To establish a grant program to fund the installation of green roof systems on public school buildings, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

Ms. Velázquez introduced the following bill; which was referred to the Committee on ____________________________

A BILL

To establish a grant program to fund the installation of green roof systems on public school buildings, and for other purposes.

1 Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

2 SECTION 1. SHORT TITLE.

3 This Act may be cited as the “Public School Green Rooftop Program”.

4 SEC. 2. FINDINGS.

5 Congress finds the following:
(1) Green roofs on educational facilities can provide an easily accessible site to teach students and visitors about biology, math, STEM, art, sustainability, green roof technology, and the benefits of green roofs.

(2) The Environmental Protection Agency recognizes the installation of green roofs throughout a city can help reduce surface urban heat islands and cool the air.

(3) The General Services Administration recognizes a typical green roof lasts more than 40 years before requiring replacement, whereas the life of an unvegetated conventional roof could be 10 to 15 years. By making the roof membranes last longer, green roofs can save taxpayer money and reduce the amount of waste that is diverted into landfills.

(4) The National Park Service recognizes green roofs can improve the energy performance of buildings, help manage stormwater, reduce airborne emissions, and mitigate the effects of urban heat islands.

(5) The Food and Agriculture Organization of the United Nations encourages and supports countries to promote school gardens with educational goals to help students, school staff, and families make the connection between growing food and good
diets, develop life skills, and increase environmental awareness.

(6) Greater weatherization and insulation offered by green roof assemblies reduce the amount of energy needed to moderate the temperature of a building, as roofs can be the source of the greatest heat loss in the winter and the hottest temperatures in the summer.

(7) A green roof can protect waterproofing membranes from exposure to ultraviolet radiation and wide temperature fluctuations. This protection feature can greatly extend the lifespan and cost effectiveness of waterproofing membranes.

(8) Green roofs can contribute to landfill diversion by prolonging the life cycle of waterproofing membranes and insulation materials. By increasing the life cycle and reducing roof replacement costs, less roofing materials over the life of the building need to be disposed of. Green roofs generate the need for recycled components in growing media. Green roofs can prolong the service life of heating, ventilation, and HVAC systems through decreased use.

(9) Green roofs can reduce the amount of stormwater runoff and also delay the time at which
runoff occurs, resulting in decreased stress on sewer systems and streams at peak flow periods and decreased pollution in United States waterways.

(10) The plants on green roofs can capture airborne pollutants, atmospheric deposition, and can filter noxious gases, as well as provide habitat for and habitat connectivity for local species of pollinators.

(11) Green roofs can provide much needed additional greenspaces to urban centers. These greenspaces can create new habitats for a wide variety of plants, animals, and insects needed for healthy biosystems.

(12) Green roofs can provide much needed greenspaces for healthy human habitation of dense urban spaces. Green roofs can be used for passive and active recreation and relaxation spaces for humans.

(13) Green roofs can generate potential employment for green roof installation and maintenance personnel. Specialized green roof installations can generate income and employment for urban farm operations.

(14) The temperature moderating effects of green roofs can reduce demand for electrical power
and other energy and fuel sources, and potentially
decrease the amount of CO$_2$ and other polluting by-
products being released into the air.

(15) Through natural transpiration, plants on
vertical and horizontal surfaces are able to cool cities
during hot summer months and reduce the urban
heat island effect.

(16) Green roofs plants can capture dust and
particulate matter throughout cities, as well as the
production of smog. This can play a role in reducing
greenhouse gas emissions and adapting urban areas
to a future climate with warmer summers.

(17) Green roofs improve human health and
wellbeing through improvement of local air quality,
regulation of temperature, and sequestration of
harmful airborne substances, particularly among
children and other vulnerable or at-risk commu-
nities.

(18) Green roofs on public infrastructure pro-
vide cost-savings for the life of the project, through
defraying future replacement and energy costs.

(19) Green roofs contribute to the stabilization
of neighborhoods as a result of improved health, see-
nic qualities, and elevated nearby property valuation.
(20) Green roofs provide habitat for wildlife such as pollinators and migratory birds.

SEC. 3. GRANTS FOR PLANNING ASSISTANCE.

(a) GRANT PROGRAM AUTHORIZED.—The Secretary, taking into account recommendations from the Director of the Weatherization and Intergovernmental Programs Office of the Department of Energy, shall make grants to eligible entities to pay the costs of planning assistance for a green roof system described in subsection (b).

