

Department of Legislative Services  
Maryland General Assembly  
2020 Session

FISCAL AND POLICY NOTE  
First Reader

House Bill 1425 (Delegate Stein, *et al.*)

Environment and Transportation and  
Economic Matters

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**Climate Solutions Act of 2020 – Greenhouse Gas Emissions Reduction Act**

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The bill increases the statewide greenhouse gas (GHG) emissions reduction requirement (from 40% from 2006 levels by 2030 to 60% from 2006 levels by 2030) and requires the State to achieve net-zero statewide GHG emissions by 2045. The bill also (1) establishes various requirements for plans to reduce emissions; (2) establishes two new working groups to address related issues; (3) establishes new requirements for the Maryland Commission on Climate Change; (4) requires the Maryland Department of Labor (MDL) to adopt new building standards related to solar energy systems; (5) increases and extends energy efficiency and conservation program requirements administered by the Public Service Commission (PSC); (6) alters and expands the applicability of “high-performance building” standards; (7) establishes specified zero-emission requirements for vehicles in the State fleet; and (8) establishes specified tree planting requirements. **The bill takes effect June 1, 2020. Certain provisions terminate June 30, 2025, and certain provisions terminate June 30, 2030.**

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**Fiscal Summary**

**State Effect:** State expenditures (all funds) increase significantly; costs could easily exceed tens of millions of dollars in the first year, with significant ongoing costs. Revenues for most agencies are not directly affected, but special fund revenues for PSC increase correspondingly to special fund expenditures. No effect on total capital spending, but funding for other capital projects is reduced due to the capital costs incurred under the bill.

**Local Effect:** Local expenditures for electricity may increase in the short term. Local capital projects may be significantly affected. Local revenues are not directly affected.

**Small Business Effect:** Meaningful.

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## Analysis

### Bill Summary:

#### *Greenhouse Gas Emissions Reductions*

The bill repeals the existing requirement for the State to reduce GHG emissions by 40% from 2006 levels by 2030. Instead, the State must reduce statewide GHG emissions by 60% from 2006 levels by 2030. The bill also repeals the long-term goal to reduce GHG emissions by up to 90% from 2006 levels by 2050; instead, the long-term goal is to achieve net-zero statewide GHG emissions by 2045.

By December 31, 2020, the Maryland Department of the Environment (MDE) must adopt a final emissions reduction plan to meet the 60% reduction requirement. In addition, the plan must set the State on a path toward achieving net-zero GHG emissions by 2045. By December 31, 2030, MDE must adopt a final plan that achieves net-zero statewide GHG emissions by 2045.

Several existing requirements for related GHG emissions reduction plans also apply to the final plan adopted by MDE under the bill. In addition, a final plan developed by MDE must (1) not include highway widening or traffic congestion relief as a GHG emissions reduction measure; (2) use a specified global warming potential for methane over a 20-year time horizon when estimating the State's GHG emissions reductions; and (3) include specific estimates of the reductions expected from each reduction measure included in the plan. In developing and implementing the required plans, MDE must use the best available scientific information, as included in the most recent assessments and reports of the Intergovernmental Panel on Climate Change.

The bill also requires each State agency, when conducting long-term planning, developing policy, and drafting regulations, to take into consideration the likely climate impact of the agency's decisions relative to Maryland's GHG emissions reduction goals.

#### *The Maryland Commission on Climate Change, the Climate Justice Working Group, and the Climate Jobs Working Group*

The bill establishes the Climate Justice Working Group and the Climate Jobs Working Group within the Maryland Commission on Climate Change. MDE must provide staff for the working groups. Working group members may not receive compensation, but are entitled to reimbursement for expenses under the standard State travel regulations, as provided in the State budget.

The Climate Justice Working Group, in consultation with MDE, the Maryland Department of Health, MDL, and the Commission on Environmental Justice and Sustainable Communities, must establish criteria to identify disadvantaged communities for the purposes of GHG emissions reductions, co-pollutant reductions, and the analysis of the allocation of investments related to specified statutory provisions. By December 31, 2020, the working group must report to the commission and the General Assembly on the criteria developed.

The Climate Jobs Working Group must (1) advise the commission on issues and opportunities for workforce development and training for segments of the population that may be underrepresented in the clean energy workforce, as specified; (2) identify energy-intensive industries and related trades, sites of electric generating facilities that may be closed as a result of a transition to renewable energy sources, sector-specific impacts of the State's GHG emissions reduction plan on the current workforce, and avenues to maximize the skills and expertise of Maryland workers in the new energy economy; (3) advise the commission on the potential impacts of carbon leakage risks, as specified; and (4) conduct a study on various aspects of new jobs created and needed and the impacts on the workforce from efforts to counter climate change. The working group must report to the commission and the General Assembly on the findings of the required study by December 31, 2020.

