

Department of Legislative Services
Maryland General Assembly
2022 Session

FISCAL AND POLICY NOTE
First Reader

Senate Bill 528 (Senator Pinsky, *et al.*)

Education, Health, and Environmental Affairs
and Budget and Taxation

Climate Solutions Now Act of 2022

This bill makes broad changes to the State's approach to reducing statewide greenhouse gas (GHG) emissions and addressing climate change. Among other things, the bill (1) increases the statewide GHG emissions reduction requirement and requires the State to achieve net-zero statewide GHG emissions by 2045; (2) establishes requirements for monitoring methane emissions from landfills; (3) establishes new and alters existing energy conservation requirements for buildings; (4) increases and extends specified energy efficiency and conservation program requirements; (5) establishes requirements for the purchase of zero-emission vehicles (ZEVs) in the State fleet; and (6) establishes new entities and new special funds to support related activities. **The bill takes effect June 1, 2022; specified provisions terminate June 30, 2024, June 30, 2026, and December 31, 2029.**

Fiscal Summary

State Effect: Known general fund expenditures increase by \$1.7 million in FY 2023, by \$18.7 million annually from FY 2024 through 2026, and by \$13.7 million annually thereafter, primarily reflecting the bill's mandated appropriations. Special fund revenues and expenditures increase by \$12.0 million annually beginning in FY 2024 due to one of the bill's mandated appropriations. State expenditures (multiple fund types) increase significantly beginning in FY 2023. **This bill establishes two mandated appropriations beginning in FY 2024, one of which terminates after FY 2026.**

(\$ in millions)	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
SF Revenue	\$0	\$12.0	\$12.0	\$12.0	\$12.0
GF Expenditure	\$1.7	\$18.7	\$18.7	\$18.7	\$13.7
SF Expenditure	\$0	\$12.0	\$12.0	\$12.0	\$12.0
GF/SF Exp.	-	-	-	-	-
Net Effect	(-)	(-)	(-)	(-)	(-)

Note: () = decrease; GF = general funds; FF = federal funds; SF = special funds; - = indeterminate increase; (-) = indeterminate decrease

Local Effect: Although a reliable estimate of the bill’s impacts on local finances cannot be made at this time, the bill likely results in a significant increase in local expenditures. Local personal property tax revenues may decrease in some counties; local revenues at landfills may also be affected. **This bill imposes a mandate on a unit of local government.**

Small Business Effect: Meaningful.

Analysis

Bill Summary:

Greenhouse Gas Emissions Reduction Goals, Planning, and Monitoring

Greenhouse Gas Emissions Reduction Targets and Related Plans

The bill modifies a stated finding of the General Assembly relating to reducing GHG emissions. Under the bill, the General Assembly finds that the State has the ingenuity to reduce the threat of global warming and make GHG reductions a part of the State’s future by, among other things, achieving net-zero statewide GHG emissions by 2045. The bill explicitly requires the State to reduce statewide GHG emissions by 60% from 2006 levels by 2030 (increased from 40% under current law). The bill also explicitly requires the State to achieve net-zero statewide GHG emissions by 2045. These requirements terminate June 30, 2026.

By June 30, 2023, the Maryland Department of the Environment (MDE) must submit a proposed plan to the Governor and the General Assembly that reduces statewide GHG emissions by 60% from 2006 levels by 2030. By December 31, 2023, MDE must adopt a final plan to meet the 2030 goal and that sets the State on a path toward achieving net-zero statewide GHG emissions by 2045. By December 31, 2030, MDE must adopt a final plan that achieves net-zero statewide GHG emissions by 2045; by December 31, 2035, MDE must review and, as necessary, revise that plan.

The bill establishes several new requirements and restrictions for a final plan developed under the bill. A final plan may not include highway widening or additional road construction as a GHG emission reduction measure. Among other things, the final plan must (1) use specified data; (2) include specific estimates of the GHG emissions reductions that could be achieved through the expansion of mass transit options; and (3) include specific estimates of the expected reductions from each GHG emissions reduction measure in the plan. A final plan may include the use of carbon capture and storage technology as a GHG emission reduction measure only if the technology has been scientifically proven

to achieve verifiable carbon reductions. In addition to existing requirements relating to plan development, in developing its plans under the bill, MDE must use the best available scientific information, as specified, and incorporate specified emissions data. The plans must also produce a net economic benefit to the State's economy and a net increase in jobs in the State as compared with a no-action scenario.

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.

Monitoring Methane Emissions from Landfills

For a municipal solid waste landfill that is required to monitor and report methane emissions to MDE, if methane emissions data acquired from aircraft observations (where available) exceeds the ground-level emissions data reported by a municipal solid waste landfill by more than 25%, MDE must require the landfill operator to (1) investigate the difference between the data; (2) reassess the methodology and equipment used to obtain the ground-level data, as specified; and (3) either take the necessary steps to improve the accuracy of the ground-level emissions data or explain to MDE the scientific basis for believing that the ground-level data is more accurate. MDE must publicly disclose on its website all methane emissions data obtained through airplane observations and any discrepancies between that data and the ground-level methane emissions data reported by municipal solid waste landfills.

Additionally, by January 1, 2024, MDE must adopt surface methane emissions standards for municipal solid waste landfills by regulation. The regulations must be at least as stringent as specified regulations adopted by the State of California.

