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## SENATE BILL NO. 290

## AMENDMENT IN THE NATURE OF A SUBSTITUTE

(Proposed by the Senate Committee on General Laws and Technology  
on February 9, 2022)

(Patron Prior to Substitute—Senator Favola)

A *BILL to amend and reenact §§ 2.2-1183 and 15.2-1804.1 of the Code of Virginia, relating to solar-ready roofs for certain government buildings; net-zero energy consumption building design for schools.*

**Be it enacted by the General Assembly of Virginia:**

**1. That §§ 2.2-1183 and 15.2-1804.1 of the Code of Virginia are amended and reenacted as follows:**  
**§ 2.2-1183. Building standards; exemption; report.**

A. Any executive branch agency or institution entering the design phase for the construction of a new building greater than 5,000 gross square feet in size, or the renovation of a building where the cost of the renovation exceeds 50 percent of the value of the building, shall ensure that such building:

1. Is designed, constructed, verified, and operated to comply with the high performance building certification program and VEES;

2. Has sufficient electric vehicle charging infrastructure. However, the provisions of this subdivision shall not apply to buildings located in the right-of-way of the Interstate System as that term is defined in § 33.2-100; ~~and~~

3. Has features that permit the agency or institution to track the building's energy efficiency and associated carbon emissions, including metering of all electricity, gas, water, and other utilities; *and*

4. *Includes a solar-ready, cool, or energy-efficient roof, defined as a roof with (i) the structural capability to accept the increased load from solar panels, proper sizing of the electrical panel, installation of conduit and wire from the roof to the electrical panel, use of solar-appropriate roof membranes and other roofing materials, and clustering of vents and non-solar equipment to maximize available space for solar panels; (ii) if the governing body of the locality determines that solar panels are impractical or not cost-effective, roofing materials with the ENERGY STAR label that meet maximum solar reflectance and reliability criteria along with a minimum of R-38 insulation; or (iii) a ballasted EPDM roof system with a minimum of R-38 insulation.*

B. Any executive branch agency or institution may exceed the design and construction standards required by subsection A, provided that such agency or institution obtains prior written approval from the Director of the Department.

C. The Director of the Department may grant an exemption from the design and construction standards required by subsection A upon a finding that special circumstances make the construction or renovation to the standards impracticable. Such exemption shall be made in writing and shall explain the basis for granting such exemption. If the Director cites cost as a factor in granting an exemption, the Director shall include a comparison of the cost the agency or institution will incur over the next 20 years if the agency does not comply with the standards required by subsection A versus the costs to the agency or institution if the agency or institution were to comply with such standards.

D. Each agency or institution shall submit an annual report to the Governor by January 1 of each year detailing the energy-efficiency and associated carbon emissions metrics for each building built or renovated in accordance with the design and construction standards required by subsection A and completed during the prior fiscal year.

**§ 15.2-1804.1. (For applicability, see Acts 2021, Sp. Sess. I, c. 473, cl. 2) Building by locality; high performance standards.**

A. As used in this section:

"Design phase" means the design of a building construction or renovation project, inclusive of the issuance of a request for proposal and the project budget approval.

"EV" means an electric vehicle.

"High performance building certification program" means a public building design, construction, and renovation program that achieves certification using the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) green building rating standard or the Green Building Initiative's "Green Globes" building standard, or meets the requirements of VEES.

"Solar-ready, cool, or energy-efficient roof" means a roof with (i) the structural capability to accept the increased load from solar panels, proper sizing of the electrical panel, installation of conduit and wire from the roof to the electrical panel, use of solar-appropriate roof membranes and other roofing materials, and clustering of vents and non-solar equipment to maximize available space for solar panels; (ii) if the governing body of the locality determines that solar panels are impractical or not cost-effective, roofing materials with the ENERGY STAR label that meet maximum solar reflectance and

60 *reliability criteria along with a minimum of R-38 insulation; or (iii) a ballasted EPDM roof system with*  
61 *a minimum of R-38 insulation.*

62 "Sufficient ZEV charging and fueling infrastructure" means the provision of ZEV charging or fueling  
63 infrastructure, including EV-ready charging electrical capacity and pre-wiring, (i) sufficient to support  
64 every passenger-type vehicle owned by the locality and available for use by the locality that will be  
65 located at such building upon full occupancy, meet projected demand for such infrastructure during the  
66 first 10 years following building occupancy, or (ii) that achieves the current ZEV or EV charging credit  
67 for a high performance building certification program.

68 "VEES" means the Virginia Energy Conservation and Environmental Standards developed by the  
69 Department considering the U.S. Green Building Council (LEED) green building rating standard, the  
70 Green Building Initiative "Green Globes" building standard, and other appropriate requirements as  
71 determined by the Department.

72 "ZEV" means a zero-emissions vehicle.

73 B. Any locality entering the design phase for the construction of a new building greater than 5,000  
74 gross square feet in size, or the renovation of a building where the cost of the renovation exceeds 50  
75 percent of the value of the building, shall ensure that such building:

76 1. Is designed, constructed, verified, and operated to comply with a high performance building  
77 certification program;

78 2. Has sufficient ZEV charging and fueling infrastructure. In making a sufficiency determination, the  
79 locality may also consider the interest of the Commonwealth in providing infrastructure for nearby  
80 locations, geographical gaps in ZEV charging infrastructure, availability of incentives, and other factors;

81 3. Has features that permit the agency or institution to measure the building's energy consumption  
82 and associated carbon emissions, including metering of all electricity, gas, water, and other utilities; and

83 4. Incorporates appropriate resilience and distributed energy features, *including a solar-ready, cool,*  
84 *or energy-efficient roof.*

85 C. Notwithstanding the provisions of subsection B, for any such construction or renovation of a  
86 building that is less than 20,000 gross square feet in size, the locality may instead ensure that such  
87 building achieves the relevant ENERGY STAR certification and implement mechanical, electrical,  
88 plumbing, and envelope commissioning.

89 D. Upon a finding that special circumstances make the construction or renovation to the standards  
90 impracticable, the governing body of such locality may, by resolution, grant an exemption from any  
91 such design and construction standards. Such resolution shall be made in writing and shall explain the  
92 basis for granting the exemption. If the local governing body cites cost as a factor in granting an  
93 exemption, the local governing body shall include a comparison of the cost the locality will incur over  
94 the next 20 years or the lifecycle of the project, whichever is shorter, if the locality does not comply  
95 with the standards required by subsection B versus the costs to the locality if the locality were to  
96 comply with such standards.

97 E. Any local governing body may, by ordinance, adopt its own green design and construction  
98 program that includes standards that are more stringent than any equivalent standard in subsection B.  
99 While such program remains in effect, the locality shall be deemed compliant with the provisions of this  
100 section.

101 *F. New public school buildings and facilities and improvements and renovations to existing public*  
102 *school buildings and facilities where the cost of the renovation exceeds 50 percent of the value of the*  
103 *building shall, after notice to the governing body, be designed and constructed to meet net-zero energy*  
104 *consumption standards. The governing body may grant an exemption from such standards pursuant to*  
105 *subsection D or if the building has been declared a historic landmark by the Board of Historic*  
106 *Resources.*

107 **2. That the provisions of this act shall apply to projects entering the design phase on or after**  
108 **January 1, 2023.**