AIA Maryland

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9 March, 2020

The Honorable Shane E. Pendergrass
Health and Government Operations Committee Chair
Room 241, House Office Building
Annapolis, Maryland 21401

Re: Letter of Support for HB1370
State-Funded Construction and Major Renovation Projects-Solar Panels-Requirement

Dear Chairwoman Pendergrass and Members of the HGO 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 this bill as amended by the sponsor. We believe the amended language aligns better with the design and construction industry, and in our opinion, implementation of solar strategies like these will help move Maryland further along the path to fully renewable energy sources and toward a much lower carbon footprint for all of our new buildings and substantial renovations.

We wish to clarify a few reasons for amending the original bill, most issues, but not all, are tied to the IECC appendix CA (an internationally accepted standard) that addresses some of these issues better than the original bill language.

1. The size threshold is changed to align with the size in the Maryland High Performance Green Building Program. While we would like the size threshold lower, we believe that it is better to have alignment of guidelines and hopefully smaller projects will consider this path, even if they are under the threshold.
2. 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 referenced in the amendment, addresses the "obstruction" language of the definition for components like skylights and mechanical equipment.
4. "Roof Expanse" in the original bill, referred only to flat roofs, but low slope roofs with the proper orientation are also very practical for solar collection and the amendments include them.
5. The amendments have added an interconnection pathway for routing of conduit to the electrical service panel with the adoption of the IECC appendix CA, so if panels are not initially installed, or added later, a means to connect them to back feed power is provided.

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6. The amendments have also reserved space in the main electrical service panel with the adoption of the IECC appendix CA. This provides space dedicated for service connection right away, or it has reserved panel space "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 solar 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 the design and construction industry understands and regularly references. We urge you to vote in support of HB1370 and help to lead the way toward a more sustainable Maryland.

Sincerely,

Chris Parts, AIA
Director, Past President, AIA Maryland

cc: Health and Government Operations Committee:

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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.