Climate Justice and Jobs

Environmental Justice Considerations

The bill specifies that MDE staffing responsibilities for the existing Commission on Environmental Justice and Sustainable Communities (CEJSC) includes conducting research and gathering data at CEJSC's direction. By December 31, 2023, MDE, in coordination with CEJSC, must (1) adopt a methodology for identifying communities disproportionately affected by climate change, as specified; (2) develop specific strategies to address environmental justice concerns, reduce emissions of GHGs and co-pollutants, and build climate equity and resilience within disproportionately affected communities; (3) set appropriate goals for the percentage of State funding for GHG emissions reduction measures that should be used for the benefit of disproportionately affected communities; and (4) report the policies developed pursuant to the bill to the Maryland Commission on

Climate Change (MCCC). The bill establishes various requirements MDE must follow when evaluating the methodologies and when developing its recommendations and goals under these provisions.

The bill also requires MCCC to establish a Just Transition Employment and Retraining Working Group. MDE must provide staff for the working group. Members may not receive compensation but are entitled to reimbursement for expenses, as specified. The working group must identify, study, and advise MCCC on various issues and opportunities related to workforce development, training, job loss, and job creation as the State implements energy efficiency and GHG emissions reduction measures. In particular, the working group must conduct a study of (1) the number of jobs created to counter climate change, as specified; (2) the projected inventory of jobs needed and skills and training required to meet the future demand for jobs to counter climate change; (3) workforce disruption due to community changes caused by the transition to a low-carbon economy; and (4) strategies to target workforce development and job creation in fenceline communities that have historically borne the brunt of hosting carbon polluters. By December 31, 2023, the working group must report to MCCC and the General Assembly on the study findings.

The bill also expands the requirements of MCCC's existing annual report to the Governor and the General Assembly.

Maryland Climate Justice Conservation Corps Program and Board

The bill establishes the Maryland Climate Justice Corps Program, which is administered by the Chesapeake Bay Trust (CBT) in consultation with the Advisory Board of the Corps Program, which is established by the bill. Broadly, the purpose of the Corps Program is to employ young people to work on clean energy and/or climate mitigation projects, with a focus on promoting climate justice. The bill establishes standards that program projects and activities must meet and provides examples of climate mitigation and clean energy projects. By October 1 each year, CBT, in consultation with the board, must report to the Governor and the General Assembly. The report must include a complete operating and financial statement covering the operations of the board and a summary of its activities, as specified.

The bill provides for the membership of the board and requires the Governor to consider diversity and all geographic regions of the State when appointing members to the board. Board members may not receive compensation, but are entitled to reimbursement for expenses, as specified. CBT must provide staff support for the board.

CBT and the Corps Board must seek federal funds and grants and donations from private sources for long-term funding of the Corps Program. All fund seeking and program development efforts must be coordinated with the Maryland Conservation Corps and the

Civic Justice Corps, and CBT and the Corps Board must seek assistance and advice from relevant public and private sources. The bill also requires the Corps Board and CBT to seek assistance and cooperate with other specified entities when developing its clean energy infrastructure and educational programs and volunteer programs.

CBT, in consultation with the Corps Board, must make grants to “qualified organizations” for the creation or expansion of full- and part-time Maryland Climate Justice Corps Programs that involve students and young adults throughout the State. Eligible expenses include personnel costs, stipends, supplies, and other materials for projects undertaken by program volunteers. CBT, in consultation with the Corps Board, must develop guidelines for evaluating applications from qualified organizations. Corps programs, the evaluation guidelines, and grant agreements must meet certain requirements and standards.

A “qualified organization” is (1) a nonprofit organization; (2) a school; (3) a community association; (4) a service, youth, or civic group; (5) an institution of higher education; (6) a county or municipality; or (7) a unit of State government. A qualified organization may not undertake a project if it would replace regular workers or duplicate or replace an existing service in the same locality.

For stipend volunteer programs, qualified organizations and CBT must principally recruit individuals to be stipend volunteers who are between ages 18 and 25 and for a minimum six-month commitment. Stipend volunteers are eligible to receive a stipend, as determined by CBT, based on the volunteer’s needs and budgetary limits. The bill restricts stipend volunteer’s participation in partisan, regulatory, and statutory enforcement activities, as specified.

CBT must provide technical assistance to qualified organizations upon request and may contract with an organization to provide technical assistance and training, as specified. CBT must also convene program participants on a regular basis to promote team building, develop an understanding of the overall purpose of the program, share best practice information, recognize excellence, and provide training and other learning opportunities.

Colleges and universities are explicitly authorized to (1) contract with CBT to carry out Corps Program work; (2) assign CBT resources to assist in its Corps Program work, as specified; and (3) assign faculty and staff to CBT for the purpose of carrying out or assisting with Corps programs.

Zero-emission Vehicles

School Buses

Beginning in fiscal 2024, a county board of education is prohibited from entering into a new contract to purchase or use any school bus that is not a ZEV unless (1) MDE determines that no available ZEVs meet the performance requirements for the county board's use or (2) the county board is unable to obtain federal, State, or private funding that is sufficient to cover the "incremental costs" associated with contracting for the purchase or use of school buses that are ZEVs. A county board may enter into an agreement with an electric company to obtain monetary incentives in exchange for allowing the electric company to use the storage batteries of ZEV buses owned or operated by the county board to access the stored electricity through vehicle-to-grid technology.