The bill adds new requirements to the commission's annual report. Specifically, the report due November 15, 2021, and subsequent reports, must include an analysis prepared by MDE that provides (1) the total amount of State money spent on GHG emissions reduction measures during the previous fiscal year and (2) the percentage of that funding that benefitted disadvantaged communities.

#### *Maryland Department of Labor – Solar Energy System Building Requirements*

By July 1, 2021, MDL, in consultation with PSC, must adopt solar energy system requirements as part of the Maryland Building Performance Standards (MBPS). The standards must (1) require that any new building with 20,000 square feet or more of continuous roof space be equipped with a solar energy system and (2) include minimum standards for the capacity of a solar energy system. A local jurisdiction may waive these requirements under circumstances; MDL must adopt procedures and criteria for reviewing and approving waiver applications.

#### *Public Service Commission – Energy Efficiency and Conservation Programs/Services*

The bill extends the requirement that PSC must, by regulation or order, require each electric company to procure or provide cost-effective energy efficiency and conservation programs and services to its customers to include the 2024 to 2026 program cycles. The bill also

increases the required targeted annual incremental gross energy savings for these programs and services from 2.0% to 3.0%.

### *Maryland Green Building Council – High-Performance Buildings*

The bill makes several changes related to existing provisions governing “high-performance buildings.” Under the bill, in addition to current law requirements, these buildings must also (1) meet or exceed the current requirements for certification under the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) Zero Energy Program or (2) achieve a net-zero energy balance in accordance with standards or guidelines recommended by the Maryland Green Building Council and approved by the Secretaries of Budget and Management and General Services. The bill requires the council to develop specified guidelines.

The bill expands the applicability of requirements relating to high-performance buildings to capital projects that are at least 25% funded with State funds. Under current law, the requirements only apply to projects that are *solely* funded with State funds.

### *State Vehicle Fleet – Zero-emission Requirements*

The State must ensure that (1) beginning in fiscal 2021, at least 25% of the buses and 50% of the light-duty vehicles purchased for the State vehicle fleet are zero-emission vehicles and (2) beginning in fiscal 2025, at least 50% of the buses and 100% of the light-duty vehicles purchased for the State vehicle fleet are zero-emission vehicles. These requirements do not apply to the purchase of vehicles that have special performance requirements, as specified.

By December 1 annually, the Chief Procurement Officer must submit a report to the General Assembly that includes data for the preceding fiscal year on the number of light-duty vehicles, buses, zero-emission light-duty vehicles, and zero-emission buses purchased by each unit as well as the current percentage of light-duty vehicles and buses in the State vehicle fleet that are zero-emission vehicles. Each unit must cooperate with the Chief Procurement Officer in the collection and reporting of the information needed to develop the required report.

### *Tree Planting Requirements*

In 2021 and each year thereafter (through June 30, 2030), the State must annually plant at least one million additional trees over the previous year’s baseline, as specified.

### *Key Dates and Deadlines*

**Exhibit 1** provides a timeline of key dates and activities specified by the bill.

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**Exhibit 1**  
**Key Dates Under the Climate Solutions Act of 2020**

<b><u>Date</u></b>	<b><u>Action</u></b>
June 1, 2020	Effective date of the bill
July 1, 2020	State deadline to meet requirement that at least 25% of buses and 50% of light-duty vehicles purchased for State fleet are zero-emission vehicles
December 31, 2020	MDE deadline to adopt final plan to reach 60% GHG emissions reduction requirement and to set State on path to achieve net-zero GHG emissions by 2045  Deadline for the Climate Jobs Working Group and the Climate Justice Working Group to submit required reports to the commission and the General Assembly
July 1, 2021	MDL deadline to adopt changes to MBPS related to equipping specified new large construction with solar energy systems
July 1, 2024	State deadline to meet requirement that at least 50% of buses and 100% of light-duty vehicles purchased State fleet are zero-emission vehicles
June 30, 2025	Termination of the 2030 and 2045 GHG emission reduction goals
Calendar 2030	State deadline to reduce GHG emissions by 65% below 2006 levels
June 30, 2030	Termination of annual tree-planting requirement
December 31, 2030	MDE deadline to adopt final plan to achieve net-zero statewide GHG emissions by 2045
Calendar 2045	State deadline to achieve net-zero GHG emissions

