Solutions Capital Investment Loan/Grant Program: 60% of the funds go to the New Jersey Economic Development Authority for end-use energy efficiency, combined heat and power and renewable energy project grants and loans in the commercial, institutional and industrial sectors.

        - See www.njeda.com/web/Aspx_pg/Templates/Pic_Text.aspx?Doc_Id=1080&midid=1351&menuid=1351&topid=718
    - 20% of the funds go to the New Jersey Board of Public Utilities to support programs to reduce electricity costs for low- and moderate-income electricity customers.
        - See www.njshares.org
    - 20% of the funds go to the New Jersey Department of Environmental Protection to support local government programs to implement GHG emissions reduction measures (10%) and programs to enhance forest stewardship and tidal marsh restoration that sequesters carbon (10%).
        - See www.nj.gov/dep/opsc/ghggrant.html

- ***Reducing GHG emissions can save substantial amounts of money:*** Broward County, Florida – Broward County installed energy-efficient light-emitting diode (LED) traffic signals at 3,000 intersections, saving 13,539,000 KWhr each year and over $1.32 million each year.
    - See www.broward.org/traffic/welcome.htm

- ***Promoting the deployment of innovative technology:*** Washington – Washington passed a law in 2009 requiring the installation of charging outlets for electric vehicles, new tax incentives for electric vehicle infrastructure and the development of an alternative fuels corridor pilot project.
    - See apps.leg.wa.gov/documents/billdocs/2009-10/Pdf/Bills/Session%20Law%202009/1481-S2.SL.pdf

- ***Even small governments can lead by example:*** Pima County, Arizona – The Pima County Board of Supervisors adopted Resolution No. 2007-84 on May 1, 2007. The resolution establishes a far-reaching set of sustainability initiatives, many of which set specific goals for the way Pima County departments operate – such as shifting at least half of its fleet vehicles to more environmentally-friendly fuels by 2010; powering its facilities with at least 15% renewable energy by 2025; and building all new County-funded facilities to meet the U.S. Green Building Council's LEED Silver standards.
    - See www.pima.gov/Sustainable/AUG08ActionPlan-1.pdf and www.pima.gov/Sustainable/Final%20Year%20One%20Sustainability%20Report%20Card.pdf

- ***Helping overcome the barriers to homeowner renewable energy:*** Berkeley, California – The City of Berkeley, California, established a solar financing program that allows residential and commercial property owners to borrow money from special bonds that the City set up in order to install solar photovoltaic electric systems on their property. The financing is connected to the property through a special assessment on the property tax bill, so if the property is sold, the debt transfers to the new owner. This system has overcome two primary barriers to implementing solar power – high up front costs and debt that stays with a borrower after they have sold their property. This model is being replicated across California and in many other states. Vice President Biden recently announced his plan to take the program national.
    - See www.ci.berkeley.ca.us/ContentDisplay.aspx?id=26580

- ***Small cities can test small but powerful ideas:*** Santa Rosa, California: The City of Santa Rosa, California, has partnered with Sonoma State University to construct and pilot test a new concept for small, low-cost methane digesters. These small, onsite digesters combine aquatic biomass from the City's wastewater facility, local wine industry plant bi-products, and manure from local agribusiness in the digesters to create methane, which is then used in place of natural gas in an on-site generator to produce electricity for the City's electric vehicles. Because the digesters are small and low-cost, this model holds potential for onsite production of electric power at farms, dairies, wineries, and other applications.
    - See ci.santa-rosa.ca.us/doclib/Documents/Algaebrochure.pdf

- ***Turning polluter fines into ways to benefit the community's environment:*** Vermont – The Vermont Community Climate Change Grant Program was established by the Department of Environmental Conservation to enable Vermont communities to implement measures that will improve energy efficiency and reduce GHG emissions. Funding for this grant program was obtained from a settlement against American Electric Power Corp., the coal-fired energy producer first sued by eight states and 13 citizen groups in 1999. Under this program, competitive grants of up to $12,000 were awarded to 46 Vermont municipalities and non-profit organizations to support community-based projects that will be implemented within twelve months of the grant award. Project types included weatherization efforts, renewable energy installations, electrical and heating system efficiency upgrades, a hybrid car sharing program, an electric lawnmower change out program and a wastewater treatment plant methane flare to heat project. The combined projects are expected to reduce GHG emissions by an estimated 590 tons during the first year following completion.