Zero-emission Passenger Cars and Other Light-duty Vehicles

The bill establishes the intent of the General Assembly that 100% of passenger cars in the State vehicle fleet be ZEVs by 2030 and that other light-duty vehicles in the State vehicle fleet be ZEVs by 2036.

Subject to the availability of funding, the State must ensure that (1) in fiscal 2023, at least 25% of the passenger cars purchased for the State vehicle fleet are ZEVs; (2) in fiscal 2024 and 2025, at least 40% of the passenger cars purchased for the State vehicle fleet are ZEVs; (3) in fiscal 2026, at least 75% of the passenger cars purchased for the State vehicle fleet are ZEVs; (4) beginning in fiscal 2027, 100% of passenger cars purchased for the State vehicle fleet are ZEVs; and (5) beginning in fiscal 2024, any passenger car purchased for the State vehicle fleet that is *not* a ZEV must be a hybrid vehicle.

Further, subject to the availability of funding, the State must ensure that (1) in fiscal 2028 through 2030, inclusive, at least 25% of all other light-duty vehicles purchased for the State vehicle fleet are ZEVs; (2) in fiscal 2031 and 2032, at least 50% of all other light-duty vehicles purchased for the State vehicle fleet are ZEVs; and (3) beginning in fiscal 2033, 100% of all other light-duty vehicles purchased for the State vehicle fleet are ZEVs.

These requirements do not apply to the purchase of vehicles that have special performance requirements, as specified, or to the purchase of vehicles by the Maryland Department of Transportation or the Maryland Transit Administration that will be used to provide paratransit service.

The Department of General Services (DGS) must ensure the development of charging infrastructure to support the operation of ZEVs in the State vehicle fleet.

By December 1 annually, the Chief Procurement Officer of DGS must submit a report to the General Assembly that includes data for the preceding fiscal year on the purchase of passenger and other light-duty vehicles, the purchase of ZEVs, any related operational savings, and an evaluation of existing charging infrastructure, among other information. Each unit must cooperate with the Chief Procurement Officer in the collection and reporting of the information needed to develop the required report.

Energy Efficiency and Clean Energy

Energy Conservation Requirements for New Construction and Existing Buildings

“Covered building” means a commercial or multifamily residential building with a gross floor area of 25,000 square feet (ft²) or more, excluding the garage area. “Covered building” does not include a building designated as a historic property, as specified, or a public school building.

New Construction: By January 1, 2023, the Maryland Department of Labor (MDL) must adopt, as part of its Maryland Building Performance Standards (MBPS), (1) a requirement that new buildings meet all water and space heating demands without the use of fossil fuels and (2) electric-ready standards that ensure that new buildings are ready for the installation of solar energy systems, the installation of electric vehicle charging equipment, and building-grid interaction. A local jurisdiction may grant a variance from the requirement that a new building meet all water and space heating demands without the use of fossil fuels only if the local jurisdiction determines, based on a specified cost-effectiveness test, that the incremental cost of constructing the building to comply with the requirements would be greater than the social cost of the GHGs that would otherwise be reduced by complying with the requirements. MDL must develop the cost-effectiveness test, which must meet specified standards.

MDL must also adopt the 2018 International Green Construction Code by January 1, 2023, and adopt each subsequent version of the code within 18 months after it is issued.

Existing Buildings: MDE must develop building emissions standards for covered buildings that achieve specified reductions in net GHG emissions. More specifically, the standards for *State-owned* covered buildings must achieve (1) a 50% reduction in net GHG emissions by January 1, 2030 and (2) net-zero GHG emissions by January 1, 2035. The standards for covered buildings that are *not owned by the State* must achieve (1) a 20% reduction in net GHG emissions by January 1, 2030; (2) a 40% reduction in net GHG emissions by January 1, 2035; and (3) net-zero GHG emissions by January 1, 2040. To facilitate the development of these building emissions standards, MDE must require covered building owners to measure and report direct emissions to the department each year beginning in 2025. MDE must adopt regulations to implement the building emissions standards. The

regulations must (1) provide maximum flexibility to the owners of covered buildings; (2) include an alternative compliance pathway allowing the owner to pay a fee for building emissions that exceed the standards, as specified; and (3) to the extent authorized by law, include financial incentives recommended by the Building Energy Transition Implementation Task Force (discussed below). The provision requiring MDE to set a standard that achieves net-zero GHG emissions for covered buildings that are *not owned by the State* terminates December 31, 2029.

Building Energy Transition Implementation Task Force: The bill establishes the Building Energy Transition Implementation Task Force to (1) study and make recommendations regarding the development of complementary programs, policies, and incentives aimed at reducing GHG emissions from the building sector in accordance with the bill and (2) develop a plan for funding the retrofit of covered buildings to comply with building emissions standards, as specified. MDE must provide staff for the task force. A member of the task force may not receive compensation, but is entitled to reimbursement for expenses, as specified. The task force must report its plan to the Governor and the General Assembly by December 1, 2023. The task force terminates June 30, 2024.

Maryland Green Building Council – High-performance Buildings

The bill makes several changes related to existing provisions governing “high-performance buildings” by modifying the types of buildings that meet the definition of a “high-performance building” and adding several new options and/or requirements for qualification. Among other things, there is a new option for schools and public safety buildings in rural areas, as specified.