(b) ALLOWABLE USE OF FUNDS FOR GRANTS FOR PLANNING ASSISTANCE.—An eligible entity receiving a grant under this section shall use the grant for the following purposes:

(1) Identification of opportunities to use green roofs.

(2) Assessment of vertical structures, or possible vertical structures, to support vegetation and ground-level areas that support vegetation in the same school building.

(3) Permitting and siting issues, including potential synergy of the green roof with green roofs, green walls, and rain gardens in neighboring buildings.

(4) Business planning and financial analysis.
(5) Architectural and engineering analysis, including analysis of—

(A) a site to determine required structural loading capacity;

(B) plans for material transportation to roof;

(C) the distribution of material and equipment during construction;

(D) plans for reinforcement of roof;

(E) plans for structural safety;

(F) plans to increase available loading;

(G) plans to determine need and location of vegetation-free zones for access to mechanical equipment, roof parapets, and other common roof structures;

(H) plans for need for permanent or semi-permanent irrigation systems to provide supplemental water during times of drought; and

(I) plans to determine need for a leak detection system.

(6) Cost estimation, including—

(A) technical information on the cost of construction (market prices, labor, materials, and transportation);

(B) a life cycle cost analysis;
(C) an estimate of operational costs; and

(D) an estimate of costs to include recreational space in order to meet the requirements of title III of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq).

(7) Grant writing services, including reimbursement for grant writing services used to obtain a grant under this section.

(e) APPLICATION.—To receive a grant under this section, an eligible entity shall submit to the Secretary an application at such time, in such manner, and containing such information as the Secretary may require.

SEC. 4. PUBLIC SCHOOL GREEN ROOF INSTALLATION GRANT PROGRAM.

(a) PUBLIC SCHOOL GREEN ROOF INSTALLATION PROGRAM.—Not later than 1 year after the date of the enactment of this Act, the Secretary shall award grants, on a competitive basis, to eligible entities to install an extensive or intensive green roof system.

(b) APPLICATION.—To receive a grant under subsection (a), an eligible entity shall submit to the Secretary an application at such time, in such manner, and containing such information as the Secretary may require, which shall include—
(1) a letter of compliance from local regulatory bodies to—

(A) certify a complete review of proposed design to ensure that it meets municipal requirements;

(B) ensure that installation is carried out in accordance with local standards and incentive program performance requirements (if available);

(C) determine requirements for issuing permits;

(D) determine occupancy requirements for fire codes; and

(E) ensure projects meet the minimum performance standard specified within the Living Architecture Performance Tool (LAPT) rating system for green roofs and walls;

(2) a complete description of the eligible entity’s plans for reinforcement of its roof to withstand a green roof, if needed; and

(3) a complete description of the eligible entity’s plan for the installation and operation of a green roof system, including descriptions of—

(A) the square footage of the proposed vegetated area and anticipated soil depth;
(B) the hiring criteria and qualifications for green roof installation and maintenance personnel with the inclusion of local workforce trainees, including at least one Green Roof Professional (GRP) as accredited by the Green Roof Industry Association;

(C) the methods for the green roof installation and maintenance;

(D) a plan for utilization of the green roof, including weatherization, recreational space, education, food production, or whether access and utilization will be extended to members of the neighborhood;

(E) a plan for intensive green roof applications that include recreational space use to meet the requirements of title III of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq);

(F) a strategy for increasing energy efficiency and reducing heat reflection; and

(G) a plan for hiring low-income individuals or individuals registered with a one-stop center for installation and maintenance positions.

(4) the eligible entity’s maintenance plan.
(c) PRIORITY.—In awarding grants under subsection (a), the Secretary shall give priority to eligible entities in which not fewer than 30 percent of students served by such entities are from families with incomes below the poverty line.

(d) INSTALLATION.—Not later than 4 years after receiving a grant under subsection (a), an eligible entity shall complete installation of a green roof system.

(e) MAINTENANCE OF INFRASTRUCTURE.—In addition to receiving a grant under subsection (a), each eligible entity that meets the installation requirements of subsection (d) shall receive additional funding for an additional 4-year period for maintenance activities, which may include the following:

1. Conducting routine inspections throughout the year to monitor the condition of the green roof and surrounding roof areas and structures, especially after storm events.
2. Monitoring plant health and replacing any plants, as necessary.
3. Noting any areas impacted by rooftop microclimates (including wind erosion, shady spots, exhaust vents, drip edges, and intense reflected light) where replanting may not be successful, and
alternate planting types, planting techniques, or an alternate approach may be necessary.