GHG: greenhouse gas

MBPS: Maryland Building Performance Standards

MDE: Maryland Department of the Environment

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## **Current Law/Background:**

### *Greenhouse Gas Emissions Reduction Act*

The Greenhouse Gas Emissions Reduction Act, originally enacted in 2009 and made permanent and expanded in 2016, was enacted in light of Maryland's particular vulnerability to the impacts of climate change. Under the Act, the State must develop plans, adopt regulations, and implement programs to reduce GHG emissions by 25% from 2006 levels by 2020 and must further reduce GHG emissions by 40% from 2006 levels by 2030; the 2030 reduction requirement terminates December 31, 2023.

Pursuant to the Act, by October 1, 2022, MDE must report on the progress toward achieving the 2030 reductions as well as the reductions needed by 2050 to avoid the most dangerous impacts of climate change, as specified. MDE is also required to review and publish an updated statewide GHG emissions inventory every three years. **Exhibit 2** provides a timeline of key dates and activities specified under the Greenhouse Gas Emissions Reduction Act.

In July 2019, MDE published the 2017 GHG emissions inventory. In October 2019, MDE released a draft plan to reach the 2030 reduction requirement. According to MDE, the draft plan provides a blueprint which, if fully implemented, will achieve greater than the 40% reduction required by the Act, with significant job growth and economic benefits. The core programs of the 2019 draft plan extend from the suite of programs developed for the State's plan to reduce emissions by 25% from 2006 levels by 2020. According to MDE, based on the recently completed 2017 inventory, the State's GHG emissions are already below the 2020 goal.

A major component of the 2019 draft plan is the proposed Clean and Renewable Energy Standard, a modification of the State's existing Renewable Energy Portfolio Standard, which has been proposed by the Administration (Senate Bill 265/House Bill 363). Other programs highlighted in the draft plan include the State's participation in the Regional Greenhouse Gas Initiative, the expansion of public transit, the Clean Cars Program, the Transportation and Climate Initiative, enhanced forest management, enhanced healthy soils incentives, the expansion of the EmPOWER Maryland program, and the recent executive order establishing new energy savings goals for State buildings.

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**Exhibit 2**  
**Key Dates under the Greenhouse Gas Emissions Reduction Act**

<b><u>Date</u></b>	<b><u>Action</u></b>
December 31, 2018	MDE deadline to submit proposed 40% emissions reduction plan to Governor and General Assembly, following public workshops
December 31, 2019	MDE deadline to adopt final 40% emissions reduction plan
Calendar 2020	State deadline to reduce GHG emissions by 25% below 2006 levels  Inventory of statewide GHG emissions due
October 1, 2022	Deadline for submission of independent academic study of economic impact on manufacturing sector; and MDE deadline for submission of report on progress toward required 2030 reduction and toward achieving reductions needed by 2050 based on contemporary science
December 31, 2023	Termination of the 2030 reduction goal
Calendar 2023	Inventory of statewide GHG emissions due
Calendar 2026	Inventory of statewide GHG emissions due
October 1, 2027	MDE deadline for submission of report on progress toward achieving the 2030 reduction goal and toward achieving reductions needed by 2050 based on contemporary science
Calendar 2029	Inventory of statewide GHG emissions due
Calendar 2030	State deadline to reduce GHG emissions by 40% below 2006 levels, unless otherwise specified

GHG: greenhouse gas

MDE: Maryland Department of the Environment

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## *EmPOWER Maryland*

In 2008, the General Assembly passed the EmPOWER Maryland Energy Efficiency Act, which set target reductions of 15% in per capita electricity consumption and peak demand, respectively, by 2015 from a 2007 baseline. Legislation in 2017 extended the program through its 2018-2020 and 2021-2023 program cycles and established a new annual energy savings goal of 2.0% per year, based on each electric company's 2016 sales. Approved program costs are recovered by electric companies on customer bills. For the average residential customer, the 2020 EmPOWER surcharge ranges between \$5.63 and \$8.30 per month, depending on the electric company.

Plans for the 2021-2023 program cycle must be submitted to PSC by September 1, 2020, with a PSC decision due by the end of 2020. By July 1, 2022, PSC must determine the advisability of maintaining current program metrics in subsequent program cycles – which PSC must authorize – beginning with the 2024-2026 cycle.

## *High-Performance Buildings*

Chapter 124 of 2008 requires most new or renovated State buildings to be constructed as high-performance buildings, subject to waiver processes established by the Department of Budget and Management (DBM) and the Department of General Services (DGS).