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* (as well as to community college capital projects that receive State funds and public school buildings that receive State public school construction funds).

The bill repeals a requirement for the Maryland Green Building Council (MGBC) to develop specified guidelines for new public school buildings; instead, the bill requires the council to ensure that State buildings, public schools, and community colleges that are required to meet the high performance building requirements do so. MGBC must also develop guidelines for evaluating the energy balance and achieving a net-zero energy balance in buildings subject to specified high performance building standards.

In addition, by January 1, 2030, each primary procurement unit must ensure that least 75% of the electricity supply procured by the unit for use in State facilities is derived from “low-carbon renewable energy sources,” as defined.

Special Provisions for School Construction

The net-zero energy requirements for a building to meet the definition of “high performance building” generally do not apply to public school buildings. However, subject to the availability of funding from the Net-Zero School Grant Fund (discussed below), at least one of the schools constructed in each local school system from July 1, 2023, through June 30, 2033, must be constructed to meet net-zero energy requirements. Regarding the bill’s net-zero energy school construction requirements, the Interagency Commission on School Construction must (1) waive the bill’s net-zero energy school construction requirements under specified circumstances and (2) consult with the Climate Transition and Clean Energy Hub (established under the bill and discussed below) in implementing the requirements.

Public Service Commission – Energy Efficiency and Conservation Programs/Services

The bill also extends the EmPOWER Maryland Energy Efficiency Act annual energy savings goals beyond their current 2021-2023 program cycles and increases the annual energy savings requirement beyond 2.0% beginning in 2024. Specifically, the Public Service Commission (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, as specified, that are designed on a trajectory to achieve a targeted annual incremental gross energy savings of at least the following annual percentages: (1) 2.25% annually in 2024 and 2025; (2) 2.5% in 2026; and (3) 2.75% per year in 2027 and thereafter.

In uncodified language, the bill expresses the General Assembly’s intent that (1) each electric company consult with the Maryland Energy Administration (MEA) and submit its plan for achieving annual incremental gross energy savings to the PSC every three years and (2) PSC determine the advisability of maintaining specified metrics as the basis for designing cost-effective energy efficiency and conservation programs and services. PSC must take the changes under the bill into account when making its determination.

Climate Transition and Clean Energy Hub

The bill establishes the Climate Transition and Clean Energy Hub in MEA. The stated purpose of the hub is to serve as a clearinghouse for information on advanced technology and architectural solutions to reduce GHG emissions from the building sector. The hub must provide technical assistance to public and private entities to achieve GHG emissions reductions and comply with State and local energy efficiency and electrification requirements, as specified. A Position Identification Number (PIN) must be created in MEA for the coordinator of the hub. It is the intent of the General Assembly that, with the

exception of the new coordinator position and salary, MEA handle the hub's responsibilities with existing resources.

Community Solar Energy Generating Systems – Personal Property Tax Exemption

The bill establishes that personal property is exempt from county or municipal corporation property tax if the property is machinery or equipment that (1) is installed on rooftops, parking lots, roadways, or brownfields sites and (2) is part of a community solar energy generating system that serves more than 51% of kilowatt-hour output to low- or moderate-income customers, as specified.

Financing Provisions

Climate Catalytic Capital Fund

The bill establishes the Climate Catalytic Capital Fund, which is administered by the Maryland Clean Energy Center (MCEC). MCEC must establish a Fund Oversight Committee to manage the fund. The stated purpose of the fund is to promote environmental justice and to leverage increased private capital investment in technology development and deployment (including project planning) to meet several goals related to addressing climate change and reducing GHG emissions, including providing for the creation of a Maryland Green Bond Program.

The fund consists of money from a broad range of sources, including money appropriated in the State budget to the fund, private donations, federal grants, repayment of financing made from the fund, and proceeds from the sale of collateral and assets, as specified. For fiscal 2024 through 2026, the Governor must include in the annual budget bill an appropriation of \$5.0 million to the fund.

The bill specifies the authorized uses of the fund and authorizes MCEC to use not more than 5% of the fund balance for administrative purposes. Expenditures from the fund must be approved by the Fund Oversight Committee, and the fund is subject to an independent audit. By October 1 each year, MCEC must report to the Governor and the General Assembly on the use of the fund and outcomes of investments made from the fund.

Net-Zero School Grant Fund

The bill establishes a Net-Zero School Grant Fund, a special fund administered by MEA, to assist local school systems in covering the cost difference between meeting the basic high performance building requirements and the net-zero energy requirements under the bill. The fund consists of (1) any federal money allocated to the State for the purpose of constructing net-zero energy school buildings; (2) money allocated to the fund in the State

budget; and (3) any other money from any other source accepted for the benefit of the fund. The fund may only be used for providing local school systems with grants of up to \$3.0 million, as specified. MEA must develop guidelines and reporting requirements for local school systems to receive grants from the fund. Expenditures from the fund may only be made in accordance with the State budget. Money expended from the fund is supplemental to and is not intended to take the place of funding that otherwise would be appropriated to assist local school systems with school construction costs.

For each fiscal year from fiscal 2024 through 2032, the Governor must include in the annual budget bill an appropriation of \$12.0 million to the fund.

