

# Too Little, But Not Too Late

**Reinvigorating Maryland's Strategy to Curb Global Warming Pollution and Kickstart a Clean Energy Economy**



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# Executive Summary

Maryland took a bold step toward reducing our contribution to global warming and breaking our dependence on fossil fuels with the passage of the Greenhouse Gas Reduction Act (GGRA) in 2009. The law set an ambitious but achievable goal of reducing Maryland's emissions of global warming pollution by 25 percent below the 2006 level by 2020.

The state will soon begin the formal process of developing a plan to achieve the targets of the GGRA. But the new plan will not be the first strategy laid out for reducing global warming pollution in Maryland. The 2008 Climate Action Plan, written by the Maryland Commission on Climate Change, put forward a strategy for meeting and exceeding the emission reduction targets of the GGRA through a series of 42 public policies.

In the years since the Climate Action Plan, Maryland has taken important steps to implement some of the plan's recommendations. However, a review of 10 top emission reduction opportunities shows that **Maryland is not on track to achieve the emission reductions proposed in the Climate Action Plan.** The state's failure

to follow through on the Climate Action Plan recommendations will make it more difficult for Maryland to achieve the goals of the GGRA.

**Achieving the goals of the Greenhouse Gas Reduction Act will bring great benefits to Maryland's environment and economy.**

- By doing its share to reduce global warming pollution, Maryland can help *avert the dramatic rise in temperature and sea level* and other threats projected for the 21<sup>st</sup> century under a scenario in which emissions of global warming pollutants continue to increase worldwide.
- Maryland can also *reduce our dependence on fossil fuels*, which emit health-threatening smog and soot into our air and cost Maryland families and businesses billions of dollars each year.
- Meeting the GGRA targets will also *benefit Maryland's economy*. The Maryland Commission on Climate Change estimated that implementation of the

Climate Action Plan recommendations would deliver \$2 billion in net economic benefits to Maryland by 2020.

**The state of Maryland has fallen behind in implementing the policy recommendations of the Climate Action Plan.**

A review of 10 policy options from the Climate Action Plan—responsible for more than half of the plan’s proposed emission reductions—shows that:

- In only one policy area—Maryland’s participation in the *Regional Greenhouse Gas Initiative* (RGGI)—is the state **on track** to deliver the emission reductions assumed by the Climate Action Plan, due to a region-wide drop in emissions from the power plants regulated by RGGI. As a result, Maryland should consider going further to tighten the program’s cap on global warming pollution.
  - In five policy areas, the state has achieved **mixed results**, posting important gains, but leaving a great deal of uncertainty about whether the state will achieve the emission reductions in the Climate Action Plan.
    - The state is proceeding with implementation of the *Renewable Portfolio Standard*, which requires the state to obtain 20 percent of its electricity from renewable sources by 2022. However, the state has failed to take steps recommended in the Climate Action Plan to strengthen the standard, and has recently weakened it by including incineration as an environmentally preferable “Tier 1” resource.
    - The state’s *energy efficiency resource standard* (EmPOWER Maryland) requires utilities to achieve a 10 percent per-capita reduction in electricity consumption by 2015. The program has begun to deliver energy savings, but implementation has been slow, important energy-saving opportunities have been missed, and the state has not followed through on the Climate Action Plan’s recommendation to expand the program to include natural gas energy efficiency.
  - Maryland’s state-led *energy efficiency programs* are to be responsible for delivering an additional 5 percent per-capita reduction in electricity consumption, but have been plagued by underfunding as the state has diverted proceeds from the sale of pollution allowances under RGGI away from energy efficiency programs.
  - The state’s efforts to *promote compact development* patterns that contain sprawl and reduce vehicle travel have taken some important strides, particularly in the promotion of transit-oriented development. But the state still lacks an effective approach to curtail new sprawling development.
  - Maryland has begun to lay the groundwork for improvements in *transportation technologies*—including new programs to ease the integration of plug-in vehicles that operate on electricity. It is too early to tell, however, whether the state’s efforts will be sufficient to achieve the emission reductions assumed in the Climate Action Plan.
- In one policy area, the state has made only **minimal effort** since publication of the Climate Action Plan.

- Efforts to launch innovative *transportation pricing* models that discourage driving have moved forward only on the Intercounty Connector and I-95 Express Lanes—projects that will likely contribute to an increase in global warming pollution from transportation.
- In three policy areas, the state has made essentially **no progress**, with no serious signs of effort toward achieving the goals of the Climate Action Plan.
  - Maryland has yet to move forward with plans to implement a *generation performance standard* limiting pollution from power plants, or to expand the availability of *pay-as-you-drive automobile insurance*, which encourages vehicle owners to drive fewer miles.
  - The state recently took a large step to discourage *recycling* by

incentivizing incineration under the Renewable Portfolio Standard. The General Assembly has also rejected several policy options to expand and improve recycling in recent years.

**There is still time for the state of Maryland to meet the goals of the Greenhouse Gas Reduction Act. In order for the state to reach the emission reductions required by law, the state should adopt a plan that includes:**

- Specific programs with a high level of detail.
- Programs and policies strong enough to achieve the GGRA emission reduction targets with a sufficient margin for error.
- A credible plan for implementation and enforcement of those policies.



# Introduction

In September 2003, Hurricane Isabel barreled up the East Coast, sending a 6- to 8-foot storm surge up the Chesapeake Bay. The downtown areas of Baltimore and Annapolis were flooded. Approximately 20 acres of land along Maryland's Western Shore were lost to erosion in a single day.<sup>1</sup> Total damages from the storm in Maryland were greater than \$400 million.<sup>2</sup>

The damage that Hurricane Isabel inflicted was made worse by the rise in sea level that has occurred in Maryland over the last 100 years, resulting from a combination of global warming and land subsidence.<sup>3</sup> Because the Chesapeake Bay is relatively shallow compared to its size, small changes in water depth significantly increase the force of waves on the shoreline during storms.

Hurricane Isabel was one of many moments in recent years—from Hurricane Katrina to Moscow's 100-degree plus heat wave in 2010 to devastating floods in Pakistan and the Mississippi River basin—that illustrate what is at stake in the battle to stop the worst impacts of global warming. In the case of Maryland, global warming-induced sea level rise poses a serious threat

to the Chesapeake Bay and the preservation of Maryland's traditional way of life.

To respond to the threat, the Maryland General Assembly took the courageous step of adopting the Greenhouse Gas Reduction Act (GGRA) in 2009. The GGRA committed Maryland to reducing our emissions of pollutants that cause global warming by 25 percent below the 2006 level by 2020. Of course, Maryland cannot stop global warming alone. By taking bold action, however, Maryland can do its share to address the problem and demonstrate the feasibility of reducing pollution so that other jurisdictions will follow our lead. At the same time, in the process of fighting global warming, the state can also take steps to break free of the dependence on fossil fuels that pollutes our environment and shackles our economy.

In the two years since adoption of the GGRA, Maryland has taken some important steps toward fulfilling its commitment to curb emissions of global warming pollutants—implementing new programs to help Marylanders save energy, joining with other East Coast states to limit global warming pollution from power plants, and

encouraging changes in our transportation system that reduce our dependence on oil.

But in many ways, as this report shows, the scale of Maryland's actions to date has fallen short of the ambition and vision of the GGRA ... and risks falling short of the mark in reducing emissions as well.

With the Maryland Department of the Environment now in the process of developing its formal plan for meeting the goals of the GGRA, the time has come to

review the state's progress toward meeting the goals of its earlier pollution reduction strategy: the Maryland Climate Action Plan completed in 2008.

The state's inconsistent progress toward implementing the recommendations of the Climate Action Plan shows that, while it is important to establish a plan to meet emission reduction targets, it is critical to follow through on that plan. There is too much at stake for Maryland to fail.

