

108TH CONGRESS
2D SESSION

S. 2620

To provide for the establishment of an Office of High-Performance Green Buildings, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JULY 8, 2004

Mr. JEFFORDS (for himself, Mr. LAUTENBERG, Mr. REID, Mr. WYDEN, Mr. CARPER, Mr. HARKIN, Mr. LEAHY, and Mrs. CLINTON) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

A BILL

To provide for the establishment of an Office of High-Performance Green 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; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the
5 “High-Performance Green Buildings Act”.

6 (b) TABLE OF CONTENTS.—The table of contents of
7 this Act is as follows:

Sec. 1. Short title; table of contents.
Sec. 2. Findings.
Sec. 3. Definitions.

TITLE I—OFFICE OF HIGH-PERFORMANCE GREEN BUILDINGS

Sec. 101. Oversight.
 Sec. 102. Office of High-Performance Green Buildings.
 Sec. 103. Interagency Steering Committee.
 Sec. 104. Public outreach.
 Sec. 105. Research and development.
 Sec. 106. Budget and life-cycle costing.
 Sec. 107. Authorization of appropriations.

TITLE II—HEALTHY HIGH-PERFORMANCE SCHOOLS

Sec. 201. Grants for schools.
 Sec. 202. Federal guidelines for siting of school facilities.
 Sec. 203. Education research program.
 Sec. 204. Authorization of appropriations.

TITLE III—STRENGTHENING FEDERAL LEADERSHIP

Sec. 301. General Accounting Office.

TITLE IV—DEMONSTRATION PROJECT

Sec. 401. Coordination of goals.
 Sec. 402. Authorization of appropriations.

1 **SEC. 2. FINDINGS.**

2 Congress finds that—

3 (1) buildings have profound impacts on the en-
 4 vironment, energy use, and health of individuals, and
 5 numerous studies suggest that building environ-
 6 ments affect worker productivity;

7 (2) buildings in the United States consume 37
 8 percent of the energy, 68 percent of the electricity,
 9 and 12 percent of the potable water used in the
 10 United States, and overall construction of buildings
 11 (including construction of related infrastructure)
 12 consumes 60 percent of all raw materials used in the
 13 economy of the United States (excluding materials
 14 used for food or fuel);

15 (3) in the United States, buildings generate—

1 (A) 40 percent of the nonindustrial waste
2 stream;

3 (B) 31 percent of the mercury in municipal
4 solid waste; and

5 (C) 35 percent of the carbon dioxide (the
6 primary greenhouse gas associated with climate
7 change), 49 percent of the sulfur dioxide, and
8 25 percent of the nitrogen oxides found in the
9 air;

10 (4) buildings contribute to the “heat island ef-
11 fect” by eliminating vegetative cover and using pav-
12 ing and roofing materials that absorb heat and raise
13 ambient temperatures, accelerating the reaction that
14 forms ground-level ozone;

15 (5) according to the Environmental Protection
16 Agency, on average, people in the United States
17 spend approximately 90 percent of their time in-
18 doors, where the concentration of pollutants may be
19 2 to 5 times and, in some cases, 100 times, higher
20 than pollution concentrations in outdoor air;

21 (6) the Centers for Disease Control and the En-
22 vironmental Protection Agency have connected poor
23 indoor air quality to significantly elevated rates of
24 mortality;

1 (7) health impacts from building materials,
2 such as adhesives, paints, carpeting, and pressed-
3 wood products, which may emit pollutants such as
4 formaldehyde or other volatile organic compounds,
5 are still uncertain but are believed to be potentially
6 significant;

7 (8) according to the Building Owners and Man-
8 agers Association, because costs relating to employ-
9 ees, at \$130 per square foot annually (including
10 health insurance costs), are by far the highest busi-
11 ness costs of a building, as opposed to total energy
12 costs at \$1.81 per square foot, measures to improve
13 the indoor air quality of a building can be an impor-
14 tant investment in reducing long-term employee
15 costs;

16 (9) the use of energy efficient systems and al-
17 ternative sources of energy—