Current Law:

Chesapeake Bay Trust

CBT is a nonprofit grant-making organization dedicated to improving the watersheds of the Chesapeake Bay, the Maryland Coastal Bays, and the Youghiogheny River. Created in 1985 by the Maryland General Assembly, CBT's goal is to increase stewardship through grant programs, special initiatives, and partnerships that support K-12 environmental education, on-the-ground watershed restoration, community engagement, and the underlying science of these three realms. Grantees include schools, local governments, community groups, faith-based groups, watershed organizations, and other not-for-profit entities.

The Maryland Green Building Council

MGBC, which is staffed by DGS, is charged with:

- evaluating current high-performance building technologies;
- recommending the most cost-effective green building technologies that the State might consider requiring in the construction of State facilities;
- providing recommendations concerning how to expand green building in the State;
- developing a list of building types for which green building technologies should not be applied; and
- establishing a process for receiving public input.

Energy Efficiency and Conservation – 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 DGS. Chapter 124 defines a “high-performance

building” as one that (1) meets or exceeds the Leadership in Energy and Environmental Design criteria for a silver rating or (2) achieves a comparable numeric rating according to a nationally recognized, accepted, and appropriate standard approved by DBM and DGS. Based on action approved by MGBC, DGS, and DBM, a “high performance building” also includes one that (1) earns a two Green Globes rating or better under the Green Building Initiative’s Green Globes rating system or (2) complies with MGBC’s supplement to the International Green Construction Code enacted in November 2014.

Only new or major renovations of State buildings that are at least 7,500 square feet in scope and are built or renovated entirely with State funds, community college capital projects that receive State funds, and new school buildings that receive State public school construction funds are subject to the high-performance requirement. A major renovation must also include replacement of several systems (heating, ventilation, air conditioning, electrical, and plumbing) and retain the building shell. Unoccupied buildings are exempt from the high-performance mandate, including warehouses, garages, maintenance facilities, transmitter buildings, and pumping stations.

Maryland Building Performance Standards

MDL is required to adopt, as MBPS, the most recent version of the International Building Code (IBC), including the International Energy Conservation Code (IECC), along with applicable modifications authorized in Title 12 of the Public Safety Article. Within 18 months of the release of each new version of IBC, MDL is required to review the new version, consider modifications, and adopt specified modifications related to energy conservation and efficiency. MDL is prohibited from adopting any modification that is more stringent than IBC, except that an energy conservation requirement may be more stringent than IECC. MDL and local governments may also adopt by regulation the International Green Construction Code.

Energy Efficiency and Conservation – State Building Energy Efficiency Executive Order

In June 2019, Governor Lawrence J. Hogan, Jr., issued an executive order establishing a new energy savings goal for State government. Specifically, DGS, in cooperation with MEA, 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. Chapter 289 of 2020 codified the Governor’s executive order, including the goal for reducing energy use in State-owned buildings by 10%.

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.

Zero-emission Vehicles (Including School Buses)

The Transportation Article defines a “zero-emission vehicle” as (1) any vehicle that the Secretary of Transportation determines to be of a type that does not produce any tailpipe or evaporative emissions and (2) has not been altered from the manufacturer's original specifications. The Secretary must adopt regulations that specify which vehicles are zero-emission, but the relevant regulations include no such specification beyond the statutory definition.

Several State programs aim to encourage the purchase of electric vehicles in the State. For example, subject to available funding, a person who purchased a qualified plug-in electric vehicle or a qualified fuel cell electric vehicle prior to July 1, 2020, may claim a credit against the vehicle excise tax. In addition, MEA administers the Electric Vehicle Recharging Equipment Rebate Program, which provides rebates to individuals, businesses, and State and local governments.

Chapter 492 of 2019 established the Zero-Emission Vehicle School Bus Transition Grant Program within MDE to provide grants to local boards of education (and entities that contract with local boards to provide transportation services) to (1) purchase school buses that are ZEVs; (2) install electric vehicle infrastructure for charging school buses that are ZEVs; (3) engage in planning for a transition to using school buses that are ZEVs; and (4) fund pilot programs to experiment with a transition to school buses that are ZEVs. Unless it fails to meet applicable school bus and motor vehicle safety standards, a school vehicle may be operated for 12 to 15 years, depending on the county and other requirements.

State Vehicle Fleet

DGS purchases vehicles for the State based on standards developed by DBM and approved by the Board of Public Works. DBM administers the State vehicle fleet. The standards developed by DBM must, as far as practicable and feasible, be based on the lowest possible life-cycle cost of the vehicle.

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 was required to

develop plans, adopt regulations, and implement programs to 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. In February 2021, MDE finalized the Greenhouse Gas Emissions Reduction Act 2030 Plan.

Maryland Clean Energy Center

MCEC is a corporate instrumentality of the State, established in statute, to advance clean energy and energy efficiency products, services, and technologies as part of a specific economic development strategy. The center is managed by a board of directors who are appointed by the Governor. Among other things, MCEC leverages private capital and private sector capabilities to help homeowners and businesses save money on energy bills. MCEC is also authorized to facilitate public-private and public-public partnerships.

Local Personal Property Taxes

Local governments have the authority to impose personal property taxes on solar photovoltaic property. The State Department of Assessments and Taxation (SDAT) indicates that local governments collected approximately \$3.1 million in personal property tax revenues from solar energy property in fiscal 2018.