Chapter 124 defines a high-performance building as one that:

- meets or exceeds the LEED criteria for a silver rating; or
- achieves a comparable numeric rating according to a nationally recognized, accepted, and appropriate standard approved by DBM and DGS. Based on a unanimous recommendation from the Maryland Green Building Council, in 2017, DGS and DBM approved the use of the Green Globes rating system developed by the Green Building Initiative as an alternative to LEED Silver.

Only new or renovated State buildings that are at least 7,500 square feet and are built or renovated entirely with State funds are subject to the high-performance requirement. Additionally, building renovations must include the replacement of heating, ventilation, air conditioning, electrical, and plumbing systems and must retain the building shell. Unoccupied buildings are exempt from the high-performance mandate, including warehouses, garages, maintenance facilities, transmitter buildings, and pumping stations.

*State Building Efficiency Executive Order*

In June 2019, Governor Hogan issued an executive order establishing a new energy savings goal for State government. Specifically, DGS, in cooperation with the Maryland Energy Administration, must manage a “Maryland Leads by Example” energy savings initiative that will oversee reducing, by 2029, the energy use of State-owned buildings by 10% compared to a 2018 baseline.

**State Fiscal Effect:** The bill has far-reaching impacts on multiple State agencies. While the total cost of the bill cannot be reliably estimated, it could easily exceed tens of millions of dollars in the first year, with significant ongoing costs. Most of the bill’s effects cannot be quantified at this time; however, specific costs for certain agencies are described below, as are other potential costs.

*Administrative Costs for Maryland Department of the Environment*

MDE’s special fund administrative expenditures increase by at least \$444,567 in fiscal 2021, which assumes a July 1, 2020 implementation date. This estimate reflects the cost of hiring one part-time (50%) natural resources planner and three full-time contractual employees (two natural resource planners and one geographic information system (GIS) analyst) to develop a new GHG reduction plan, support the new workgroups within the Maryland Commission on Climate Change, and generally implement the bill. It includes salaries, fringe benefits, one-time start-up costs (including contractual costs), and ongoing operating expenses.

Permanent Position	0.5
Contractual Positions	3
Salaries and Fringe Benefits	\$192,784
Contractual Costs	230,000
Other Operating Expenses	<u>21,783</u>
<b>Minimum FY 2021 MDE Administrative Costs</b>	<b>\$444,567</b>

Future year expenditures reflect salaries with annual increases and employee turnover and ongoing operating expenses. This estimate does not include any health insurance costs that could be incurred for specified contractual employees under the State’s implementation of the federal Patient Protection and Affordable Care Act.

MDE notes that the timeline under the bill to develop a new GHG reduction plan and to conduct required analyses will be difficult, if not impossible, to achieve even with additional staffing and contractual resources.

*Costs for the Department of Natural Resources Relating to the Bill's Requirement to Plant Trees*

General fund administrative expenditures for the Department of Natural Resources (DNR) increase by \$2.3 million in fiscal 2021 for personnel and related operating costs alone. This estimate, which assumes an October 1, 2020 implementation date for new staff, reflects the costs of hiring 23 natural resource planners (1 in each county), one natural resources nursery manager, and three contractual employees (2 natural resource planners and one GIS analyst) to identify suitable tree planting sites and to organize, plan, plant, and generally oversee the planting of one million trees annually beginning in fiscal 2021. It includes salaries, fringe benefits, one-time start-up costs, including the purchase of 23 new trucks, and ongoing operating expenses.

Permanent Positions	24
Contractual Positions	3
Salaries and Fringe Benefits	\$1,256,954
Vehicle Costs	925,000
Other Operating Expenses	<u>152,389</u>
<b>FY 2021 DNR Administrative Costs</b>	<b>\$2,334,343</b>

Future year expenditures reflect full salaries with annual increases and employee turnover and ongoing operating expenses. This estimate does not include any health insurance costs that could be incurred for specified contractual employees under the State's implementation of the federal Patient Protection and Affordable Care Act.

The actual cost to plant one million trees annually beginning in fiscal 2021 ranges from an estimated \$10.7 million to an estimated \$48.0 million annually, depending on whether seedlings or containerized trees are used. DNR anticipates that ultimately, some combination of the two methods will be used. DNR also notes that the requirement to plant one million trees annually likely requires DNR to acquire land or compensate private landowners for using private land, which increases costs further. This estimate does not account for any such costs.