18 (A) reduces building costs; and

19 (B) improves the security of the United
20 States by ensuring continuing operations de-
21 spite any potential interruptions in the primary
22 energy supply of the United States as a result
23 of terrorism or other disruptions of the elec-
24 tricity grid;

1 (10) by integrating issues relating to natural
2 resource use, human health, materials use, transpor-
3 tation needs, and other concerns into planning the
4 life cycle of a building, architects, designers, and de-
5 velopers can construct buildings that—

6 (A) are healthier for occupants;

7 (B) reduce environmental impacts; and

8 (C) are less wasteful of resources;

9 (11) a well-designed high-performance green
10 building can be less expensive to build and operate
11 throughout the lifetime of the building than a build-
12 ing that is not a high-performance green building;

13 (12) in 2003, in the document entitled “The
14 Federal Commitment to Green Building: Experi-
15 ences and Expectations”, the Office of the Federal
16 Environmental Executive found that “[t]here is a
17 mixture of diverse Federal green building mandates
18 in law, regulation, and Executive Orders, but not
19 one definitive, clear, and unified policy statement on
20 environmental design. Many within the Federal gov-
21 ernment are working on green buildings, but addi-
22 tional coordination and integration are needed.”;

23 (13) a central coordinating Federal authority
24 for green buildings would increase efficiency of, im-

1 prove communication between, and reduce duplica-
2 tion within green building programs; and

3 (14) the General Services Administration, as
4 the largest civilian landlord in the United States,
5 managing more than 8,300 buildings owned or
6 leased by the United States, is the appropriate agen-
7 cy to provide Federal agency coordination of green
8 building programs.

9 **SEC. 3. DEFINITIONS.**

10 In this Act:

11 (1) ADMINISTRATOR.—The term “Adminis-
12 trator” means the Administrator of General Serv-
13 ices.

14 (2) COMMITTEE.—The term “Committee”
15 means the steering committee established under sec-
16 tion 103(a).

17 (3) HIGH-PERFORMANCE GREEN BUILDING.—
18 The term “high-performance green building” means
19 a building the life cycle of which—

20 (A) increases the efficiency with which the
21 building—

22 (i) reduces energy, water, and mate-
23 rial resource use;

24 (ii) improves indoor environmental
25 quality, reduces indoor pollution, improves

1 thermal comfort, and improves lighting
2 and noise environments that affect occu-
3 pant health and productivity;

4 (iii) reduces negative impacts on the
5 environment throughout the life cycle of
6 the building, including air and water pollu-
7 tion and waste generation;

8 (iv) increases the use of environ-
9 mentally preferable products, including
10 biobased, recycled content, and nontoxic
11 products with lower life-cycle impacts;

12 (v) reduces the negative impacts of
13 emissions under the Clean Air Act (42
14 U.S.C. 7401 et seq.);

15 (vi) integrates systems in the building;
16 and

17 (vii) reduces the environmental im-
18 pacts of transportation through building
19 location and site design that support a full
20 range of transportation choices for users of
21 the building;

22 (B) considers indoor and outdoor impacts
23 of the building on human health and the envi-
24 ronment, including—

- 1 (i) improvements in worker produc-
- 2 tivity;
- 3 (ii) the life-cycle impacts of building
- 4 materials and operations; and
- 5 (iii) other factors that the Office con-
- 6 siders to be appropriate.

7 (4) HIGH-PERFORMANCE SCHOOL.—The term
 8 “high-performance school” has the meaning given
 9 the term “healthy, high-performance school build-
 10 ing” in section 5586 of the Elementary and Sec-
 11 ondary Education Act of 1965 (20 U.S.C. 7277e).

12 (5) LIFE CYCLE.—The term “life cycle”, with
 13 respect to a high-performance green building, means
 14 all stages of the useful life of the high-performance
 15 green building (including components, equipment,
 16 systems, and controls of the building) beginning at
 17 conception of a green building project and con-
 18 tinuing through siting, design, construction, land-
 19 scaping, commissioning, operation, maintenance,
 20 renovation, deconstruction, and removal of the green
 21 building.