The county tax rate applicable to personal property and the operating real property of a public utility may not exceed 2.5 times the rate for real property.

Community Solar Energy Generating System Pilot Program

Chapters 346 and 347 of 2015 required PSC to establish a three-year Community Solar Energy Generating System Pilot Program, subject to specified conditions. Such a system, in addition to other requirements, must have at least two subscribers, but a subscriber limit is not specified in statute. Under PSC regulations, a system may have up to 350 accounts, unless the electric company has developed an automated billing function, in which case there is no limit. PSC regulations also increase authorized capacity additions each year. According to PSC, the program, if fully subscribed, would add about 200 megawatts under the existing 1,500-megawatt net metering cap. Chapters 461 and 462 of 2019 extended the Community Solar Energy Generating Systems Pilot Program through December 31, 2024.

State Fiscal Effect: The bill has far-reaching impacts on most State agencies. Several of the impacts are calculable (for example, the mandated appropriations, the new PIN for MEA, and certain administrative costs), but for most, a reliable estimate cannot be made at this time. Regardless, State expenditures (multiple fund types) increase significantly beginning in fiscal 2023. The mandated appropriations and some of the potential effects

resulting from other provisions are described below. Despite the bill's June 1, 2022 effective date, it is assumed that State finances are not materially affected until fiscal 2023.

Mandated Appropriations (and Related Administrative Costs) and Position Identification Number for the Maryland Energy Administration

Net-Zero School Grant Fund: The bill requires the Governor to include \$12.0 million in the annual budget bill to the Net-Zero School Grant Fund, which is administered by MEA, in each fiscal year from fiscal 2024 through 2032. Thus, general fund expenditures increase by \$12.0 million annually in fiscal 2024 through 2032. Special fund revenues and expenditures within MEA increase correspondingly. This analysis assumes that MEA spends all available funding each year.

In addition, general fund expenditures for MEA increase by \$73,242 in fiscal 2023 to hire one contractual energy specialist to develop guidelines and reporting requirements for local school systems, develop program materials, and generally assist in the administration of the fund. This estimate assumes the contractual employee is hired July 1, 2022, which accounts for a one-month start-up delay. This estimate also assumes that general funds are necessary since the bill does not explicitly authorize MEA to use the new special fund to cover its administrative costs. Future year administrative costs, which range from \$61,846 in fiscal 2024 to \$68,275 in fiscal 2027, include a salary with annual increases and employee turnover as well as annual increases in 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.

Climate Catalytic Capital Fund: The bill also requires the Governor to include \$5.0 million in the annual budget bill to the Climate Catalytic Capital Fund, which is administered by MCEC, in each fiscal year from fiscal 2024 through 2026. Accordingly, general fund expenditures increase by \$5.0 million annually in fiscal 2024 through 2026. MCEC is authorized to use up to 5% of the fund balance for administrative purposes, and it is anticipated that this is sufficient to fully cover MCEC's costs to administer the fund.

Climate Transition and Clean Energy Hub: The bill specifies that one PIN must be created in MEA to act as the Coordinator of the Climate Transition and Clean Energy Hub. These provisions take effect June 1, 2022, so it is assumed that the employee is hired beginning July 1, 2022, which accounts for a one-month start-up delay. Thus, general fund expenditures for MEA increase by \$114,174 in fiscal 2023 to hire one program manager to act as the coordinator for the hub, as required by the bill. It includes a salary, fringe benefits, one-time costs, and ongoing operating expenses. Future year MEA expenditures associated with this PIN, which range from \$104,806 in fiscal 2024 to \$113,462 in fiscal 2027, include

a salary with annual increases and employee turnover as well as annual increases in ongoing operating expenses.

ZEV Provisions for the State Fleet

The Department of Legislative Services (DLS) is unable to provide specific cost estimates related to the bill's requirements to transition the State fleet to ZEVs. However, it is expected that State expenditures (multiple fund types) increase significantly for various State agencies to purchase ZEVs and related infrastructure. For context, below is some information available regarding the costs to install charging stations, the price differentials between conventional, hybrid, and electric standard compact sedans, and potential gas savings.

DGS procures and negotiates blanket purchase orders (BPOs) from which agencies purchase cars for State use. The current BPOs include pricing for standard sedans and standard all-electric sedans. They also include pricing for light-duty pickup trucks, cargo vans, and sport utility vehicles. DBM advises that, although car manufacturers have ZEV options available for models other than standard sedans, these options are not successful in the State's contracting process because of their high purchase price and resultant life-cycle costs. Thus, ZEV options are not available for purchase under a State BPO for any model type other than a standard compact sedan.

A Level 2 charging station generally costs less than \$1,000, but DGS advises that, with site preparation costs, enhanced electrical transmission requirements for multiple ports, and other installation costs, a Level 2 charging station can cost up to \$10,000 per port to install. Although DGS believes that two cars can share one port, electric vehicles typically must charge overnight, requiring each car to have its own port. Therefore, in practice, the State likely needs to build one charging port for each ZEV vehicle purchased (which is current DGS practice).

DBM indicates that, during fiscal 2021, the State fleet had 9 ZEV electric vehicles, with 40 more purchased during the year.

