

## Maryland's Greenhouse Gas Reduction Plan:

In 2009, Governor Martin O'Malley charged the State with developing a Greenhouse Gas Reduction Plan that will reduce greenhouse gases 25 percent by the year 2020.

In July 2013, a final plan released by Governor O'Malley outlined more aggressive measures the state should take to meet its economy-wide goal to reduce GHG pollution 25 percent from 2006 levels by 2020.<sup>1</sup> Accelerating the reduction of carbon pollution from the electricity sector through participation in the Regional Greenhouse Gas Initiative (RGGI), and the expansion of energy savings and renewable energy programs are key components of the State's Plan. Additionally, an independent study found that Maryland's plan is likely to generate \$1.6 billion dollars in expanded economic output and support nearly 30,000 jobs.<sup>2</sup>

## Maryland's Leadership in Reducing Greenhouse Gas Emissions

Maryland has achieved significant electricity sector GHG emission reductions since 2006—a decline of 9.7 million metric tons, or 30 percent—due in part to its participation in the Regional Greenhouse Gas Initiative (RGGI), its implementation of EmpowerMD, expansion of the State's Renewable Portfolio Standard, and regional fuel switching.<sup>3</sup>

### Regional Greenhouse Gas Initiative (RGGI)

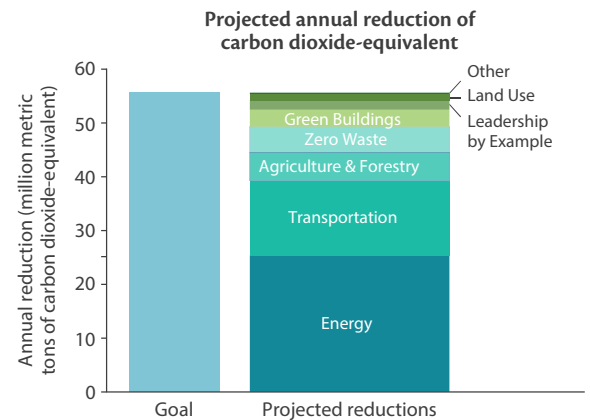
Through recently announced programmatic changes to RGGI, including a reduction in the regional emissions cap of more than 50 percent from 2005 levels by 2020, Maryland expects to further reduce the state's 2020 carbon dioxide emissions from the electricity sector by an additional 3.6 million metric tons.<sup>4</sup>

RGGI, a partnership with eight other East Coast states, has demonstrated the effectiveness of a regional, market-based approach to reducing carbon pollution. Proceeds from the sale of RGGI carbon dioxide allowances have enabled the RGGI states to invest over \$700 million in energy savings, clean and renewable energy and other strategic energy programs and a net of \$1.6 billion to their states' economies. To date 3 million households and more than 12,000 businesses are participating in RGGI funded programs.

### EmPOWER Maryland

The state's EmPOWER Maryland initiative mandates a 15 percent reduction in peak demand and per-capita electricity consumption and demand by 2015 from 2007 levels. Ten percent of the overall reduction must come from measures implemented by the State's utilities and five percent from other energy savings programs.<sup>5</sup> To date, Maryland has achieved a 14.6 percent reduction in peak electricity demand and a 10.1 percent reduction in per capita electricity consumption.

The EmPOWER Maryland program has funded measures that will reduce ratepayer electricity use by more than 2 million MWh per year and save \$250 million annually.<sup>6</sup> These savings will continue for years, with currently existing measures saving ratepayers \$3.7 billion over their useful life.<sup>7</sup> It is projected that Maryland will reduce per capita consumption by 12.3 percent by 2015. Total annual GHG emission reductions attributable to aggressive implementation of EmPOWER Maryland could reach 10.52 million metric tons of carbon dioxide equivalent in 2020.<sup>8</sup>



To reach the reduction goal of 55 million metric tons of carbon dioxide-equivalent annually, enhanced programs throughout all sectors (energy, transportation, agriculture, etc.) have been identified.

1 Md. Department of the Environment, Maryland's Greenhouse Gas Reduction Plan (2013) [http://www.climatechangemaryland.org/site/assets/files/1184/mde\\_ggrp\\_execsummary\\_2013.pdf](http://www.climatechangemaryland.org/site/assets/files/1184/mde_ggrp_execsummary_2013.pdf) [hereinafter Md. 2013 GHG Reduction Plan]. Maryland's Greenhouse Gas Reduction Act requires Maryland to achieve a 25 percent reduction in state-wide greenhouse gases from 2006 levels by 2020 and establishes a long-term goal to reduce emissions 90 percent by 2050. Md. Code Ann., Envir. §§ 2-1201 to 1211.

2 Md. 2013 GHG Reduction Plan, supra note 155, at 192-93.

3 Reduction based on emissions from in-state electricity generation. Per Md. Department of the Environment.

4 Press Release, Md. Energy Administration, RGGI States Propose Lowering Regional CO<sub>2</sub> Emissions Cap 40%, <http://www.mde.state.md.us/programs/PressRoom/Pages/0207RGGIAnnouncement.aspx>.