# Global Warming and Fossil Fuel Dependence Threaten Maryland's Future

**M**aryland's dependence on fossil fuels is one of the state's biggest environmental and economic challenges.

## Global Warming and Maryland

Global warming poses a major threat to Maryland's future well-being. While Maryland's actions alone cannot prevent the worst impacts of global warming, they can reduce our contribution to it and help spur broader action to address the threat.

Global warming is already underway, and its effects are beginning to be felt in Maryland. The state's mean annual temperature, for example, increased by 2° F between 1977 and 1999, with temperatures increasing at every monitoring station.<sup>4</sup>

Sea level has also been on the rise, due to a combination of global warming and land subsidence.

The state is sinking by more than 6 inches per century as it recovers from glaciers that covered the region thousands

of years ago.<sup>5</sup> The net effect of rising sea levels and sinking land has been a 1-foot increase in water level in the past 100 years, and along Maryland's 3,100 miles of tidally influenced shoreline, the loss of 260 acres of land each year.<sup>6</sup>

Maryland will experience further temperature increases and sea-level rise as a result of global warming that is "in the pipeline" due to emissions that have already been released. However, those changes will be far more severe if Maryland and the world continue to emit increasing amounts of global warming pollution over time.

If emissions of global warming pollution continue to increase unabated, Maryland will face a series of severe threats to our precious ecosystems, our health, and our way of life.

**Rising sea level:** The Maryland Commission on Climate Change projects that sea level could increase by 0.6 to 1.3 feet by the middle of the 21<sup>st</sup> century, and by as much as 3.4 feet by the end of the century.<sup>7</sup> Statewide, an estimated 380,000 acres of land are less than 5 feet above sea level and are vulnerable to complete submersion or to inundation during high tides.<sup>8</sup> Wicomico, Somerset and Dorchester counties

are most at risk. If the high-end projections for sea-level rise are reached, most of the state's tidal wetlands would be lost and as much as 200 square miles of land would be inundated.<sup>9</sup> Rising seas will create other problems, too, enhancing the destructive capacity of hurricanes and other coastal storms—as occurred with Hurricane Isabel in 2003 (see page 4)—and causing saltwater intrusion of water supplies used for drinking water and irrigation.

**Floods and droughts:** Global warming is expected to bring only minor changes to the *overall* amount of precipitation received in Maryland, but it will bring significant changes in the *timing* of that precipitation, with more precipitation occurring in large downpour events. As a result, Maryland could experience both more summertime dry spells *and* more periods of heavy precipitation, leading to the potential for floods.<sup>10</sup>

**Declining water quality:** Global warming may trigger a decline in water quality in the Chesapeake Bay, harming fish and crab populations. Increased precipitation in the bay's watershed during some times of the year will boost stream flows and the amount of nutrients that run off into the bay. Excess nutrients promote algal blooms, which can deplete oxygen levels below those needed by aquatic animals. Already, nutrient pollution causes algal blooms and areas of oxygen depletion covering up to a third of the bay each summer.<sup>11</sup> The problem will grow worse as water temperatures rise, because warmer water cannot retain oxygen as easily.

**Loss of plant and animal species:** Higher temperatures and changes in precipitation will alter the mix of plants and animals that can survive in Maryland. Forested areas may shrink or become less dense. Hardwood trees could migrate north and be replaced by southern pines and oaks. As plant types change, birds and other animals may have to move northward to find suitable habitat. By one estimate,

34 species of birds that currently spend at least part of the year in Maryland may be forced out of the state by a changing climate, including the Baltimore Oriole, the state bird.<sup>12</sup>

**Public health:** Higher temperatures will increase weather-related illnesses and fatalities. By the end of the 21<sup>st</sup> century, under a high-emission scenario, Maryland could experience 28 days of 100 degree temperatures in an average summer, compared with an average of 2 days per summer from 1961 through 1990.<sup>13</sup> Air quality could decline as hot summer days facilitate the formation of smog—ground-level pollution that inflicts respiratory damage, exacerbating ailments such as emphysema, bronchitis and asthma.<sup>14</sup> Smog levels in Maryland are already high enough to cause health problems and could increase as temperatures rise.<sup>15</sup>

The precise effects of global warming will be unpredictable and may be sudden. Rising sea levels may gradually erode shoreline for years, or a hurricane aimed straight up the bay may create an unprecedented storm surge that destroys land and property not typically considered at risk. An unusually dry and hot year could wreak havoc on the state's drinking water supplies and force the development of expensive alternatives. In other words, the impacts of global warming will include severe and unforeseen events, not merely a gradual change in current conditions.

## Maryland's Dangerous Dependence on Fossil Fuels

Maryland's efforts to confront global warming come with an important side benefit—they enable the state to confront its dependence on fossil fuels, which harms our health and jeopardizes our economy.

Emissions of carbon dioxide—the vast

majority of which result from the burning of fossil fuels—account for 90 percent of Maryland’s emissions of global warming pollutants.<sup>16</sup> As a result, any effort to address global warming will necessarily address the state’s use of fossil fuels such as coal, oil and natural gas.

## Coal

Coal is a key source of pollution linked to health problems and global warming. Maryland’s coal-fired power plants produce 92 percent of all carbon dioxide emissions from power generation in Maryland, despite the fact that those plants produce only 54 percent of the power generated in the state.<sup>17</sup>

Coal-fired power plants also contribute to air pollution that threatens the health of Marylanders and our environment, including:

- **Sulfur dioxide** emissions, which form fine soot particles in the atmosphere. When inhaled, these particles become lodged deep in the lungs where they cause a variety of health problems, including asthma, bronchitis, lung cancer and heart attacks.<sup>18</sup> Soot pollution from power plants is responsible for significant harm to public health in Maryland.<sup>19</sup>
- Emissions of **nitrogen oxides**, one of the primary ingredients in smog. Smog makes lung tissues more sensitive to allergens and less able to ward off infections.<sup>20</sup> It scars airway tissues.<sup>21</sup> Children exposed to smog develop lungs with less flexibility and capacity than normal. During high smog days, otherwise healthy people who exercise can’t breathe normally.<sup>22</sup> Over time, smog exposure can lead to asthma, bronchitis, emphysema and other respiratory problems.<sup>23</sup> Deposition of airborne nitrogen oxides into waterways is also a major contributor

to the dead zone in the Chesapeake Bay.

Reducing Maryland’s dependence on coal-fired power not only reduces global warming pollution, but it also helps clear our air and restore the Chesapeake Bay.

## Oil

Nothing is as frustrating to Marylanders as the increasingly large bite that high oil prices take out of our pocketbooks. In 2009, Maryland residents and businesses spent \$9.8 billion on petroleum products,<sup>24</sup> every drop of which was imported from outside the state or outside the country.<sup>25</sup> Those expenditures represent a vast drain on Maryland’s economy.

Breaking free of our dependence on oil will also reduce the numerous environmental and health impacts of oil production, transport and consumption. Smog and soot pollution from motor vehicles are among those threats, as are the threats posed by oil spills. In 2000, for example, an oil pipeline feeding the Chalk Point power plant ruptured, sending more than 140,000 gallons of oil into the Patuxent River. The spill oiled 10 acres of beaches and 76 acres of wetlands, and resulted in the death of more than 100 diamondback terrapins and nearly 700 birds.<sup>26</sup>

## Natural Gas

Maryland consumers have been whipsawed in recent years by the rapid rise and fall of natural gas prices. After hitting a low of less than \$3 per thousand cubic feet (mcf) in 1999, wholesale (citygate) natural gas prices in Maryland skyrocketed to more than \$15 per mcf in late 2005—a greater than five-fold increase—before declining to approximately \$5.80 per mcf in early 2011.<sup>27</sup> The wild fluctuation in natural gas prices is partly to blame for the dramatic rise in electricity rates in the late 2000s, which hit Maryland consumers hard.

