

117TH CONGRESS
1ST SESSION

H. R. 1863

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

MARCH 11, 2021

Ms. VELÁZQUEZ (for herself, Mr. ESPAILLAT, Mr. TAKANO, Ms. NORTON, Mr. THOMPSON of Mississippi, Mr. JONES, Ms. BARRAGÁN, and Ms. JACKSON LEE) introduced the following bill; which was referred to the Committee on Education and Labor

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 Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

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

6 **SEC. 2. FINDINGS.**

7 Congress finds the following:

8 (1) Green roofs on educational facilities can
9 provide an easily accessible site to teach students

1 and visitors about biology, math, STEM, art, sus-
2 tainability, green roof technology, and the benefits of
3 green roofs.

4 (2) The Environmental Protection Agency rec-
5 ognizes the installation of green roofs throughout a
6 city can help reduce surface urban heat islands and
7 cool the air.

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

15 (4) The National Park Service recognizes green
16 roofs can improve the energy performance of build-
17 ings, help manage stormwater, reduce airborne emis-
18 sions, and mitigate the effects of urban heat islands.

19 (5) The Food and Agriculture Organization of
20 the United Nations encourages and supports coun-
21 tries to promote school gardens with educational
22 goals to help students, school staff, and families
23 make the connection between growing food and good
24 diets, develop life skills, and increase environmental
25 awareness.

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

7 (7) A green roof can protect waterproofing
8 membranes from exposure to ultraviolet radiation
9 and wide temperature fluctuations. This protection
10 feature can greatly extend the lifespan and cost ef-
11 fectiveness of waterproofing membranes.

12 (8) Green roofs can contribute to landfill diver-
13 sion by prolonging the life cycle of waterproofing
14 membranes and insulation materials. By increasing
15 the life cycle and reducing roof replacement costs,
16 less roofing materials over the life of the building
17 need to be disposed of. Green roofs generate the
18 need for recycled components in growing media.
19 Green roofs can prolong the service life of heating,
20 ventilation, and HVAC systems through decreased
21 use.

22 (9) Green roofs can reduce the amount of
23 stormwater runoff and also delay the time at which
24 runoff occurs, resulting in decreased stress on sewer

1 systems and streams at peak flow periods and de-
2 creased pollution in United States waterways.

3 (10) The plants on green roofs can capture air-
4 borne pollutants, atmospheric deposition, and can
5 filter noxious gases, as well as provide habitat for
6 and habitat connectivity for local species of polli-
7 nators.

8 (11) Green roofs can provide much needed ad-
9 ditional greenspaces to urban centers. These
10 greenspaces can create new habitats for a wide vari-
11 ety of plants, animals, and insects needed for
12 healthy biosystems.

13 (12) Green roofs can provide much needed
14 greenspaces for healthy human habitation of dense
15 urban spaces. Green roofs can be used for passive
16 and active recreation and relaxation spaces for hu-
17 mans.

18 (13) Green roofs can generate potential employ-
19 ment for green roof installation and maintenance
20 personnel. Specialized green roof installations can
21 generate income and employment for urban farm op-
22 erations.

23 (14) The temperature moderating effects of
24 green roofs can reduce demand for electrical power
25 and other energy and fuel sources, and potentially

1 decrease the amount of CO₂ and other polluting by-
2 products being released into the air.

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

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

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

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

21 (19) Green roofs contribute to the stabilization
22 of neighborhoods as a result of improved health, sce-
23 nic qualities, and elevated nearby property valuation.

24 (20) Green roofs provide habitat for wildlife
25 such as pollinators and migratory birds.

1 **SEC. 3. GRANTS FOR PLANNING ASSISTANCE.**

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

8 (b) ALLOWABLE USE OF FUNDS FOR GRANTS FOR
9 PLANNING ASSISTANCE.—An eligible entity receiving a
10 grant under this section shall use the grant for the fol-
11 lowing purposes:

12 (1) Identification of opportunities to use green
13 roofs.

14 (2) Assessment of vertical structures, or pos-
15 sible vertical structures, to support vegetation and
16 ground-level areas that support vegetation in the
17 same school building.

