**CBF_DOUG-MYERS_FAV_SB0592**
Uploaded by: Myers, Doug
Position: FAV

# CHESAPEAKE BAY FOUNDATION

*Environmental Protection and Restoration*
*Environmental Education*

**Senate Bill 592**

State-Funded Construction and Major Renovation Projects - Solar Panels - Requirement

CBF POSITION: **SUPPORT**
DATE: February 19, 2020

TO: Education, Health, and Environmental Affairs Committee

**Chesapeake Bay Foundation SUPPORTS SB 592.** This legislation would require that state-funded buildings be designed to hold the weight of the maximum number of solar panels for that design and that the builders install the maximum number of solar panels.

This bill appropriately sends a signal of priority for meeting renewable energy and greenhouse gas goals through state investments in new buildings and major renovations. Reducing greenhouse gases help stabilize the climate and contributes to water quality. Warmer water holds less oxygen and nitrous oxides from incineration of any fuel deposits nitrogen into the bay. Federal efforts to reverse progress on air pollution from incineration have increased the role states must now play in addressing the air component of the Chesapeake Bay Blueprint.

Targeting new roof construction to accommodate solar panels reduces the demand for large scale solar farms which threaten both forests and farm fields throughout the state. It also locates the generation of electricity right onsite, reducing the need to clear forests for transmission lines.

**For these reasons, CBF urges a favorable report on SB 592**. If you have any questions, feel free to contact Doug Myers, Maryland Senior Scientist at (443)-482-2168 or dmyers@cbf.org

Maryland Office ▪ Philip Merrill Environmental Center ▪ 6 Herndon Avenue ▪ Annapolis ▪ Maryland ▪ 21403
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**LCV_FAV_SB592**
Uploaded by: Palencia-Calvo, Ramon
Position: FAV

February 19, 2020

**SUPPORT: SB592 State-Funded Construction and Major Renovation Projects – Solar Panels – Requirement**

Dear Mr. Chairman and members of the Committee:

The above-signed organizations strongly support SB592 State-Funded Construction and Major Renovation Projects – Solar Panels – Requirement.

Last year, the Maryland General Assembly passed the ambitious Clean Energy Jobs Act, which dramatically expanded our Maryland's commitment to renewable energy, especially in-state generation of solar energy. This ambitious, but achievable, legislation mandated that 50% of our energy be derived from these renewable sources and makes Maryland a leader in renewable energy policy.

In order to achieve these goals, while maintaining our cherished open-space vistas and protecting our agricultural sector, we must look to expand our energy production to the built environment wherever possible. This includes large rooftops, such as those identified in SB592. This bill takes the first step towards reinforcing the state's commitment to in-state production of solar by ensuring that large buildings built with state resources are built with maximum solar panels.

This bill pairs well with the work of the Maryland Department of Transportation to develop a master contract for solar on state facilities. If passed these two programs could help accelerate deployment on state facilities, off-setting costs and supporting the clean energy jobs economy. Last year a report was released that surveyed interested parties on solar deployment and one of the common themes was a desire to open up more opportunities for development in the built environment. SB592 demonstrates the states willingness to achieve this goal of increasing solar development on the built environment.

We applaud Senator West for his commitment to renewable energy, and for his leadership on this issue, and we strongly urge a favorable report on this bill.

Thank you for your consideration.

## CParts AIA MD SB 0592 Letter of support

Uploaded by: Parts, Chris
Position: FAV

AIA Maryland

*Promoting Maryland Architecture Since 1965*

19 February 2020

The Honorable Paul Pinsky
Chair of the Education Health and Environmental Affairs Committee
2 West
Miller Senate Office Building
Annapolis, Maryland 21401

Re: Letter of Support for SB 0592
State-Funded Construction and Major Renovation Projects-Solar Panels-Requirement

Dear Chairman Pinsky and members of the EHEA Committee:

On behalf of AIA Maryland and the nearly 2,000 Architects we represent, we fully support sustainable strategies in building design and construction as we collectively work to lessen our impact on the natural world. We support the intent of this bill, however we believe aspects of the bill need revisions, and in our opinion, implementation of solar strategies like these may be more successful through an alternate path, such as adopting appendix CA (Solar-Ready Zone – Commercial)of the International Energy Conservation Code.

As written, we believe that the IECC appendix CA addresses some of these issues better.