22 (6) LIFE CYCLE ASSESSMENT.—The term “life
 23 cycle assessment” means a comprehensive system
 24 approach for measuring the environmental perform-

1 ance of a product or service that includes an analysis
2 of the environmental impacts of—

3 (A) each stage in the life of the product or
4 service (including acquisition of raw materials,
5 product manufacture, transportation, installa-
6 tion, operation and maintenance, and waste
7 management); and

8 (B) each component of the product or serv-
9 ice.

10 (7) LIFE-CYCLE COSTING.—The term “life-cycle
11 costing”, with respect to a high-performance green
12 building, means an analysis of economic costs of im-
13 pacts and choices made regarding materials used
14 and activities carried out with respect to the life
15 cycle of the high-performance green building.

16 (8) LOCAL EDUCATIONAL AGENCY.—The term
17 “local educational agency” has the meaning given
18 the term in section 9101 of the Elementary and Sec-
19 ondary Education Act of 1965 (20 U.S.C. 7801).

20 (9) OFFICE.—The term “Office” means the Of-
21 fice of High-Performance Green Buildings estab-
22 lished under section 102(a).

1 **TITLE I—OFFICE OF HIGH-PER-**
2 **FORMANCE GREEN BUILD-**
3 **INGS**

4 **SEC. 101. OVERSIGHT.**

5 (a) IN GENERAL.—The Administrator shall establish
6 within the General Services Administration, and appoint
7 an appropriate individual to, a position in the career-re-
8 served Senior Executive service to—

9 (1) establish and oversee the Office of High-
10 Performance Green Buildings in accordance with
11 section 102; and

12 (2) carry out other duties as required under
13 this Act.

14 (b) COMPENSATION.—The compensation of the indi-
15 vidual appointed under subsection (a) shall not exceed the
16 maximum rate of basic pay for the Senior Executive Serv-
17 ice under section 5382 of title 5, United States Code, in-
18 cluding any applicable locality-based comparability pay-
19 ment that may be authorized under section 5304(h)(2)(C)
20 of that title.

21 **SEC. 102. OFFICE OF HIGH-PERFORMANCE GREEN BUILD-**
22 **INGS.**

23 (a) ESTABLISHMENT.—The individual appointed
24 under section 101(a), in partnership with the Adminis-
25 trator of the Environmental Protection Agency, the Office

1 of the Federal Environmental Executive, the Secretary of
 2 Energy, the Secretary of Commerce, the Secretary of De-
 3 fense, the Secretary of Homeland Security, the Secretary
 4 of Health and Human Services, the Director of the Office
 5 of Management and Budget, and heads of other relevant
 6 Federal agencies, shall establish within the General Serv-
 7 ices Administration an Office of High-Performance Green
 8 Buildings.

9 (b) DUTIES.—The Office shall—

10 (1) ensure full coordination and collaboration
 11 with all relevant agencies;

12 (2) establish a senior-level Federal interagency
 13 steering committee in accordance with section 103;

14 (3) provide information through—

15 (A) outreach;

16 (B) education;

17 (C) the provision of technical assistance;

18 and

19 (D) the development of a national high-
 20 performance green building clearinghouse in ac-
 21 cordance with section 104;

22 (4) provide for research and development relat-
 23 ing to high-performance green building initiatives
 24 under section 105(a);

1 (5) in partnership with the Comptroller Gen-
2 eral, review and analyze budget and life-cycle costing
3 issues in accordance with section 106;

4 (6) complete and submit a report in accordance
5 with subsection (c); and

6 (7) carry out implementation plans described in
7 subsection (d).