18 (3) Permitting and siting issues, including po-
19 tential synergy of the green roof with green roofs,
20 green walls, and rain gardens in neighboring build-
21 ings.

22 (4) Business planning and financial analysis.

23 (5) Architectural and engineering analysis, in-
24 cluding analysis of—

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

1 (B) plans for material transportation to
2 roof;

3 (C) the distribution of material and equip-
4 ment during construction;

5 (D) plans for reinforcement of roof;

6 (E) plans for structural safety;

7 (F) plans to increase available loading;

8 (G) plans to determine need and location
9 of vegetation-free zones for access to mechan-
10 ical equipment, roof parapets, and other com-
11 mon roof structures;

12 (H) plans for need for permanent or semi-
13 permanent irrigation systems to provide supple-
14 mental water during times of drought; and

15 (I) plans to determine need for a leak de-
16 tection system.

17 (6) Cost estimation, including—

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

21 (B) a life cycle cost analysis;

22 (C) an estimate of operational costs; and

23 (D) an estimate of costs to include rec-
24 reational space in order to meet the require-

1 ments of title III of the Americans with Disabil-
2 ities Act of 1990 (42 U.S.C. 12101 et seq).

3 (7) Grant writing services, including reimburse-
4 ment for grant writing services used to obtain a
5 grant under this section.

6 (c) APPLICATION.—To receive a grant under this sec-
7 tion, an eligible entity shall submit to the Secretary an
8 application at such time, in such manner, and containing
9 such information as the Secretary may require.

10 **SEC. 4. PUBLIC SCHOOL GREEN ROOF INSTALLATION**
11 **GRANT PROGRAM.**

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

17 (b) APPLICATION.—To receive a grant under sub-
18 section (a), an eligible entity shall submit to the Secretary
19 an application at such time, in such manner, and con-
20 taining such information as the Secretary may require,
21 which shall include—

22 (1) a letter of compliance from local regulatory
23 bodies to—

1 (A) certify a complete review of proposed
2 design to ensure that it meets municipal re-
3 quirements;

4 (B) ensure that installation is carried out
5 in accordance with local standards and incentive
6 program performance requirements (if avail-
7 able);

8 (C) determine requirements for issuing
9 permits;

10 (D) determine occupancy requirements for
11 fire codes; and

12 (E) ensure projects meet the minimum
13 performance standard specified within the Liv-
14 ing Architecture Performance Tool (LAPT) rat-
15 ing system for green roofs and walls;

16 (2) a complete description of the eligible enti-
17 ty's plans for reinforcement of its roof to withstand
18 a green roof, if needed;

19 (3) a complete description of the eligible enti-
20 ty's plan for the installation and operation of a
21 green roof system, including descriptions of—

22 (A) the square footage of the proposed
23 vegetated area and anticipated soil depth;

24 (B) the hiring criteria and qualifications
25 for green roof installation and maintenance per-

1 sonnel with the inclusion of local workforce
2 trainees, including at least one Green Roof Pro-
3 fessional (GRP) as accredited by the Green
4 Roof Industry Association;

5 (C) the methods for the green roof installa-
6 tion and maintenance;

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

12 (E) a plan for intensive green roof applica-
13 tions that include recreational space use to
14 meet the requirements of title III of the Ameri-
15 cans with Disabilities Act of 1990 (42 U.S.C.
16 12101 et seq);

17 (F) a strategy for increasing energy effi-
18 ciency and reducing heat reflection; and

19 (G) a plan for hiring low-income individ-
20 uals or individuals registered with a one-stop
21 center for installation and maintenance posi-
22 tions; and

23 (4) the eligible entity's maintenance plan; and

24 (c) PRIORITY.—In awarding grants under subsection
25 (a), the Secretary shall give priority to eligible entities in

1 which not fewer than 30 percent of students served by
2 such entities are from families with incomes below the pov-
3 erty line.

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

7 (e) MAINTENANCE OF INFRASTRUCTURE.—In addi-
8 tion to receiving a grant under subsection (a), each eligible
9 entity that meets the installation requirements of sub-
10 section (d) shall receive additional funding for an addi-
11 tional 4-year period for maintenance activities, which may
12 include the following:

13 (1) Conducting routine inspections throughout
14 the year to monitor the condition of the green roof
15 and surrounding roof areas and structures, espe-
16 cially after storm events.