1. The size threshold is not necessary as it may preclude small buildings that would be viable candidates, but height limitations such as 5 stories or less in height above grade plane and assessing that a building roof area that is not shaded for more than 70 percent of daylight hours annually is an important component.
2. We believe including a roof replacement in the criteria for being solar ready does make sense. Most solar panels for power generation weigh only a little over 2 pounds/sf and rarely does that require additional structure. Providing brackets for attachment that can be waterproofed during a roof replacement makes most sense, rather than eliminating that option.
3. The Solar-ready zone area identified in the IECC appendix CA addresses the "obstruction" language of the proposed definition for components like skylights and mechanical equipment. We believe it establishes a practical criteria for this zone.
4. "Roof Expanse" refers only to flat roofs in this bill definition, but it should include low slope roofs too, provided that they have the proper orientation.
5. This bill does not provide for an interconnection pathway for routing of conduit to the electrical service panel and the IECC appendix CA does. If we truly plan to use the roof for solar collection, it should be an integral part of planning.

The American Institute of Architects

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6. This bill does not provide for Electrical service reserved space in the main electrical service panel. Particularly if infrastructure changes are being made, such space should be included in electrical systems design and that should be labeled as “for future solar electric”.

I have attached the IECC Appendix CA for reference.

We support the state leading by example and considering how to make state funded construction more sustainable. We support the planning and use of rooftop panels as a means of providing renewable energy for state funded buildings. We encourage the use of a cross-disciplinary and vetted regulation such as IECC for establishing criteria that we hope to proceed to public regulatory process as it is in other jurisdictions. We support the intent of SB0592 and would be happy to participate in a workgroup to streamline efficient implementation of solar-ready roof design guidelines for publicly funded buildings.

Sincerely,

Chris Parts, AIA
Director, Past President, AIA Maryland

cc:
Education, Health and Environmental Affairs Committee:
Cheryl C. Kagan, Vice Chair
Jack Bailey
Mary Beth Carozza
Arthur Ellis
Jason Gallion
Kate Fry Hester
Clarence Lam
Obie Patterson
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# APPENDIX CA

# SOLAR-READY ZONE—COMMERCIAL

*The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.*

**User note:**

***About this appendix:*** *Appendix CA is intended to encourage the installation of renewable energy systems by preparing buildings for the future installation of solar energy equipment, piping and wiring.*

## SECTION CA101
## SCOPE

**CA101.1 General.** These provisions shall be applicable for new construction where solar-ready provisions are required.

## SECTION CA102
## GENERAL DEFINITION

**SOLAR-READY ZONE.** A section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or solar thermal system.

## SECTION CA103
## SOLAR-READY ZONE

**CA103.1 General.** A solar-ready zone shall be located on the roof of buildings that are five stories or less in height above grade plane, and are oriented between 110 degrees and 270 degrees of true north or have low-slope roofs. Solar-ready zones shall comply with Sections CA103.2 through CA103.8.

**Exceptions:**

1. A building with a permanently installed, on-site renewable energy system.
2. A building with a solar-ready zone that is shaded for more than 70 percent of daylight hours annually.
3. A building where the licensed design professional certifies that the incident solar radiation available to the building is not suitable for a solar ready zone.
4. A building where the licensed design professional certifies that the solar zone area required by Section CA103.3 cannot be met because of extensive rooftop equipment, skylights, vegetative roof areas or other obstructions.

**CA103.2 Construction document requirements for a solar-ready zone.** Construction documents shall indicate the solar-ready zone.

**CA103.3 Solar-ready zone area.** The total solar-ready zone area shall be not less than 40 percent of the roof area calculated as the horizontally projected gross roof area less the area covered by skylights, occupied roof decks, vegetative roof areas and mandatory *access* or set back areas as required by the *International Fire Code*. The solar-ready zone shall be a single area or smaller, separated sub-zone areas. Each sub-zone shall be not less than 5 feet (1524 mm) in width in the narrowest dimension.

**CA103.4 Obstructions.** Solar ready zones shall be free from obstructions, including pipes, vents, ducts, HVAC equipment, skylights and roof-mounted equipment.

**CA103.5 Roof loads and documentation.** A collateral dead load of not less than 5 pounds per square foot (5 psf) (24.41 kg/m$^2$) shall be included in the gravity and lateral design calculations for the solar-ready zone. The structural design loads for roof dead load and roof live load shall be indicated on the construction documents.