8 (c) REPORT.—Not later than 2 years after the date
9 of enactment of this Act, and biennially thereafter, the Of-
10 fice shall submit to Congress and the Comptroller General
11 a report that—

12 (1) describes the status of the implementation
13 of programs under this Act and other Federal pro-
14 grams in effect as of the date of the report, includ-
15 ing—

16 (A) the extent to which the programs are
17 being carried out in accordance with this Act;
18 and

19 (B) the status of funding requests and ap-
20 propriations for those programs;

21 (2) identifies steps within the planning, budg-
22 eting, and construction process of Federal facilities
23 that inhibit new and existing Federal facilities from
24 becoming high-performance green buildings, as
25 measured by—

1 (A) a silver rating, as defined by the Lead-
2 ership in Energy and Environmental Design
3 Building Rating System standard established by
4 the United States Green Building Council; or

5 (B) an improved or higher rating standard
6 as identified, and reassessed biannually, by the
7 Committee;

8 (3) identifies inconsistency of Federal agencies
9 with Federal law in product acquisition guidelines
10 and high-performance product guidelines;

11 (4) recommends language for uniform stand-
12 ards for use by Federal agencies in environmentally
13 responsible acquisition; and

14 (5) includes, for the 2-year period covered by
15 the report, recommendations to address each of the
16 matters, and a plan and deadline for implementation
17 of each of the recommendations, described in para-
18 graphs (1) through (4).

19 (d) IMPLEMENTATION PLAN.—The Office, in con-
20 sultation with the Comptroller General, shall carry out
21 each plan for implementation of recommendations under
22 subsection (c)(5).

1 **SEC. 103. INTERAGENCY STEERING COMMITTEE.**

2 (a) ESTABLISHMENT.—Not later than 180 days after
3 the date of enactment of this Act, the Office shall establish
4 within the Office a steering committee.

5 (b) MEMBERSHIP.—The Committee shall be com-
6 posed of representatives of, at a minimum—

7 (1) each agency referred to in section 102(a);

8 (2) State and local governments;

9 (3) nongovernmental organizations, including
10 the United States Green Building Council, the
11 American Council for an Energy-Efficient Economy,
12 and the Rocky Mountain Institute;

13 (4) building design, development, and finance
14 sectors in the private sector; and

15 (5) building owners, developers, and equipment
16 manufacturers, including renewable, control, com-
17 bined heat and power, and other relevant tech-
18 nologies, as determined by the Office.

19 (c) DUTIES.—The Committee shall—

20 (1) assess Federal activities and compliance
21 with Federal law applicable to high-performance
22 green buildings;

23 (2) make recommendations for expansion of ex-
24 isting efforts and development of new efforts to sup-
25 port activities relating to the life cycles of high-per-
26 formance green buildings by the Federal Govern-

1 ment, including consideration of the benefits to na-
2 tional security and implementation of the Americans
3 with Disabilities Act of 1990 (42 U.S.C. 12101 et
4 seq.);

5 (3) evaluate current high-performance green
6 building standards and recommend improved, high-
7 er, or supplemental rating standards, as necessary,
8 that are consistent with the responsibilities of the
9 Federal Government under this Act and other appli-
10 cable law; and

11 (4) provide to the individual appointed under
12 section 101(a) such recommendations relating to
13 Federal activities carried out under sections 104
14 through 106 as are agreed to by a majority of the
15 members of the Committee.

16 **SEC. 104. PUBLIC OUTREACH.**

17 (a) ESTABLISHMENT.—The Office, in close coordina-
18 tion with Federal agencies and departments that perform
19 related functions, shall carry out public outreach—

20 (1) to inform individuals and entities in the
21 public sector, including the Federal Government, of
22 the information and services available through the
23 Office; and

24 (2) to determine how to most effectively deliver
25 that information to the individuals and entities.

1 (b) DUTIES.—In carrying out this section, the Office,
2 in close cooperation with Federal agencies and depart-
3 ments that perform related functions, shall—

4 (1) establish and maintain a national high-per-
5 formance green building clearinghouse on the Inter-
6 net that—

7 (A) coordinates and enhances existing
8 similar efforts; and

9 (B) provides information relating to high-
10 performance green buildings, including—

11 (i) information on, and hyperlinks to
12 Internet sites that describe, the activities
13 of the Federal Government;

14 (ii) hyperlinks to Internet sites relat-
15 ing to—

16 (I) State and local governments;

17 (II) the private sector; and

18 (III) international activities; and

19 (iii) information on the exposure of
20 children to environmental hazards in school
21 facilities, as provided by the Administrator
22 of the Environmental Protection Agency;