While natural gas is often considered

to be a “clean” fuel, more of Maryland’s natural gas is coming from processes such as hydraulic fracturing (or “fracking”) that can cause major damage to the environment and public health, including pollution of groundwater, rivers and streams. In hydraulic fracturing, gas companies drill horizontal wells into shale formations deep beneath the surface, and then inject water, sand and chemicals at high pressures, fracturing the shale and enabling the gas trapped within to flow to the surface. Hydraulic fracturing operations consume vast amounts of water, can create a pathway for contamination of groundwater, and create the potential for toxic drilling chemicals and toxic substances produced from the wells themselves to enter the air and water.

The Susquehanna River, which provides half the freshwater for the Chesapeake Bay,

flows through the heart of the Marcellus Shale region of Pennsylvania and southern New York, which has experienced a recent drilling boom.<sup>28</sup> In May 2011, Maryland’s attorney general filed a notice of intent to sue a Pennsylvania gas driller that lost control of a well in north central Pennsylvania, spilling toxic drilling fluids into a tributary of the Susquehanna.<sup>29</sup> The organization American Rivers recently named the Susquehanna the most endangered river in the United States due to the increase in gas production from the Marcellus Shale.<sup>30</sup>

By taking action to improve the energy efficiency of Maryland’s economy and to increase the use of clean, renewable sources of energy, Maryland can both reduce our contribution to global warming and take steps to break its longstanding dependence on fossil fuels.

# Maryland Is Falling Behind in Curbing Global Warming Pollution

**M**aryland has made big steps forward in addressing global warming pollution and breaking the state's dependence on fossil fuels. In just the last five years, the state has increased its commitment to renewable energy, launched new efforts to improve the energy efficiency of our state's economy, and taken new strides to reduce energy use in government buildings, protect forests and wetlands, and curb sprawling development.

Despite positive actions on many fronts, however, Maryland is at risk of falling behind in its efforts to meet the requirements of the Greenhouse Gas Reduction Act. If the state is to achieve those targets, it must move quickly to correct problems in several of the key policies intended to achieve the state's emission-reduction targets, adopt other policies that are needed to achieve those goals, and work promptly to implement and enforce each policy.

## The Greenhouse Gas Reduction Act: Achievable Goals, Large Benefits

In 2009, the Maryland General Assembly enacted the Greenhouse Gas Reduction Act (GGRA), which requires that emissions of global warming pollution in Maryland be reduced by 25 percent below the 2006 level by 2020.

The emission reduction goals of the GGRA are ambitious but achievable. In its 2008 Climate Action Plan, the Maryland Commission on Climate Change laid out a policy blueprint to achieve and surpass the required 25 percent reduction (versus 2006 levels) through a series of policies focused largely on the development of clean energy.

Those goals are made more achievable by the recent decline in emissions of global warming pollution in Maryland and the rest of the United States. Emissions of carbon dioxide from energy use in Maryland—the leading source of global warming pollution in the state—fell 3.6 percent between 2006 and 2008.<sup>31</sup> While this figure does not include all of the state's global warming

pollution, it is a good, rough indicator of the progress made to date.

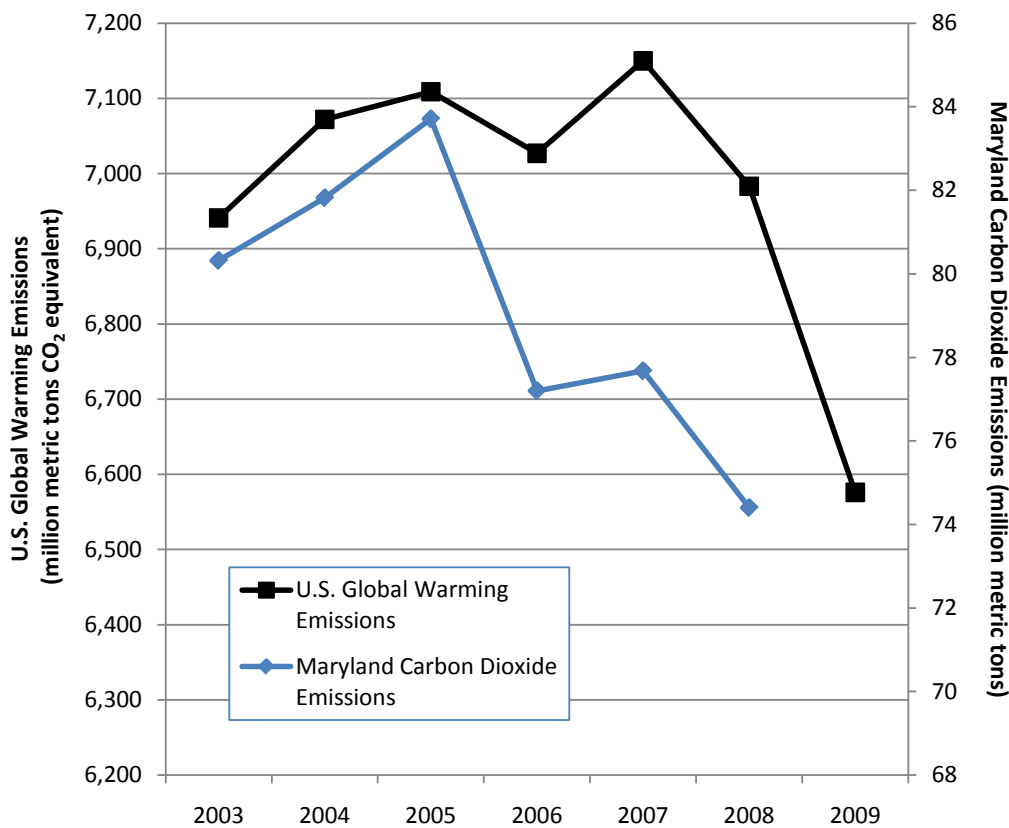
Achieving a 25 percent reduction in emissions by 2020 would require a roughly 2 percent annual drop in emissions between 2006 and 2020. The 3.6 percent decline in emissions between 2006 and 2008, therefore, kept the state roughly on track to meet the 2020 goal.

While state-specific emissions data for 2009 are not yet available, national data show that the trend toward emission reductions continued in 2009, with a 5.8 percent decline in global warming emissions below 2008 levels. Between 2006 and 2009, global warming emissions nationally declined by 6.4 percent, a figure that, if it were matched in Maryland, would put the state slightly ahead of schedule toward meeting the goals of the GGRA.<sup>32</sup>

The emission reductions that have happened to date are partly the result of a faltering economy, but they nonetheless bring the 25 percent emission reduction goal within closer reach. However, Maryland will still need to undertake ambitious policy changes in order to achieve the emission reductions required by the GGRA—especially once the state’s economy begins to grow again.

In addition to environmental and public health benefits, many of those changes will yield economic benefits to the state—either in the form of reduced energy costs for consumers and businesses or the creation of new jobs in green industries. The 2008 Climate Action Plan estimated that adoption of the plan’s 42 policies for curbing emissions would deliver net economic benefits to Maryland of \$2 billion by 2020.<sup>34</sup>

**Figure 1. Global Warming Pollution Trends in Maryland and the United States<sup>33</sup>**





## The Climate Change Action Plan: A Roadmap for Curbing Global Warming Pollution

In 2008, the Maryland Commission on Climate Change—a panel created under an executive order by Governor O’Malley to bring together representatives of various state agencies and stakeholders to develop a comprehensive response to global warming—issued the state’s Climate Action Plan. The plan included a detailed review of public policy options that can reduce global warming pollution, including an estimate of the reductions that could be delivered by each policy.