Based on the most recent BPO pricing available, the price of a standard compact sedan is \$18,200, the average price for a hybrid standard compact sedan is \$21,998, and the average price for an all-electric standard compact sedan is \$32,091. The price differential between a standard compact sedan and an all-electric standard compact sedan is \$13,891.

Based on annual driving distances of 12,000 miles at 30 miles per gallon and an average gasoline price of \$3.10 per gallon, the State spends approximately \$1,240 on gasoline for a standard compact sedan each year. The State, therefore, saves about \$1,240 in fuel costs for each ZEV in the fleet. Note, this cost-savings calculation does not account for any

increased electric utility costs related to charging electric vehicles. Fuel costs and, therefore, fuel savings are slightly higher for larger vehicles.

Effects on State Agencies from New Energy and Building Emissions Standards

State expenditures (multiple fund types) likely increase (potentially significantly) to incorporate GHG emissions reduction goals into their long-term planning and policy development activities, to meet the updated MBPS for new buildings, to retrofit covered buildings to meet the new emissions reductions standards developed by MDE, and from the expanded application of existing high-performance building standards.

State expenditures (multiple fund types) may also increase in the short term due to an increase in electricity costs resulting from the bill. 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. State agencies also pay the EmPOWER surcharge that is assessed on utility customers to pay for the program. Since the bill expands and extends the program, all electricity customers, including State agencies, will ultimately pay for additional expenditures incurred.

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 energy efficiency and solar energy system requirements increase design and construction costs.

Discussion of Fiscal Impacts Related to Some of the New Programs, Standards, and Plans

In addition to the broader Statewide standards and impacts under the bill, the bill establishes new responsibilities for several agencies, and some likely need to hire new staff to implement the initiatives and programs established under the bill. In particular, in addition to the administrative costs incurred by MEA, as described above, the bill establishes substantial new responsibilities for MDE, DGS, CBT, and MDL. Broad descriptions of these impacts are included below.

Maryland Climate Justice Corps: The bill establishes the Maryland Climate Justice Corps, which is administered by CBT, in consultation with the Corps Board. CBT is not a budgeted State agency and does not receive a direct appropriation. CBT does not have resources to administer the Corps program without general funds provided by the State. Thus, it is assumed that general fund expenditures increase by \$1.5 million annually

beginning in fiscal 2023 to provide funding to CBT for staff, stipends, and operating expenses to generally implement the new program.

Maryland Department of the Environment: MDE anticipates establishing a new unit to develop the required building emissions standards for covered buildings, which includes developing a standard and method for affected entities to pay an alternative compliance fee. The modifications to the Greenhouse Gas Emissions Reductions Act also result in significant contractual costs for MDE to develop new plans. Further, MDE likely needs contractual assistance and/or additional staff to support MCCC, CEJSC, and the Building Energy Transition Implementation Task Force to meet new study and reporting requirements. MDE estimates that its administrative costs resulting from the bill total nearly \$3.0 million in fiscal 2023, with ongoing costs of at least \$1.8 million annually. DLS cannot independently verify these estimates at this time; however, the bill establishes significant new responsibilities for MDE, and DLS advises that MDE likely incurs significant costs to hire staff and consultants.

The extent to which the alternative compliance fee established by MDE under the bill generates State revenues is unknown and is therefore not reflected in this analysis.

Department of General Services: DGS also estimates that it needs to hire a significant number of staff (19 full time employees, with estimated costs of about \$1.5 million in fiscal 2023, increasing to \$2.2 million by fiscal 2027 for salaries and fringe benefits alone) to implement the various provisions of the bill that fall under DGS's purview, including coordinating the installation of electric vehicle charging stations, and increased staffing and administrative demands for MGBC. DLS is unable to independently verify these estimates at this time, but concurs that the bill establishes substantial new responsibilities for DGS. Accordingly, general fund expenditures for DGS likely increase significantly beginning in fiscal 2023.

Maryland Department of Labor: MDL estimates that it needs to hire staff to address the additional workload anticipated from the bill, primarily resulting from the bill's requirements relating to adopting new standards as part of MBPS and developing the cost-effectiveness test to be used to evaluate requests for variances from the new standards. MDL estimates its costs total approximately \$273,300 in fiscal 2023, increasing to nearly \$350,000 by fiscal 2027. While DLS concurs that the bill increases MDL's workload and likely necessitates additional staff, a reliable estimate of any increase in MDL's costs cannot be made at this time.

Local Fiscal Effect: Overall, a reliable estimate of the bill's impact on local government finances cannot be made at this time. However, some of the potential fiscal effects on local governments are discussed below.

New Building and Energy Conservation Standards (Including for Schools)

The bill's various energy conservation and new building standards may result in an increase in costs for local governments. For example, beginning in fiscal 2024, local governments may incur additional costs to (1) meet the updated MBPS under the bill (which must require that all new buildings meet water and space heating demands without the use of fossil fuels, unless a variance is granted) and electric-ready standards adopted by MDL for new buildings; (2) review building permit applications; (3) conduct cost-effectiveness tests; (4) review variance applications for new buildings; and (5) approve variances, among other things. Local jurisdictions likely need to hire staff to handle the additional requirements.