23 (2) develop clear guidance and educational ma-
24 terials for use by Federal agencies in implementing
25 high-performance green building practices;

1 (3) develop and conduct training sessions with
2 budget specialists and contracting personnel from
3 Federal agencies and budget examiners to apply life-
4 cycle cost criteria to actual projects;

5 (4) provide technical assistance on methods of
6 using tools and resources to make more cost-effec-
7 tive, health protective, and environmentally bene-
8 ficial decisions for constructing high-performance
9 green buildings;

10 (5) assist all branches of government at the
11 Federal, State, and local levels, and any other inter-
12 ested entity, by providing information on relevant
13 application processes for certifying a high-perform-
14 ance green building, including certification and com-
15 missioning;

16 (6) assist interested persons, communities, busi-
17 nesses, and branches of government with technical
18 information, technical assistance, market research,
19 or other forms of assistance, information, or advice
20 that would be useful in planning and constructing
21 high-performance green buildings, particularly with
22 respect to tools available to conduct life-cycle cost
23 assessment;

24 (7) provide technical training and guidance on
25 high-performance green buildings; and

1 (8) obtain such information from other Federal
2 offices, agencies and departments as is necessary to
3 carry out this Act.

4 **SEC. 105. RESEARCH AND DEVELOPMENT.**

5 (a) ESTABLISHMENT.—The Office shall carry out re-
6 search and development—

7 (1) to survey and coordinate existing research
8 and studies;

9 (2) to recommend new areas for research; and

10 (3) to promote the development and dissemina-
11 tion of high performance green building tools.

12 (b) DUTIES.—In carrying out this section, the Office
13 shall—

14 (1) ensure interagency coordination of relevant
15 research;

16 (2) develop and direct a Federal high-perform-
17 ance green building research plan that identifies in-
18 formation needs and research that should be ad-
19 dressed and provides measurement tools—

20 (A) to quantify the relationships between
21 human health and occupant productivity and
22 each of—

23 (i) pollutant emissions from materials
24 and products in the building;

25 (ii) natural day lighting;

1 (iii) ventilation choices and tech-
2 nologies;

3 (iv) heating and cooling choices and
4 technologies;

5 (v) moisture control and mold;

6 (vi) maintenance, cleaning, and pest
7 control activities;

8 (vii) acoustics; and

9 (viii) other issues relating to the
10 health, comfort, productivity, and perform-
11 ance of occupants of the building;

12 (B) to monitor and assess the life-cycle
13 performance of public facilities (including dem-
14 onstration projects) built as high-performance
15 green buildings, including through consideration
16 of the report required under section
17 401(b)(1)(D); and

18 (C) to quantify, review, and standardize
19 techniques for use in performing life cycle as-
20 sessments;

21 (3) assist the budget and life-cycle costing func-
22 tions of the Office under section 106 in the develop-
23 ment and implementation of performance-based
24 standards and life-cycle cost measures, including the
25 development of performance measure tools and soft-

1 ware for use by Federal agencies and other inter-
 2 ested entities; and

3 (4) support other research initiatives deter-
 4 mined by the Office to contribute to mainstreaming
 5 of high-performance planning, design, construction,
 6 and operation and management of buildings.

7 **SEC. 106. BUDGET AND LIFE-CYCLE COSTING.**

8 (a) ESTABLISHMENT.—The Office, in coordination
 9 with the Office of Management and Budget and relevant
 10 agencies, shall carry out budget and life-cycle costing for
 11 green buildings.