The Commission developed 42 policy options which, if fully implemented, would achieve and surpass the 25 percent emission reduction goal in the GRRRA.<sup>35</sup> While all 42 of the policies are important, the lion’s share of the emission reductions was expected to be provided by a few high-leverage policies.<sup>36</sup>

In this report, we evaluate the progress Maryland has made toward the goals of the Greenhouse Gas Reduction Act by reviewing whether the state is on track to achieve the expected results from 10 policies included in the Climate Action Plan that were anticipated to deliver the bulk of the emission reductions.

The 10 policies (or policy areas) are:

- Renewable Portfolio Standard
- Energy efficiency resource standard (EmPOWER Maryland)
- Cap-and-trade (Regional Greenhouse Gas Initiative)
- Generation performance standard
- State-led energy efficiency programs
- Transportation pricing programs

- Transportation technologies
- Recycling
- Land use and development
- Pay-as-you-drive insurance

## Renewable Portfolio Standard

**Projected emission reduction (from MCCC report):** 13.8 million metric tons carbon dioxide equivalent in 2020

**Mixed results:** Implementation of the standard has begun, but the state has failed to make improvements that would deliver the emission reductions envisioned in the Climate Action Plan and has taken a step backwards by including incinerators as an environmentally preferable “Tier 1” resource.

Maryland’s Renewable Portfolio Standard (RPS) commits the state to obtaining an increasing share of its electricity from clean, renewable sources. By 2022, Maryland will obtain 20 percent of its energy from wind, solar and other renewable sources.

While Maryland’s RPS represents an important commitment to renewable energy, it will not achieve the full emission reductions estimated in the Climate Action Plan. The plan suggested that Maryland make several improvements to the RPS which have not yet occurred:

- **Accelerated timeline** – The Climate Action Plan analysis suggested that Maryland revise the RPS to achieve 20 percent renewable energy by 2020, rather than 2022.
- **Geographic limitation** – Currently, Maryland’s RPS allows renewable energy facilities anywhere in the

PJM Interconnection—the regional electricity grid that spans 13 states and Washington, D.C.—to receive credit toward compliance, with a few exceptions.<sup>37</sup> The Climate Action Plan analysis suggested that eligibility be limited to the “core” PJM states of Maryland, Pennsylvania, New Jersey and Delaware. This would be a significant change because it would likely require the construction of new renewable facilities rather than meeting the requirement through the vast pool of existing renewable energy facilities throughout the 13-state electric grid.

- **Pre-existing hydropower** – As of 2008, Maryland was the only state to allow pre-existing hydropower facilities to receive compliance credit under an RPS.<sup>38</sup> This, coupled with the loose geographic criteria for RPS credits, means that hydropower generators in states far away from Maryland, which may have been in existence for many years, receive credit, reducing the ability of the RPS to incentivize clean, new renewable technologies built closer to home. In 2009, for example, small hydropower facilities supplied 30 percent of the credits required for environmentally preferable Tier 1 resources, and larger facilities supplied 80 percent of the credits for less-environmentally sound Tier 2 resources.<sup>39</sup> Of these credits, 95 percent of the Tier 1 hydropower credits and 80 percent of the Tier 2 credits were generated out of state. The Climate Action Plan analysis suggested that pre-existing hydropower no longer be eligible for credit under the RPS.
- **Penalties** – Utilities that fail to comply with the RPS are required to pay “alternate compliance fees” (ACFs) for each unit of electricity by

which they fall short. These payments act as an incentive for utilities to comply with the law and are deposited into the Maryland Strategic Energy Investment Fund, where they are used to promote clean energy development. The Climate Action Plan analysis assumed that the state would increase the alternative compliance fee to \$50 per megawatt-hour. In 2008, the General Assembly did double the ACF fees from \$20 to \$40 per megawatt-hour, but they remain short of the benchmark in the Climate Action Plan.

- **Incineration** – In 2011, the state took a step to weaken the RPS by allowing electricity from waste incinerators to receive credit as an environmentally preferable Tier 1 resource. This step will reduce the emission reduction benefits of the RPS by substituting a technology that produces global warming pollution for truly clean renewable technologies that do not. It also undermines the state’s progress toward the waste reduction and recycling targets of the Climate Action Plan. (See page 20.)

The Climate Action Plan projected that its suggested RPS would avert 13.8 million metric tons of carbon dioxide per year by 2020, compared to emission reductions of 12.2 million metric tons under the version of the RPS that existed at that time.<sup>40</sup> Several of the key changes proposed in the Climate Action Plan, however—such as the acceleration of the RPS timeline to 2020 and exclusion of existing hydropower—have yet to be made. Furthermore, the state has also made a major change that negatively impacts the RPS: adding incineration as a Tier 1 resource. The failure to improve the RPS creates a substantial gap in Maryland’s global warming emission reduction strategy that will have to be filled with other policies.

## Energy Efficiency Resource Standard (EmPOWER Maryland Act)

**Projected emission reduction (from MCCC report):** 11.9 million metric tons carbon dioxide equivalent in 2020

**Mixed results:** Program is delivering energy savings, but got off to a late start, left important energy efficiency opportunities unrealized, is currently on course to fall far below its energy savings goals, and has not yet been expanded to include natural gas.

The EmPOWER Maryland Act sets ambitious energy efficiency goals for Maryland, seeking to reduce per-capita electricity consumption 15 percent by 2015. The law calls upon the Public Service Commission to require utilities to achieve 5 percent reductions in per-capita electricity consumption by 2011 and 10 percent reductions by 2015, with the remainder of the energy savings coming from efforts led by the state.<sup>41</sup>

The EmPOWER Maryland Act is one of the strongest energy efficiency standards in the nation and has the potential to deliver major improvements in energy efficiency that curb global warming pollution, save Marylanders money, and help break our dependence on fossil fuels. Unfortunately, the EmPOWER Maryland Act has yet to live up to its potential, for a variety of reasons:

- **Delayed start** – The PSC’s process for approving utility energy efficiency programs has been unclear and involved unnecessary delays, stalling progress toward the state’s energy efficiency goals.
- **Failure to account for all benefits of energy efficiency** – The PSC has also used a very narrow definition of “cost effectiveness” that has set an unreasonably high bar for energy

efficiency programs to meet in order to win the commission’s approval. As a result, energy efficiency programs with the potential to deliver important benefits for Maryland have been left by the wayside.<sup>42</sup>

- **Failure to hold utilities accountable for energy savings goals** – The PSC has approved utility energy efficiency plans that fail to meet the EmPOWER Maryland targets and has not held utilities accountable for failing to meet the targets.

The result is that Maryland’s utilities are currently not on track to achieve either the 2011 or 2015 energy savings targets. A recent analysis by the Maryland PIRG Foundation found that if utilities continued to deliver energy savings at the rate they did in the fourth quarter of 2010—their strongest quarter to date—they would achieve less than half the electricity savings required under EmPOWER Maryland by 2015.<sup>43</sup> Without action by the PSC and the state’s utilities to ramp up efficiency programs, the emission reductions incorporated in the Climate Action Plan from electricity efficiency efforts will not be realized.

The state’s implementation of the energy efficiency resource standard has also fallen short of the vision described in the Climate Action Plan in another important way. The Climate Action Plan assumed that the EmPOWER Maryland program would be expanded to include energy efficiency efforts that reduce natural gas use. This has not occurred, leaving additional energy efficiency opportunities untapped.