**CA103.6 Interconnection pathway.** Construction documents shall indicate pathways for routing of conduit or piping from the solar-ready zone to the electrical service panel or service hot water system.

**CA103.7 Electrical service reserved space.** The main electrical service panel shall have a reserved space to allow installation of a dual-pole circuit breaker for future solar electric installation and shall be labeled "For Future Solar Electric." The reserved space shall be positioned at the end of the panel that is opposite from the panel supply conductor connection.

**CA103.8 Construction documentation certificate.** A permanent certificate, indicating the solar-ready zone and other requirements of this section, shall be posted near the electrical distribution panel, water heater or other conspicuous location by the builder or registered design professional.

**WEST_FAV_SB592**
Uploaded by: Senator West, Senator West
Position: FAV

CHRIS WEST
*Legislative District 42*
Baltimore County

Judicial Proceedings Committee

Vice Chair, Baltimore County
Senate Delegation

THE SENATE OF MARYLAND
ANNAPOLIS, MARYLAND 21401

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February 19, 2020

Senate Education, Health, and Environmental Affairs Committee
The Honorable Paul G. Pinsky
2 West Miller Senate Building
Annapolis, Maryland 21401-1991

**RE: SB 592 – State-Funded Construction and Major Renovation Projects – Solar Panels – Requirement**

Dear Chairman Pinsky and Members of the Committee:

I am pleased to introduce Senate Bill 592 which will require new and renovated projects carried out by State and local governments to be built with solar panels on their roofs.

Maryland's current renewable energy goal is 28% from Tier 1 sources in 2020, including 6% from solar energy. Next year, the renewable energy goal is 30.8% from Tier 1 sources, including 7.5% from solar energy. In just ten years, in 2030, the renewable energy goal is 50%, with 14.5% from solar energy.

According to the Final Report concerning the Maryland Renewable Portfolio Standard, produced by the Department of Natural Resources December of 2019, only 10-15% of Maryland's retired RECs currently come from in-state sources. The remaining RECs (85-90% of the RECs) are purchased from other states. In 2018, large hydro and utility scale and distributed renewable energy only made up about 11.5% of Maryland's energy. Again according to the Final Report, given existing solar capacity and anticipated future solar capacity and anticipated future solar capacity in Maryland, the State will not be able to meet the solar carve-out requirement between 2020 and 2029. 2025 will be the year with the biggest shortfall, 2,259 GWh. In 2026, the shortfall is expected to be 2,166 GWh and in 2027, the shortfall will yet be nearly 2,000 GWh.

Senate Bill 592 will apply to construction projects carried out by State and local governments that have a proposed roof expanse of at least 4,000 square feet and to major renovation projects carried out by State and local governments where the heating, ventilation, air conditioning, electrical, and plumbing systems are all to be replaced and where the roof expanse will be at least 4,000 square feet. These new and renovated structures must be built with the maximum number of solar panels on their roofs.

When discussing the potential barriers of this legislation cost does not arise as an issue. The cost of adding solar panels to new and renovated structures is estimated as less than 1% of total

project costs (0.7% to be exact). Overall there will be no effect on State capital spending. To the extent that the solar array reduces nonrenewable energy consumption in the buildings, the State should realize savings. Additionally, if the Built to Learn Act is enacted and Maryland and its counties spend $2.2 Billion on new school construction in the next few years, the energy produced by the solar panels during the summer, when the schools are not in session, will be streamed onto the grid, and the schools will derive income.

The passage of Senate Bill 592 will help to alleviate the anticipated shortfall in Maryland-generated solar energy. Our new schools and other new public buildings will become showplaces for Maryland's commitment to green energy and will be a source of pride to the communities in which these structures are located. Further, they will likely inspire private developers to follow suit by adding solar panels to the roofs of their new structures.

For these reasons I ask the committee to please vote favorably on Senate Bill 592.