(4) Watering nonirrigated systems during prolonged drought periods and maintenance of any irrigation system for the green roof.


(6) For intensive green roofs where more highly diverse plant groups and types are used, ensuring plant maintenance and care is generally consistent with the requirements of ground-level landscaping, including consultation with a horticulturalist, agronomist, or landscape professional.

(7) Engaging local workforce trainees.

SEC. 5. REPORT TO THE CONGRESS.

Not later than 1 year after the date of the enactment of this Act, the Secretary shall submit a report to the Committee on Energy and Commerce of the House of Representatives, the Committee on Education and Labor of the House of Representatives, and the Committee on Health, Education, Labor, and Pensions of the Senate, and make publically available on the Internet website of the Department of Energy, a report describing—

(1) each grant application received under this Act; and
(2) any grants awarded under this Act, including—

(A) the name and location of the eligible entity;

(B) the total amount of the grant;

(C) the date on which the grant was awarded;

(D) the square footage of vegetated area, soil depth, and soil porosity of media of each public school green roof funded with the grant;

and

(E) any other data the Secretary determines to be necessary for an evaluation of the benefits of a public school green roof.

SEC. 6. DEFINITIONS.

In this Act:

(1) ELEMENTARY SCHOOL.—The term “elementary school” has the meaning given the term in section 8101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801), except that such section shall be applied as if the term “State”, as it appears in such section, had the meaning given such term in this section.

(2) ELIGIBLE ENTITY.—The term “eligible entity” means—
(A) a public elementary school or secondary school;

(B) a local educational agency; or

(C) a partnership between a nonprofit organization and an entity described in paragraphs (1) or (2).

(3) **GREEN ROOF.**—The term “green roof” means a layer of vegetation planted over a waterproofing system or waterproof management practice that is installed on top of a flat or slightly-sloped roof that may support plant growth, including—

(A) an extensive green roof with a growing media layer that is up to 6 inches thick; or

(B) an intensive green roof with a growing media layer that is 6.0 to 48 inches thick.

(4) **INDIAN TRIBE.**—The term “Indian tribe” has the meaning given the term in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 5304).

(5) **LOCAL EDUCATIONAL AGENCY.**—The term “local educational agency” has the meaning given the term in section 8101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801), except that such section shall be applied as if the term
“State”, as it appears in such section, had the meaning given such term in this section.

(6) **LOW-INCOME INDIVIDUAL.**—The term “low-income individual” means, with respect to any calendar year, any individual who lives in a household that has a gross income that does not exceed 300 percent of the poverty line.

(7) **NONPROFIT ORGANIZATION.**—The term “nonprofit organization” means an organization described in section 501(c)(3) of the Internal Revenue Code of 1986 which is exempt from taxation under section 501(a) of such Code.

(8) **ONE-STOP CENTER.**—The term “one-stop center” has the meaning given such term in section 3 of the Workforce Innovation and Opportunity Act (29 U.S.C. 3102).

(9) **POVERTY LINE.**—The term “poverty line” has the meaning given the term in section 8101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801).

(10) **SECONDARY SCHOOL.**—The term “secondary school” has the meaning given the term in section 8101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801), except that such section shall be applied as if the term “State”,
as it appears in such section, had the meaning given
such term in this section.

(11) SECRETARY.—The term “Secretary”
means the Secretary of Energy.

(12) STATE.—The term “State” means each of
the 50 States and the District of Columbia, each of
territories, and each of the Indian tribes.

(13) TERRITORY.—The term “territory” means
the United States Virgin Islands, Puerto Rico,
Guam, American Samoa, and the Commonwealth of
the Northern Mariana Islands.

(14) WEATHERIZATION.—The term “weather-
ization” means the practice of protecting a building
and its interior from the elements, particularly from
sunlight, precipitation, and wind, and of modifying
a building to reduce energy consumption and opti-
mize energy efficiency.

SEC. 7. AUTHORIZATION OF APPROPRIATIONS.

(a) APPROPRIATION FOR GRANTS FOR PLANNING AS-
sistance.—There is authorized to be appropriated
$100,000,000 to carry out section 3 for each of fiscal
years 2022 through 2026.

(b) APPROPRIATION FOR GREEN ROOF INSTALLA-
tion.—There is authorized to be appropriated
$300,000,000 to award grants under section 4(a) for each of fiscal years 2022 through 2026.

(c) Appropriation for Maintenance of Infrastructure.—There is authorized to be appropriated $100,000,000 to provide funds under section 4(e) for each of fiscal years 2022 through 2026.