12 (b) DUTIES.—In carrying out this section, the Office
 13 shall—

14 (1) consult, as necessary, the report of the Of-
 15 fice of the Federal Environmental Executive entitled
 16 “The Federal Commitment to Buildings: Experi-
 17 ences and Expectations” and dated September 2003;

18 (2) be responsible for—

19 (A) examining policy of the Office of Man-
 20 agement and Budget relating to life-cycle cost-
 21 ing for Federal capital investments;

22 (B) assisting in the development of clear
 23 guidance and implementation of life-cycle cost
 24 policy with budget offices of other Federal

1 agencies by establishing a consistent standard of
2 life-cycle cost practices for Federal agencies;

3 (C) identifying tools that could support the
4 use of life-cycle costing to assist sound Federal
5 budget decisionmaking; and

6 (D) examining—

7 (i) the practicability of linking high
8 performance green building life cycle
9 stages with Federal budgets;

10 (ii) the effect that such a link would
11 have in reducing barriers to the construc-
12 tion of high-performance green buildings
13 and renovation of existing buildings; and

14 (iii) means by which to incorporate
15 the short-term and long-term cost savings
16 that accrue from high-performance green
17 buildings.

18 **SEC. 107. AUTHORIZATION OF APPROPRIATIONS.**

19 There are authorized to be appropriated to carry out
20 this title \$2,000,000 for each of fiscal years 2005 through
21 2010.

TITLE II—HEALTHY HIGH- PERFORMANCE SCHOOLS

SEC. 201. GRANTS FOR SCHOOLS.

(a) IN GENERAL.—The Administrator of the Environmental Protection Agency may provide grants to State educational agencies and local educational agencies for use in—

(1) providing intensive technical assistance for and assisting the implementation of the Tools for Schools Program of the Environmental Protection Agency; and

(2) development of State-level school environmental quality plans, in partnership with the Environmental Protection Agency, that may include—

(A) standards for school building design, construction, and renovation;

(B) identification of ongoing school building environmental problems in the State;

(C) proposals for the systematic improvement (including benchmarks and timelines) of environmental conditions in schools throughout the State, including with respect to—

(i) school building siting, construction, and maintenance;

(ii) indoor air quality;

- 1 (iii) pest control;
- 2 (iv) radon contamination;
- 3 (v) lead contamination;
- 4 (vi) environmentally preferable pur-
- 5 chasing of products for instruction and
- 6 maintenance;
- 7 (vii) hazard identification and remedi-
- 8 ation; and
- 9 (viii) maximization of transportation
- 10 choices for students, staff, and other mem-
- 11 bers of the community; and

12 (D) recommendations for improvements in
 13 the capacity of the State to track child and
 14 adult health complaints relating to schools.

15 (b) COST SHARING.—

16 (1) FEDERAL SHARE.—The Federal share of
 17 the cost of a project or activity carried out using
 18 funds from a grant under subsection (a) shall not
 19 exceed 90 percent.

20 (2) NON-FEDERAL SHARE.—The non-Federal
 21 share of the cost of a project or activity carried out
 22 using funds from a grant under subsection (a) may
 23 be provided in the form of cash or in-kind goods and
 24 services, including goods and services used to create
 25 prototypical designs.

1 (c) GRANT PRIORITY.—

2 (1) IN GENERAL.—In providing grants under
3 this section for use in carrying out the program re-
4 ferred to in subsection (a)(1), the Administrator of
5 the Environmental Protection Agency shall give pri-
6 ority to school districts that have a demonstrated
7 need for environmental improvement.

8 (2) RESPONSIBILITY OF SCHOOL DISTRICTS
9 AND STATE EDUCATIONAL AGENCIES.—

10 (A) SCHOOL DISTRICTS.—Not later than 2
11 years after the date of enactment of this Act,
12 and annually thereafter, each school district
13 that receives funds from the Administrator of
14 the Environmental Protection Agency to carry
15 out a program described in subsection (a) shall
16 submit to the State educational agency with ju-
17 risdiction over the school district a report that
18 includes—

19 (i) a list of schools in the districts
20 that, as of the date of the report, have ac-
21 cepted funds or other assistance from the
22 Environmental Protection Agency for use
23 in carrying out this section; and

24 (ii) an evaluation of the impact of the
25 funds, including—

1 (I) general data regarding meas-
2 ures of student health and attendance
3 rates before and after the interven-
4 tion; and

5 (II) descriptions of toxic or haz-
6 ardous cleaning, maintenance, or in-
7 structional products eliminated or re-
8 duced in use as part of the promotion
9 or remediation of the indoor air qual-
10 ity of schools within the school dis-
11 trict; and

12 (iii) basic information on the potential
13 influence of other factors (such as the in-
14 stallation of carpet and HVAC systems
15 and similar activities) on air quality.