## Regional Greenhouse Gas Initiative

**Projected emission reduction (from MCCC report):** 6.95 million metric tons carbon dioxide equivalent in 2020

**On track:** Program is fully operational and on track to meet emission reduction goals, which argues for strengthening the program.

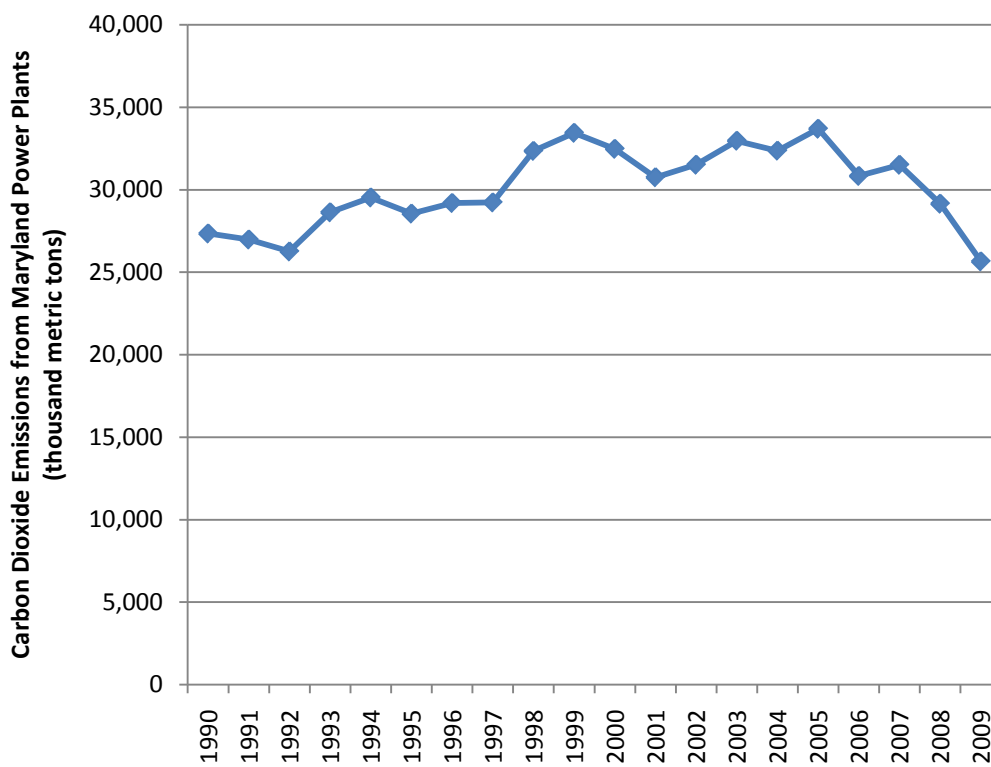
Maryland is a participant in the Regional Greenhouse Gas Initiative (RGGI), a 10-state compact to limit carbon dioxide emissions from power plants through a regional cap-and-trade system.

Under RGGI, carbon dioxide emissions from the region's power plants are capped at the originally projected 2009 level until 2014, after which time they are

steadily reduced until they achieve a 10 percent emission reduction by 2018. The emission limit is enforced through the use of permits—called allowances—which power plants must purchase for each unit of pollution they emit. As emission limits become more stringent, fewer allowances are issued and their price increases, driving power plant owners to make economically driven changes to their power plants that reduce emissions.

The good news for Maryland and the rest of the region is that power plant carbon dioxide emissions have fallen dramatically in recent years. According to the U.S. Department of Energy (DOE), carbon dioxide emissions from Maryland power plants fell by 17 percent between 2006 (the base year for the GGRA emission reduction goals) and 2009—an emission reduction of more

**Figure 2. Carbon Dioxide Emissions from Maryland Power Plants Are at Lowest Point in Two Decades<sup>44</sup>**



than 5 million metric tons.<sup>44</sup> While the U.S. DOE estimates do not equate perfectly with the figures used for compliance with RGGI or the GGRA (which calculates emissions from electricity consumed in Maryland, regardless of where it was generated), the recent decline in emissions is a significant bright spot in the state's global warming emission reduction efforts.

The less-positive news, however, is that very few of these emission reductions are due to the operation of the carbon cap under RGGI. The program greatly overestimated emissions in 2009, leading to the creation of a cap that was too weak to actually limit emissions. Indeed, actual power plant emissions in the RGGI region in 2009 were 34 percent below the cap.<sup>45</sup> Analysts predict that global warming pollution from power plants in the region will remain under the RGGI cap for 2018 as far out as 2030 under a business-as-usual scenario.<sup>46</sup>

The cap portion of the RGGI program, therefore, is unlikely to drive significant emission reductions unless Maryland and other states join together to tighten the cap. Other aspects of the RGGI program, such as the small "reserve" carbon price that power plants must pay into the system, are reducing emissions, both by creating a financial penalty for emitting carbon dioxide and because the revenues from those sales have been channeled back to the states to fund programs to promote clean energy. Unfortunately, however, Maryland is failing to take full advantage of this aspect of the RGGI program by diverting a large share of RGGI revenues to short-term energy bill payment assistance. (See page 17.)

In short, Maryland is achieving the electric sector emission reductions it was intending to achieve through RGGI. However, the ease with which it has done so suggests that even greater potential exists to curb emissions from power plants. RGGI is working, and we should get much more out of it.

## Generation Performance Standard

**Projected emission reduction (from MCCC report):** 6.6 million metric tons carbon dioxide equivalent in 2020

**No progress:** No meaningful action has been taken to implement a state generation performance standard, while efforts to extend interstate power lines could increase the amount of dirty power sold in Maryland.

A generation performance standard (GPS) is a rule that limits pollution from power plants. Unlike RGGI, which limits the *total* amount of pollution that power plants in the region may emit, a GPS limits the *rate* at which the electricity sector can emit pollution. A coal-fired power plant, for example, typically emits roughly twice as much carbon dioxide per unit of electricity produced as a modern natural gas-fired plant.<sup>47</sup> As a result, adoption of a GPS would push utilities to obtain a greater share of their electricity from low-emitting sources and a smaller share from high-emitting sources.

The Climate Action Plan proposed a GPS that would be imposed on a portfolio basis, meaning that the electricity supplied by a particular utility would have to meet a certain emission threshold on average—in the case of the suggested GPS, that limit would be 1,125 pounds of carbon dioxide per megawatt-hour of electricity (compared to an average of 1,290 pounds per megawatt-hour in Maryland at the time the plan was drafted).<sup>48</sup>

Adoption of a GPS would have several advantages for Maryland. First, it would be a way to achieve reductions in power plant emissions even if the RGGI emission cap is not strengthened. Second, it has the potential to limit utilities' ability to purchase dirty energy from out of state—a problem that is not easily addressed by RGGI.

The Climate Action Plan assumed that

Maryland would have a GPS in place by 2013. However, achievement of that goal appears doubtful, since the state of Maryland has taken no definitive steps toward implementation of a GPS. The MCCC's November 2010 report to the governor and General Assembly reported that, "As per the [Public Service] Commission's preference, MDE has deferred state action pending adoption of a national GPS."<sup>49</sup>

Waiting for federal action is a dangerous gamble, as was demonstrated in 2009-2010 when federal efforts to cap global warming pollution ran into a roadblock in the United States Senate. The U.S. Environmental Protection Agency (EPA) is in the midst of developing performance standards for new and existing power plants that may achieve some of the goals of the GPS proposed in the Climate Action Plan. However, it is far from certain that the standards they ultimately propose will be aggressive and will withstand political assault in the U.S. Congress from allies of the coal industry and electric power producers.