17 (2) Monitoring plant health and replacing any
18 plants, as necessary.

19 (3) Noting any areas impacted by rooftop
20 microclimates (including wind erosion, shady spots,
21 exhaust vents, drip edges, and intense reflected
22 light) where replanting may not be successful, and
23 alternate planting types, planting techniques, or an
24 alternate approach may be necessary.

1 (4) Watering nonirrigated systems during pro-
2 longed drought periods and maintenance of any irri-
3 gation system for the green roof.

4 (5) Addressing weeds and pests when needed
5 using organic, essential-oils based products.

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

12 (7) Engaging local workforce trainees.

13 **SEC. 5. REPORT TO THE CONGRESS.**

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

22 (1) each grant application received under this
23 Act; and

24 (2) any grants awarded under this Act, includ-
25 ing—

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

3 (B) the total amount of the grant;

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

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

10 (E) any other data the Secretary deter-
11 mines to be necessary for an evaluation of the
12 benefits of a public school green roof.

13 **SEC. 6. DEFINITIONS.**

14 In this Act:

15 (1) **ELEMENTARY SCHOOL.**—The term “elemen-
16 tary school” has the meaning given the term in sec-
17 tion 8101 of the Elementary and Secondary Edu-
18 cation Act of 1965 (20 U.S.C. 7801), except that
19 such section shall be applied as if the term “State”,
20 as it appears in such section, had the meaning given
21 such term in this section.

22 (2) **ELIGIBLE ENTITY.**—The term “eligible enti-
23 ty” means—

24 (A) a public elementary school or sec-
25 ondary school;

1 (B) a local educational agency; or

2 (C) a partnership between a nonprofit or-
3 ganization and an entity described in para-
4 graphs (1) or (2).

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

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

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

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

18 (5) LOCAL EDUCATIONAL AGENCY.—The term
19 “local educational agency” has the meaning given
20 the term in section 8101 of the Elementary and Sec-
21 ondary Education Act of 1965 (20 U.S.C. 7801), ex-
22 cept that such section shall be applied as if the term
23 “State”, as it appears in such section, had the
24 meaning given such term in this section.

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

6 (7) NONPROFIT ORGANIZATION.—The term
7 “nonprofit organization” means an organization de-
8 scribed in section 501(c)(3) of the Internal Revenue
9 Code of 1986 which is exempt from taxation under
10 section 501(a) of such Code.

11 (8) ONE-STOP CENTER.—The term “one-stop
12 center” has the meaning given such term in section
13 3 of the Workforce Innovation and Opportunity Act
14 (29 U.S.C. 3102).

15 (9) POVERTY LINE.—The term “poverty line”
16 has the meaning given the term in section 8101 of
17 the Elementary and Secondary Education Act of
18 1965 (20 U.S.C. 7801).

19 (10) SECONDARY SCHOOL.—The term “sec-
20 ondary school” has the meaning given the term in
21 section 8101 of the Elementary and Secondary Edu-
22 cation Act of 1965 (20 U.S.C. 7801), except that
23 such section shall be applied as if the term “State”,
24 as it appears in such section, had the meaning given
25 such term in this section.

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

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

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

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

16 **SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

17 (a) APPROPRIATION FOR GRANTS FOR PLANNING AS-
18 SISTANCE.—There is authorized to be appropriated
19 \$100,000,000 to carry out section 3 for each of fiscal
20 years 2022 through 2026.

21 (b) APPROPRIATION FOR GREEN ROOF INSTALLA-
22 TION.—There is authorized to be appropriated
23 \$300,000,000 to award grants under section 4(a) for each
24 of fiscal years 2022 through 2026.

1 (c) APPROPRIATION FOR MAINTENANCE OF INFRA-
2 STRUCTURE.—There is authorized to be appropriated
3 \$100,000,000 to provide funds under section 4(e) for each
4 of fiscal years 2022 through 2026.

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