*Maryland Department of Labor Costs to Update Maryland Building Performance Standards*

General fund administrative expenditures for MDL increase by \$128,894 in fiscal 2021 only to hire two contractual employees (one assistant Attorney General and one regulatory and compliance engineer) for one year to update MBPS to incorporate solar energy systems, as required by the bill. It includes salaries, fringe benefits, one-time start-up costs, and ongoing operating expenses.

Contractual Positions	2
Salaries and Fringe Benefits	\$117,946
Other Operating Expenses	<u>10,948</u>
<b>FY 2021 MDL Administrative Costs</b>	<b>128,894</b>

Future year expenditures reflect termination of the two contractual positions in fiscal 2022. This estimate does not include any health insurance costs that could be incurred for specified contractual employees under the State’s implementation of the federal Patient Protection and Affordable Care Act.

*Public Service Commission – EmPOWER Maryland*

Special fund expenditures for PSC increase to implement the bill’s changes to EmPOWER Maryland and the GHG reduction requirements. Any such impact cannot be quantified at this time. Special fund revenues increase correspondingly from assessments imposed on public service companies.

*Department of General Services – High-Performance Buildings*

DGS anticipates that it must hire at least two compliance officers to enforce (1) the high-performance building requirements for capital projects that are at least 25% funded with State funds and (2) the requirements related to installing solar energy systems. Accordingly, general fund expenditures likely increase for DGS.

*Effects on State Agencies in General*

State expenditures (all funds) increase significantly for multiple State agencies. Specifically, agencies incur potentially significant costs related to incorporating GHG reduction goals into their long-term planning and policy development activities, the purchase of zero-emission vehicles, and an increase in the price of electricity. In addition, the bill likely has significant effects on the State’s capital program.

*Costs to Purchase Zero-Emission Vehicles for the State Fleet*

State expenditures (all funds), increase significantly to purchase zero-emission buses and light-duty vehicles for the State fleet. A reliable estimate of the increase in costs cannot be made at this time. The University System of Maryland estimates that zero-emission light-duty vehicles cost approximately \$5,000 more than conventional vehicles, while DGS estimates increased costs of approximately \$8,700 per light-duty vehicle. According to the Maryland Transit Administration (MTA), a zero-emission bus costs between \$200,000 and \$400,000 more than a diesel bus, depending on the size of the bus. *For*

*illustrative purposes*, the cost for MTA to purchase 70 new electric buses instead of diesel buses is approximately \$20.6 million.

#### *State Expenditures for Electricity*

State expenditures (all funds) may increase in the short term as a result of an increase in electricity costs due to the bill's various changes. The State uses about 1.5 million megawatt-hours of electricity per year, out of a statewide total of about 60 million megawatt-hours. While it is unknown how much the bill will raise electricity prices, for every \$60 million increase in total electric costs in the State (\$1 per megawatt-hour), State expenditures for electricity increase by about \$1.5 million.

#### *Capital Expenditures for State Buildings*

Although the bill has no effect on total capital spending, which is established annually by the Governor and the General Assembly through the capital budget process, funding for other capital projects is reduced due to the capital expenditures incurred as a result of the bill. DGS advises that the bill's high-performance building and solar energy system requirements increase design and construction costs.

**Local Expenditures:** Similar to the effect described above for State agencies, local governments may incur an increase in electricity costs in the short term. In addition, local capital projects may be significantly affected due to the bill's solar energy system requirements.

**Small Business Effect:** Solar installation, manufacturing, and maintenance companies benefit from the bill's solar energy system requirements. Additionally, construction, engineering, and building supply companies that conduct work related to high-performance buildings likely benefit from increased business opportunities. Companies that sell zero-emission vehicles benefit from increased sales opportunities. Nurseries and other small businesses may benefit from the bill's requirements to plant trees. Small businesses may also incur an increase in electricity costs in the short term.

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### **Additional Information**

**Prior Introductions:** None.

**Designated Cross File:** SB 926 (Senator Pinsky, *et al.*) - Education, Health, and Environmental Affairs and Budget and Taxation.

**Information Source(s):** Department of Commerce; University System of Maryland; Maryland Department of Agriculture; Department of Budget and Management; Maryland Department of the Environment; Department of General Services; Maryland Department of Health; Department of Housing and Community Development; Maryland Department of Labor; Department of Natural Resources; Maryland Department of Planning; Maryland Department of Transportation; Maryland Energy Administration; Public Service Commission; Montgomery County; Maryland Association of Counties; Baltimore City; City of College Park; Maryland Municipal League; Department of Legislative Services

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