Maryland's failure to pursue a GPS is even more troubling given the recent efforts to extend power lines into the state that could carry more dirty electricity generated from coal-fired power plants from other states into Maryland. One such transmission line, the Potomac-Appalachian Transmission Highline (PATH), has been shelved for the time being, but a second, the Mid-Atlantic Power Pathway (MAPP) is still moving through the regulatory process.

Given the long timeline for implementing new standards for power plant emissions, Maryland is already in serious jeopardy of missing the 2013 timeline in the Climate Action Plan for implementation of a GPS—indeed, the drafting of the standard, which has not yet begun, was originally proposed to take place in 2008 and 2009. Since the state has evidently taken this policy option off the table, it will need to find other emission reduction policies to fill the gap.

## State Energy Efficiency Programs

**Projected emission reduction (from MCCC report):** 4.5 million metric tons carbon dioxide equivalent in 2020

**Mixed results:** Programs are delivering energy savings, but are not operating at the scale envisioned in the Climate Action Plan due to spending cuts.

As noted above, the EmPOWER Maryland Act sets out a goal of achieving a 15 percent reduction in per-capita electricity consumption by 2015. While the utility programs described above (see page 14) are responsible for achieving two-thirds of that goal, state-led energy efficiency efforts are responsible for the other third.

Maryland's energy efficiency programs are primarily run by the Maryland Energy Administration (MEA) with funding from the Strategic Energy Investment Fund (along with funding from the American Recovery and Reinvestment Act, other federal sources, and revolving loan funds). The Strategic Energy Investment Fund, in turn, is mainly funded by revenues from carbon dioxide allowance auctions under the Regional Greenhouse Gas Initiative (see page 15).

While the energy efficiency programs created by the MEA—including programs that encourage the purchase of efficient appliances, retrofit residential buildings for improved energy efficiency, and help businesses, industrial facilities and state agencies save energy—have delivered results, those programs have not reached the scale envisioned by the Climate Action Plan.

In FY 2011, the MEA's energy efficiency programs were projected to save approximately 73,000 megawatt-hours of electricity, approximately 0.1 percent of Maryland's total electricity consumption.<sup>50</sup> At that rate, there is virtually no way the state can achieve the 5 percent per-capita reduction in energy consumption from

state energy efficiency efforts targeted in the EmPOWER Maryland Act.

The problem is one of money and scale. The Climate Action Plan envisioned a total energy efficiency budget for the state of approximately \$100 million per year, which could be funded through allowance revenues from RGGI and other sources.<sup>51</sup> However, state investment has not yet approached that figure, due in part to the state's decision to divert RGGI funds away from energy efficiency investments and toward short-term energy bill relief.

In fact, through the end of 2010, Maryland used a smaller share of its RGGI auction proceeds for energy efficiency and renewable energy investments than any other RGGI state, investing only 30.5 percent of its \$148 million of RGGI revenues in clean energy programs.<sup>52</sup> The share of RGGI money used for clean energy in Maryland is less than half the regional average of 62.3 percent.

When the Strategic Energy Investment Fund was created, the diversion of funds from RGGI was intended to be temporary, ending in mid-2012. New legislation adopted by the General Assembly in its 2011 session restores some of the funding that had been cut from energy efficiency programs, but leaves the state's level of investment in energy efficiency far below that which had been envisioned when RGGI was launched. The current level of diversion will remain in place through fiscal year 2014.<sup>53</sup>

By that time, underfunded state energy efficiency programs will be well behind schedule in attaining the energy savings goals of EmPOWER Maryland—leaving Maryland unable to deliver on the carbon dioxide emission reductions envisioned in the Climate Action Plan.

## Transportation Pricing

**Projected emission reduction (from MCCC report):** 4.7 million metric tons carbon dioxide equivalent in 2020

**Minimal effort:** The state has made only very limited efforts to develop and implement transportation pricing reforms.

The Maryland Climate Action Plan included several measures intended to reduce global warming pollution from cars and other highway vehicles. None, however, were expected to deliver as much savings as a suite of measures designed to provide incentives for Marylanders to drive less, or to drive in less-polluting ways, while providing funding for cleaner transportation alternatives.

The Climate Action Plan was vague about both the precise mix of policies that would be used and the timeline for their adoption, noting only that the following pricing measures would be established “throughout the state” by 2020:

- Global warming pollution-based road user fees.
- “Cordon pricing” in which tolls that vary depending on the time of day are assessed on vehicles entering major urban areas.
- Fees based on the carbon intensity of fuels.
- Parking pricing policies that give greater priority to low-carbon transportation choices.<sup>54</sup>

In some cases, proceeds from these fees would be reallocated to investments in clean transportation.

Maryland has made virtually no progress toward the development or implementation of these policies on a statewide basis. In two instances, the state has moved

forward with variable tolling schemes—for the new Intercounty Connector and on the new I-95 express toll lanes. However, both systems are being installed on *new* stretches of highway that can be expected to generate *increased* global warming pollution and oil dependence in the years to come. The inclusion of congestion pricing on these roads may be a useful test case of its applicability elsewhere, but it will be insufficient to offset the increased emissions that will likely result from new highway capacity.

The Blue Ribbon Commission on Maryland Transportation Funding has recommended a menu of revenue options that includes potential increases in the gasoline tax. While significant gas tax increases could change behavior enough to dramatically reduce driving, the level of gas tax increases envisioned by the commission are not high enough to be a strong influence on driving behavior. Further, even those moderate increases have not been adopted by the General Assembly.

Maryland still has time to design and implement these policies prior to 2020. However, given the controversial nature of road pricing policies, as well as the extended time needed to roll out the technology needed to enforce these policies, Maryland will need to begin a public conversation on these actions soon in order to achieve the emission reductions estimated in the Climate Action Plan.

## Transportation Technologies

**Projected emission reduction (from MCCC report):** 2.8 million metric tons carbon dioxide equivalent in 2020

**Mixed results:** Maryland has taken important steps to promote cleaner transportation technologies, but it is unclear whether those efforts will be enough to achieve the emission reductions assumed in the Climate Action Plan.

The Climate Action Plan includes several steps designed to provide Marylanders with new transportation options and reduce the growth of vehicle travel. Pricing strategies (page 18), changes in land-use patterns (page 21), and reforms such as pay-as-you-drive automobile insurance (page 23) are all intended to ease congestion on our roads and reduce our dependence on oil while curbing global warming pollution.

Marylanders, however, are still going to depend on cars, trucks, trains, boats and buses to get them where they need to go, and to carry the cargo and goods that keep our economy running. New technologies—including those that power vehicles with electricity rather than oil—hold the potential to dramatically reduce the pollution those vehicles produce.

The Maryland Climate Action Plan called for a wide variety of policy changes designed to achieve the goals of reducing emissions from on-road engines and vehicles by an additional 7.5 percent below projected levels by 2020 and reducing emissions from off-road sources (such as trains and boats) by an additional 15 percent.<sup>55</sup>

The state has not yet implemented all the recommendations in the Climate Action Plan, and it is impossible to tell, given current data, whether the state has made significant progress toward the plan's emission reduction goals. However, the state has taken several important steps forward:

- In 2011, the General Assembly adopted three bills that encourage the shift toward plug-in vehicles that run partially or entirely on electricity. One bill provides a 20 percent tax credit on the purchase of rapid charging equipment for plug-ins, another orders the PSC to develop a pilot vehicle recharging program, and the third creates a state council to develop recommendations designed to smooth the integration of plug-in vehicles into the state's transportation system.