5 Per Md. Energy Administration.

6 EmPOWER Maryland Planning, Md. Energy Administration, <http://energy.maryland.gov/empower3/>.

7 Id.

8 Md. 2013 GHG Reduction Plan, supra note 155, at 84.

## Renewable Portfolio Standard (RPS)

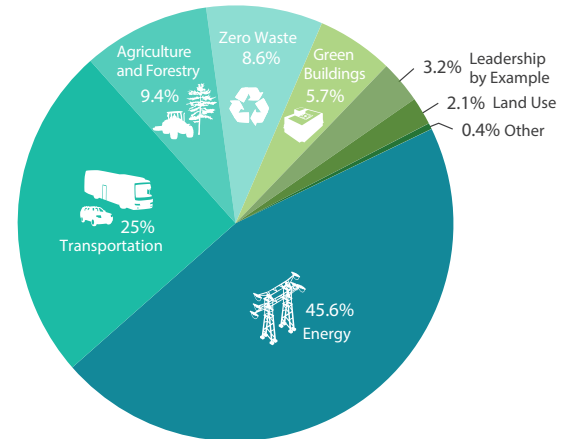
Maryland's RPS requires 20 percent of electricity consumed in the state to be generated by renewable energy sources in 2022. A proposal included within Governor O'Malley's plan to increase the RPS to 25 percent by 2020 is under consideration.<sup>9</sup> Maryland's RPS includes a solar "carve out" requiring 2 percent of all electricity delivered in Maryland to come from in-state solar generation (photovoltaic or thermal) by 2020.<sup>10</sup> Total annual GHG emission reductions attributable to implementation of RPS could reach 10.96 million metric tons of carbon dioxide equivalent in 2020.<sup>11</sup> In the last eight years, Maryland has increased the State's solar energy capacity exponentially from .1 MW in 2007 to 173 MW in 2013. As a result of Maryland's strategic energy policies, like RPS, Maryland has 2,000 more solar jobs, up from nearly zero just a few years ago.<sup>12</sup>

The successful passage of the Maryland Offshore Wind Energy Act of 2013 creates an opportunity to develop a major offshore wind project 10 miles off Maryland's Atlantic coast. A project of the size supported by the legislation (200 MW) will create nearly 850 manufacturing and construction jobs and 160 long-term term operations and maintenance positions, while creating \$1.3 billion in local economic impact and lowering Maryland's carbon dioxide emissions by 378,000 metric tons per year.

## Other Energy Sources

Coal is the single largest source of electricity in Maryland's generation portfolio. However, during the period from 2005 to 2012, the percentage of electricity generated from coal dropped from 56 to 43 percent. Maryland's carbon dioxide emission rate per MWh hour declined by 12 percent during 2005-2011.<sup>13</sup> The state's Calvert Cliffs nuclear plant provides 35 percent of the state's electricity, and renewables, including hydroelectric plants, wind farms and solar cells now contribute nearly seven percent.<sup>14</sup>

Percent annual reduction of carbon dioxide-equivalent by sector



The major sectors where greenhouse gas emissions can be reduced are energy and transportation; however every sector will need to do its part to reduce emissions.

## Maryland: Leading By Example

### Green Buildings

Given the long life of most buildings, upgrading State and local building codes to include minimum energy efficiency requirements provides long-term greenhouse gas emissions savings. Maryland's Building Performance Standards are updated by regulation every three years following the three-year cycle of the International Code Council.

Under Maryland's Plan, reduced greenhouse gas emissions will be achieved through energy savings practices undertaken in State building design, site location, and construction practices. In addition to reducing greenhouse gas emissions, implementing these programs will reduce emissions of nitrogen oxides, sulfur dioxide and mercury. Building programs will also reduce waste output and water usage. Full implementation of the green building sector initiatives will result in a potential emission reduction of 3.2 million metric tons of carbon dioxide-equivalent annually.

### Transportation

In 2011, Governor O' Malley established an Electric Vehicle Infrastructure Council to accelerate the purchase and use of electric vehicles in the State. Today there are more than 400 Maryland Electric Vehicle Charging Stations throughout the State. In October 2013, Maryland joined with seven other states in a pledge to put 3.3 million zero-emission vehicles on the road by 2025.

Full implementation of the 110 transportation sector programs and initiatives in Maryland's Plan has the potential to reduce greenhouse emissions by 13.8 million metric tons of carbon dioxide-equivalent annually.

<sup>9</sup> Id. at 84-85; Md. Code Ann., Pub. Util. Cos. § 7-701 et seq.

<sup>10</sup> Md. Code Ann., Pub. Util. Cos. § 7-701.

<sup>11</sup> Md. 2013 GHG Reduction Plan, supra note 155, at 84.

<sup>12</sup> Per Md. Energy Administration June 27 presentation or comments; see also Md. Offshore Wind Energy Act of 2013, House Bill 226 (2013).

<sup>13</sup> Emission rate calculated using all electricity generation. EIA State Generation, supra note 4; EIA State Emissions, supra note 4.

<sup>14</sup> 2011 data. U.S. Energy Information Administration, Maryland State Profile, <http://www.eia.gov/state/?sid=MD#tabs-4>.