Further, for locally owned buildings that meet the definition of covered building, costs may increase to retrofit existing buildings to meet the emissions standards that MDE must develop. These impacts are more likely to be felt in the out-years, since the emissions standards must begin achieving reductions in net GHG emissions beginning January 1, 2030. Additionally, similar to the effect described above for State agencies, local governments may incur an increase in electricity costs in the short term and incur an increase in EmPOWER surcharges on an ongoing basis. Local school systems that construct schools to meet net-zero energy requirements benefit from having access to grants of up to \$3.0 million from the Net-Zero School Grant Fund, depending on the availability of funding.

Methane Emissions Monitoring for Landfills

The bill's requirements related to methane emissions monitoring, reporting, and new regulatory standards for surface methane emissions (which MDE must adopt by January 1, 2024), likely increase operating expenditures for municipal landfills and may also affect revenues. According to Harford County, the California Landfill Methane Regulations referenced in the bill are significantly more stringent than existing standards in Maryland. The Maryland Association of Counties anticipates, based on input from several counties, that the new standards mean that some current solar projects that are sited on former landfill sites may need to be removed and replaced (or potentially closed) in order to install new methane emission monitoring equipment.

Electric School Buses

Beginning in fiscal 2024, the bill prohibits a county board of education from entering into a new contract for the purchase or use of a school bus that is not a ZEV unless MDE determines there are no available ZEVs that meet the performance requirements, or a county board is unable to obtain funding to cover the incremental costs associated with the purchase or contract. Since a county board is not required to purchase ZEV school buses if

the board is unable to obtain funding to cover incremental costs, this provision is not anticipated to have a material fiscal effect. In addition, electric buses are believed to have lower operating and maintenance costs over time.

For context, the Maryland State Department of Education has previously advised for a prior-year bill that the cost of a traditional diesel-powered school bus can start at about \$90,000, while a comparable electric-powered school bus can cost more than \$340,000.

There are also additional capital costs related to electric school buses (*e.g.*, electric charging stations and related infrastructure investments).

Property Tax Exemption

County and municipal personal property tax revenues decrease beginning in fiscal 2023. The amount of the revenue decrease depends on the volume of electricity (kilowatts) produced at each generating system, the assessed value of personal property, and local energy and personal property tax rates.

SDAT has identified 22 active community solar energy generating systems of which 2 currently meet the exemption requirements of the bill. The 2 facilities are located in Baltimore and Prince George's counties. According to SDAT, the estimated personal property assessment for each facility is \$1.6 million. The personal property tax rate is \$2.75 per \$100 of assessment in Baltimore County and \$3.435 per \$100 of assessment in Prince George's County. Based on these personal property tax rates and the estimated personal property for each affected community solar energy generating system, property tax revenues decrease by approximately \$44,000 in Baltimore County and by approximately \$55,000 in Prince George's County, beginning in fiscal 2023.

To the extent that other community solar energy generating systems become eligible for the exemption proposed by the bill, local government revenues decrease accordingly.

Small Business Effect: Although a reliable estimate of the bill's impact on small businesses cannot be made at this time, the impact on small businesses is meaningful, and some of the potential effects are discussed below.

Businesses involved in the provision, installation, and maintenance of fossil-fueled water and space heating equipment are significantly affected by the bill's changes to MBPS for new buildings. These provisions also affect companies that sell fuel for this type of equipment, such as heating oil and propane companies. Other small businesses, such as those constructing new buildings or renovating existing buildings, incur additional costs to comply with the bill's energy efficiency and solar energy provisions. Also, to the extent

that any affected municipal solid waste landfills are owned by small businesses, they are affected in the same way as locally owned landfills as described above.

Small businesses may also incur an increase in electricity costs in the short term and an increase in EmPOWER surcharges on an ongoing basis.

Small businesses that provide energy modeling, energy conservation consulting, or energy usage evaluations benefit from an increase in the demand for their services. Similarly, the bill significantly increases the demand for small businesses that construct or sell equipment related to building or equipping buildings that do not use fossil fuels to meet water and space heating demands. Solar installation, manufacturing, and maintenance companies benefit from the bill's solar energy system requirements. Small businesses that provide design and construction services could also be positively affected. Small businesses that sell ZEVs benefit from increased sales opportunities.

Additional Comments: While the bill's provisions result in significant costs, as described above, the various programs and activities undertaken as a result of the bill may result in long-term energy savings for the State, local governments, and small businesses. Any such savings cannot be estimated and therefore has not been addressed in this analysis.

Additional Information

Prior Introductions: SB 414 of 2021, a bill with similar provisions, passed the Senate with amendments, passed the House with amendments, and had a conference committee appointed, but the two chambers could not reconcile their differences prior to the end of the legislative session. Its cross file, HB 583, received a hearing in the House Environment and Transportation Committee, but no further action was taken.

Designated Cross File: None.

Information Source(s): Anne Arundel, Baltimore, and Harford counties; Maryland Association of Counties; Northeast Maryland Waste Disposal Authority; Department of Housing and Community Development; Maryland Environmental Service; Department of Commerce; Judiciary (Administrative Office of the Courts); University System of Maryland; Public School Construction Program; Department of Budget and Management; Maryland Department of the Environment; Department of General Services; Department of Juvenile Services; Maryland Department of Labor; Department of Natural Resources; Maryland Department of Planning; Department of Public Safety and Correctional Services; Maryland Department of Transportation; State Department of Assessments and Taxation; Maryland Energy Administration; Public Service Commission; Baltimore City Public

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