- By virtue of its adoption of the Clean Cars Program—a set of strong standards for vehicle emissions pioneered by California and adopted in 13 other states—Maryland is poised to achieve greater reductions in global warming pollution from cars in the years ahead.
- The state has adopted new regulations to limit idling from construction equipment, a major source of air pollution and wasted fuel.
- Maryland has continued to replace its current bus fleet with hybrid buses that are significantly more fuel efficient.
- The state has also taken steps to improve the efficiency of transportation systems in some locations, synchronizing traffic signals, streamlining toll collection, and improving access to real-time bus information for transit riders.<sup>56</sup>

These efforts, if continued, expanded, and brought to scale statewide, provide a solid foundation for Maryland's efforts to reduce global warming pollution from transportation vehicles. It is too early to tell if those efforts will be sufficient to achieve the emission reductions expected from transportation technologies in the Climate Action Plan.

## Recycling

**No progress:** Maryland's recycling rate has not increased, key opportunities to expand recycling have been rejected, and the state has taken a step backward by adopting a policy to encourage incineration.

*(Due to an inconsistency in the estimate of emission reductions from recycling in the*

*Climate Action Plan, no estimate is presented here.)*

Reducing the amount of garbage that Maryland must dispose of in landfills and incinerators is a key strategy for achieving the state's global warming emission reduction goals.

Solid waste can contribute to global warming in several ways. When disposed of in landfills, the organic matter in solid waste is broken down by bacteria, releasing a mix of gases that includes carbon dioxide and methane.<sup>57</sup> Methane is a potent global warming pollutant, 21 times more powerful than carbon dioxide over a 100-year period.<sup>58</sup> Solid waste incinerators, meanwhile, produce carbon dioxide emissions that also contribute to global warming. Moreover, it is generally more energy-intensive to make new products than to recycle old ones, meaning that recycling can save energy and reduce global warming pollution from mining, manufacturing and other parts of the economy.

By increasing recycling and reducing the amount of waste generated in Maryland, the state can reduce its contribution to global warming. The Climate Action Plan proposed a series of goals for waste reduction and recycling for Maryland that would achieve significant reductions in global warming. For waste reduction, the Climate Action Plan proposes a reduction in Maryland's waste stream of:

- 15 percent by 2012
- 25 percent by 2015
- 35 percent by 2020
- 80 percent by 2050<sup>59</sup>

A similar set of goals for recycling proposed that the state increase its recycling stream by 10 percent in 2012, 20 percent by 2015, and 30 percent in 2020, with a gradual reduction in recycling rates after that time due to the smaller amount of waste being produced.<sup>60</sup>

Maryland's most recent complete data on municipal solid waste production and

disposal dates back to 2007, meaning that it is impossible to determine whether the state has made progress toward its waste reduction goal. In 2007, Maryland's municipal solid waste stream (including recycled materials) was just over 9.1 million tons, down approximately 3 percent from 9.4 million tons in 2005.<sup>61</sup>

More recent data, however, are available on recycling. The amount of waste recycled in the state has declined in the last several years, with 2.57 million tons of solid waste being recycled in 2009, compared with 3.63 million tons in 2007. The state's municipal solid waste recycling rate has also declined, from 44.1 percent in 2007 to 39.1 percent in 2009.<sup>62</sup>

Maryland has taken a few baby steps to improve recycling since publication of the Climate Action Plan, but has also missed out on many other opportunities to achieve the waste reduction and recycling goals of the plan. For example, legislation adopted by the General Assembly in 2009 required the implementation of recycling programs for glass, paper, metal and plastic in state offices wherever feasible.<sup>63</sup> And the state has convened a Solid Waste Study Group to review possible policy approaches to reducing the waste stream.<sup>64</sup>

However, the state has passed up much bigger opportunities to curb the production of waste in Maryland and to take serious strides toward achieving the Climate Action Plan goals. In 2009, legislation that would have established strong recycling targets in Maryland was weakened to instead require only a study.<sup>65</sup> In addition, separate bills to require recycling in bars and restaurants, assess a small fee on disposable plastic bags, and require recycling at apartment buildings have each been repeatedly rejected in the General Assembly.<sup>66</sup>

In addition, a bill passed in the 2011 legislative session and signed by Gov. O'Malley could result in further obstacles to recycling. The bill moves garbage

incinerators from Tier 2 to Tier 1 of the Renewable Portfolio Standard. This will increase the value of renewable energy credits that incinerators earn, providing a financial incentive for the construction of new incinerators. Because incinerators are expensive to build, there is ongoing pressure to burn garbage in order to pay off construction debt. Therefore, they compete directly with recycling, wasting natural resources and hindering an industry that promises to build local jobs while reducing pollution.

To date, there has been very little specific action on the part of the Maryland Department of the Environment to achieve the ambitious waste reduction and recycling goals in the Climate Action Plan. The decline in the waste stream achieved between 2005 and 2007 (and implied by the state's 2009 recycling data) suggests that the 15 percent waste stream reduction goal (by 2012) of the Climate Action Plan is achievable. However, with the amount of material diverted for recycling in 2009 lower than it was in 2005, achieving and sustaining a 10 percent increase by 2012 in the amount of waste that is recycled in Maryland appears to be a greater challenge and merits the development of a statewide strategy to achieve it.

## Land Use

**Projected emission reduction (from MCCC report):** 4.6 million metric tons carbon dioxide equivalent in 2020

**Mixed results:** Maryland has made progress toward the vehicle-miles traveled reduction target and taken action to promote transit-oriented development, but still lacks an effective mechanism to prevent future sprawl.

Sprawl—defined as low-density development that requires the use of a car

for most daily tasks—has been the primary form of development in Maryland for the last half-century. Sprawling development has had many negative effects on Maryland’s environment and way of life, including the destruction of pristine forests and open spaces. It has also been an important driver of rising global warming pollution in the state, as sprawl demands that more Marylanders drive more miles each year.

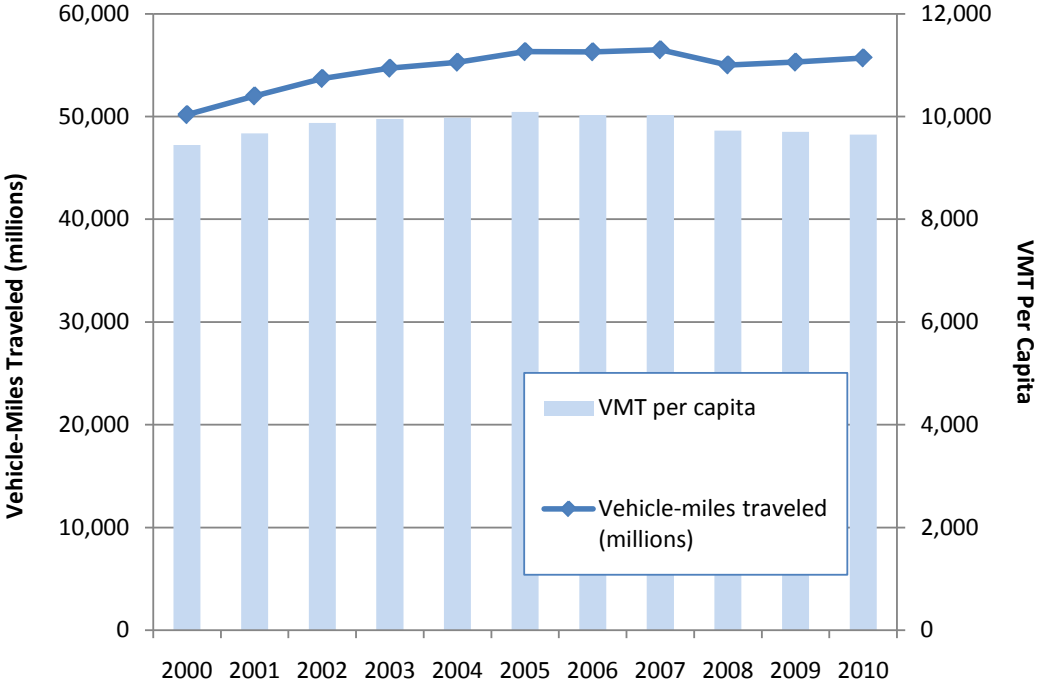
The Climate Action Plan established a target of reducing the number of vehicle-miles traveled (VMT) per capita to 2000 levels by 2020. Incredibly, it is a target that Maryland is within striking distance of reaching. In 2000, 9,448 vehicle-miles were traveled on Maryland’s highways per capita. After peaking at 10,088 miles per capita in 2005—a 7 percent increase over 2000—per capita vehicle travel has been

steadily declining, reaching 9,649 miles per capita in 2010. Per capita vehicle travel in 2010 was only 2 percent higher than it was in 2000.<sup>67</sup> (See Figure 3.)