**BaltimoreCounty_FWA_SB0592**
Uploaded by: Byrne, Julia
Position: FWA

JOHN A. OLSZEWSKI, JR.
*County Executive*

CHARLES R. CONNER III, ESQ.
*Chief Legislative Officer*

KIMBERLY S. ROUTSON
*Deputy Legislative Officer*

JOEL N. BELLER
*Assistant Legislative Officer*

BILL NO.: **SB 592**

TITLE: State-Funded Construction and Major Renovation Projects - Solar Panels - Requirement

SPONSOR: Senator West

COMMITTEE: Education, Health, and Environmental Affairs

POSITION: **SUPPORT WITH AMENDMENTS**

DATE: February 19, 2020

Baltimore County **SUPPORTS WITH AMENDMENTS** Senate Bill 592 – State-Funded Construction and Major Renovation Projects - Solar Panels - Requirement. This bill would require the State to design, engineer, and execute certain construction projects in a manner that allows the roof to withstand the weight of solar panels.

Baltimore County has experienced rapid population growth in recent years resulting in an increase in new development projects and energy consumption. The only way to effectively meet these demands while furthering our environmental goals is to prioritize renewable energy sources. The rooves of our older buildings, however, have not been constructed with the weight of solar panels in mind, and would collapse without significant renovations. The costs associated with retroactively constructing a building to be "solar ready" are immense, and could be mitigated in the future if we begin to plan accordingly now. This legislation would further Baltimore County's progress towards its long-term goals of establishing widespread renewable resources use by ensuring new State-funded public construction projects are built to be solar ready.

The County feels, however, that this bill could be strengthened if it were amended to include other recipients of State funds such as non-profits, businesses and other institutions. This would establish a more consistent position from the State on the solar readiness of new construction projects across the board and ensure that all new construction projects will be able to accommodate a form of energy production that protects the long-term health of our environment.

Accordingly, Baltimore County requests a **FAVORABLE WITH AMENDMENTS** report on SB 592. For more information, please contact Chuck Conner, Chief Legislative Officer, at 443-900-6582.

**MBIA SB 592 UNFAV**
Uploaded by: graf, lori
Position: UNF

MARYLAND BUILDING INDUSTRY ASSOCIATION
11825 West Market Place | Fulton, MD 20759 | 301-776-6242

February 19, 2020

The Honorable Paul G. Pinsky
Chairman, Senate Education, Health, and Environmental Affairs Committee
Senate Office Building, 2 West
11 Bladen Street
Annapolis, MD 21401

**RE: Opposition of Senate Bill 592 (State-Funded Construction and Major Renovation Projects - Solar Panels - Requirement)**

Dear Chairman Pinsky:

The Maryland Building Industry Association, representing 100,000 employees of the building industry across the State of Maryland, opposes Senate Bill 592 (State-Funded Construction and Major Renovation Projects - Solar Panels – Requirement).

This bill requires state-funded construction projects that are carried out by the State or local governments to be designed, engineered, and constructed in a manner that allows the roof to withstand the weight of solar panels. Though the intent is admirable, the effect this measure could have on school construction is concerning.

Many public schools across the State are in need of upgrades and counties cannot always afford to repair and maintain them. Adding any extra cost to the total projected cost of a new building is worrisome, particularly since passing this measure would result in fewer projects receiving funding in a given year.

For these reasons, MBIA respectfully requests the Committee give this measure an unfavorable report. Thank you for your consideration.

For more information about this position, please contact Lori Graf at 410-800-7327 or lgraf@marylandbuilders.org.

cc: Senate Education, Health, and Environmental Affairs Committee Members

# MACo_Drew Jabin_UNF_SB592

Uploaded by: Jabin, Drew

Position: UNF

# Senate Bill 592

***State-Funded Construction and Major Renovation Projects – Solar Panels - Requirement***

MACo Position: **OPPOSE**

To: Education, Heath, and Environmental Affairs Committee

Date: February 19, 2020

From: Drew Jabin

The Maryland Association of Counties (MACo) **OPPOSES** SB 592. This bill would place a costly mandate on county governments to carry out new state policy to place the maximum number of solar panels on a roof as specified during new construction or major renovation projects.

As a rule, MACo resists state policies that result in costly or burdensome local implementation. SB 592 would implement a costly, difficult mandate for county governments to design, engineer, and construct future buildings to withstand the weight of the maximum efficient number of solar panels. Under this proposed law, counties would have no choice but to adhere to the policy, irrespective of the viability of efficiency of this energy option.

Another route to pursue similar outcomes, which counties would not oppose, would be to create a mandator *consideration* for state-funded projects. If part of the state's facility approval process included a checklist that the facility has been considered as a candidate for certain potentially desirable inclusions (including, in this case, energy-efficient facilities like solar or geothermal) – counties would accede to this standard to promote these worthy goals.