The decline in per-capita vehicle travel is welcome news, but it is much too early for Maryland to declare victory. For one thing, the trends in vehicle travel do not appear to be the result of actions taken by the state of Maryland, but rather mirror trends in the nation as a whole.<sup>69</sup> Higher gasoline prices, the economic downturn and other factors are responsible for the decline in vehicle travel—not changes in Maryland’s overall land-use and development patterns. As a result, a return to economic health or a temporary decline in gasoline prices could lead to a resurgence of growth in VMT.

A recent study by the National Center

**Figure 3. Vehicle-Miles Traveled and VMT Per Capita, Maryland 2000-2010<sup>68</sup>**



for Smart Growth Research and Education at the University of Maryland found that sprawling development continued through the 2000s despite the adoption of Maryland's smart growth laws in the late 1990s. The study, which did not include indicators for the more recent years since adoption of the Climate Action Plan, did bring some positive news, including an increase in the density of residential development near transit stations and an increase in the share of population living near transit in most counties with transit access.<sup>70</sup> Still, the study, along with previous analyses, suggests that there is little reason to hope for a dramatic change in development patterns under Maryland's current planning regime.<sup>71</sup>

In recognition of this fact, the state of Maryland has taken several important steps forward. The first is in its promotion of transit-oriented development—walkable, mixed-use developments centered around transit stations. In 2010, for example, the O'Malley administration designated 14 additional sites around Maryland transit stations as sites for future transit-oriented development.<sup>72</sup>

In addition, the state has moved forward with creation of the PlanMaryland state development plan. PlanMaryland lays the groundwork for better coordination of growth strategies between state and local governments, better integration of transportation and land-use planning, and better harnessing of governmental resources for the promotion of smart growth. At present, however, PlanMaryland is but a blueprint—the real test will come in implementation.

In short, there is reason to be hopeful that the goals for per capita VMT reductions in the Climate Action Plan can be achieved and even surpassed. But it will likely require Maryland to finally follow through on policies that direct new growth toward walkable, transit-oriented communities and restrain sprawling development.

## Pay-as-You-Drive Car Insurance

**Projected emission reduction (from MCCC report):** 4.3 million metric tons carbon dioxide equivalent in 2020

**No progress:** Maryland has taken no concrete action to expand pay-as-you-drive insurance.

Automobile insurance premiums are commonly charged to drivers at a flat, annual rate—failing to take into account the fact that driving less reduces the risk of accidents.<sup>73</sup> Pay-as-you-drive (PAYD) insurance shifts the bulk of insurance charges from a flat rate to a per-mile rate, reducing the cost of owning a vehicle but increasing the cost of driving it.

Increasing the per-mile cost of driving acts as an economic disincentive to driving, thereby reducing vehicle-miles traveled and global warming pollution. The savings are likely to be especially large in a state like Maryland with high automobile insurance rates. In 2008, Maryland was the 10<sup>th</sup> most expensive state in the nation for car insurance.<sup>74</sup>

The reductions in global warming pollution included in the Climate Action Plan assumed that the state, insurers and others would work to “make PAYD coverage available to all Maryland drivers as early as possible and push for adoption by Maryland drivers in the 2012 time frame.”<sup>75</sup> Specifically, PAYD insurance was assumed to be made available to all Maryland drivers by 2010, with 10 percent adopting it by 2012 and adoption increasing to 100 percent by 2020.<sup>76</sup>

The Maryland Commission on Climate Change suggested several policy mechanisms through which the state might encourage a shift to PAYD insurance, including shifting policies written under the Maryland Automobile Insurance Fund (the state's high-risk auto insurance pool) to PAYD, providing financial incentives

for insurers who offer PAYD insurance, and requiring insurance carriers to offer PAYD policies.<sup>77</sup>

However, there appears to be little momentum behind any of these policy alternatives. In 2009, the Maryland Insurance Administration issued a report evaluating the benefits of and barriers to implementation of PAYD in Maryland, concluding that “it is beneficial to encourage the expansion of these programs in the state in that they offer more options to consumers.”<sup>78</sup> In 2010, the agency conducted a survey of Maryland’s leading automobile insurers, which found that only Progressive Insurance, which already offers a PAYD option

in Maryland, is planning to offer a pay-as-you-drive product within the next two years in Maryland.<sup>79</sup>

The Maryland Insurance Administration does not appear to be planning further proactive steps on PAYD, reporting in the 2010 Maryland Commission on Climate Change update that the agency “will continue to monitor the companies to see if they will offer ‘pay-as-you-drive.’”<sup>80</sup> Without further policy action—including the actions recommended in the Climate Action Plan—Maryland will likely miss out on the substantial emission reductions promised by pay-as-you-drive auto insurance.

## Conclusion and Recommendations

The state of Maryland has a long way to go to achieve the global warming emission reductions proposed in the state's 2008 Climate Action Plan. The state's failure to take aggressive action to implement the Climate Action Plan's most significant recommendations over the past three years will make the job of hitting the emission reduction goals of the Greenhouse Gas Reduction Act more difficult than it needs to be.

Of the 10 policy options evaluated in this report—which are responsible for the lion's share of the emission reductions in the Climate Action Plan:

- The state is **on track** to achieve the emission reductions assumed by the Climate Action Plan in only one policy area: Maryland's participation in the Regional Greenhouse Gas Initiative.
- The state has achieved **mixed results** in five areas: the Renewable Portfolio Standard, the energy efficiency resource standard (EmPOWER Maryland), state energy efficiency efforts, transportation technologies,

and the state's efforts to promote compact land-use patterns that reduce vehicle travel. In each of these areas, there have been important gains but it remains uncertain whether the state will achieve the emission reductions in the Climate Action Plan.

- The state has made **minimal effort** in one policy area: transportation pricing.
- The state has made **no progress** in three other policy areas: the generation performance standard, recycling and pay-as-you-drive automobile insurance.

Achieving the emission reduction goals of the Greenhouse Gas Reduction Act is a necessary step to reduce our contribution to global warming while helping to break our dependence on fossil fuels. **As a result, the state of Maryland must ensure that the global warming emission reduction plan due to be drafted by the end of 2011 includes a strong policy blueprint to achieve the Greenhouse Gas Reduction Act goals. This must include specific**

**details on programs that state agencies intend to implement in the near future as well as enforcement plans.**

The more detailed the program, the easier it will be for agencies to move forward quickly and effectively at achieving emission reductions. Early action to achieve emission reductions will benefit Maryland—making it easier to achieve the 25 percent emission reduction goal and delivering the benefits of cleaner air

and reduced dependence on fossil fuels sooner.

Three years after the publication of the Climate Action Plan, Maryland has failed to follow through on many of the important and beneficial policy steps laid out in the plan. With the clock ticking to the state's 2020 emission reduction target, the time for hesitation has passed. The time has come for Maryland to move forward.

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