This bill, as written, represents a significant unfunded mandate for county governments, and may force inefficient or poorly-suited facility expansions. Counties agree that studying renewable energy sources is important in understanding what is the most efficient, reasonable option for each site, but this legislation goes too far in mandating one standard to all projects. For these reasons, MACo **OPPOSES** SB 592 and urges an **UNFAVORABLE** report.

**169 Conduit Street, Annapolis, MD 21401**
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www.mdcounties.org

**John.Woolums_UNF_SB592**
Uploaded by: Woolums, John
Position: UNF

MABE
MARYLAND ASSOCIATION OF BOARDS OF EDUCATION

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**BILL:** **Senate Bill 592**
**TITLE:** **State-Funded Construction and Major Renovation Projects - Solar Panels - Requirement**
**DATE:** **February 19, 2020**
**POSITION:** **OPPOSE**
**COMMITTEE:** **Education, Health, and Environmental Affairs Committee**
**CONTACT:** **John R. Woolums, Esq.**

The Maryland Association of Boards of Education (MABE) opposes Senate Bill 592, recognizing the potential for building on the framework in existing statute and regulation to finance the voluntary, expanded installation of solar roofs on state funded projects. However, MABE opposes this bill based on the scope and immediate impact of the mandate to install solar roofs on new schools.

For MABE and Maryland's 24 local school boards, the mission to provide all of Maryland's students with high performing school facilities conducive to learning is a top priority. The Maryland Constitution requires that the State provide a "thorough and efficient" system of public education; and MABE believes that this includes the duty to equitably provide safe, high quality school facilities in which all students can learn.

In the 2020 session, MABE's top school facility funding and policy priorities are the passage of the Built to Learn Act and a capital budget that includes a state funding level of at least $400 million for school construction and renovation projects for FY 2021 to provide the State's share of approved projects to build, renovate, and improve schools. In this context, MABE is not supporting other major reforms to the school construction program beyond those already included in the Built to Learn Act.

MABE assures the legislature that Maryland has long placed emphasis on building and renovating schools which are energy efficient and utilize principles of sustainable design. In 2004, the Public School Construction Program was directed by the General Assembly to "develop design guidelines and provide financial incentives, such as supplemental design funds or additional construction funding, for school construction projects that use innovative building techniques or include energy conservation, sustainable building, or green architecture design features."

Similarly, school construction projects must be designed "in a manner which will minimize the initial construction cost to the State and the consumption of energy resources used in the operation and maintenance of the building." More specifically, school systems must conduct a life cycle cost analysis regarding energy conservation which requires submission of four alternative mechanical systems at the design development phase; one of which must use a geothermal ground source heating and cooling system.

In 2008, the General Assembly enacted the High Performance Buildings Act, which required new or renovated state buildings and new school facilities to satisfy the following standards:

- The building must meet or exceed the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) criteria for a silver rating; or
- The building must achieve a comparable numeric rating according to a nationally recognized, accepted, and appropriate standard approved by the Department of Budget and Management and the Department of General Services.

MABE also supported Senate Bill 245, enacted in 2013, as a reasonable addition to the array of energy efficient and sustainable, or “green”, design standards applying to the construction and renovation of Maryland’s public schools. This legislation required regulations to ensure that the design development documents submitted by local boards of education to the Interagency Committee on School Construction (IAC) for the construction or major renovation of a public school building include an evaluation of the use of solar technology, including photovoltaic or solar water heating, based on life-cycle costs. If an evaluation determines that solar technology is not appropriate for a specific school construction or major renovation project, the local board must submit a report explaining why it is not appropriate.

The State also created a solar energy grant program in statute, under §5–318 of the Education Article, to promote the use of solar energy systems to generate electricity in public school buildings. In these ways, Maryland has adopted statutory and regulatory efforts to ensure the pursuit of energy efficient school facilities.

Maryland has an outstanding public school construction program that has achieved a remarkable degree of equity and excellence across the diverse landscape of Maryland’s 24 local school systems. And yet, MABE recognizes that continuous improvement must be promoted and pursued in order to incorporate new best practices and optimize what are always limited, and therefore inadequate, state and local resources. This is why we are supporting the Built to Learn Act and look forward to dialogue on other funding and policy initiatives such as those proposed in this bill, following passage off the landmark Built to Learn Act.

For these reasons, MABE requests an unfavorable report on Senate Bill 592.