16 (B) STATE EDUCATIONAL AGENCY RE-
17 PORTS.—Not later than 180 days after the date
18 on which each State educational agency has re-
19 ceived the annual reports under subparagraph
20 (A) from all participating school districts, the
21 State educational agency shall submit to the
22 Administrator of the Environmental Protection
23 Agency and Congress a consolidated report of
24 all information received from the school dis-
25 tricts.

1 **SEC. 202. FEDERAL GUIDELINES FOR SITING OF SCHOOL**
2 **FACILITIES.**

3 (a) IN GENERAL.—Using as a model guidelines such
4 as those of the “Child Proofing Our Communities” School
5 Siting Committee of the State of California, the Adminis-
6 trator of the Environmental Protection Agency shall de-
7 velop school site acquisition guidelines.

8 (b) VULNERABILITY.—The guidelines should contain
9 an analysis of means by which to account for the special
10 vulnerability of children to chemical exposures in any case
11 in which the potential for contamination at a potential
12 school site is assessed.

13 (c) ACCESSIBILITY.—The guidelines shall include an
14 analysis of means by which to maximize transportation
15 choices for students, staff, and other members of the com-
16 munity.

17 **SEC. 203. EDUCATION RESEARCH PROGRAM.**

18 The Administrator of the Environmental Protection
19 Agency, in partnership with the Secretary of Education,
20 shall carry out an education research program that—

21 (1) describes the status and findings of Federal
22 research initiatives established under this Act and
23 other Federal law with respect to education, includ-
24 ing relevant updates on trends in the field, such as
25 the impact of school facility environments on—

1 (A) student and staff health, safety, and
 2 productivity;

3 (B) students with disabilities or special
 4 needs; and

5 (C) student learning capacity;

6 (2) provides technical assistance on siting, de-
 7 sign, management, and operation of school facilities,
 8 including facilities used by students with disabilities
 9 or special needs;

10 (3) once the relevant metrics have been identi-
 11 fied or developed in accordance with section 105,
 12 quantifies the relationships between—

13 (A) human health, occupant productivity,
 14 and student performance; and

15 (B) with respect to school facilities, each
 16 of—

17 (i) pollutant emissions from materials
 18 and products;

19 (ii) natural day lighting;

20 (iii) ventilation choices and tech-
 21 nologies;

22 (iv) heating and cooling choices and
 23 technologies;

24 (v) moisture control and mold;

1 (vi) maintenance, cleaning, and pest
2 control activities;

3 (vii) acoustics; and

4 (viii) other issues relating to the
5 health, comfort, productivity, and perform-
6 ance of occupants of the school facilities;

7 (4) cooperates with federally funded pediatric
8 environmental health research centers to assist in
9 on-site school environmental investigations;

10 (5) assists States and State entities in better
11 understanding and improving the environmental
12 health of children; and

13 (6) provides to the Office a biennial report of
14 all activities carried out under this section.

15 **SEC. 204. AUTHORIZATION OF APPROPRIATIONS.**

16 There is authorized to be appropriated to carry out
17 this title \$10,000,000 for the period of fiscal years 2005
18 through 2010.

19 **TITLE III—STRENGTHENING**
20 **FEDERAL LEADERSHIP**

21 **SEC. 301. GENERAL ACCOUNTING OFFICE.**

22 (a) RESTRUCTURING OF CAPITAL BUDGETS.—Not
23 later than 180 days after the date of submission of the
24 report under 102(c), the Comptroller General shall—

25 (1) review the current budget process; and

1 (2) develop and submit to Congress an imple-
2 mentation plan for life-cycle costing that—

3 (A) identifies and incorporates the short-
4 term and long-term cost savings that accrue
5 from high-performance green buildings; and

6 (B) includes recommendations for—

7 (i) restructuring of budgets to require
8 the use of complete energy- and environ-
9 mental-cost accounting;

10 (ii) the use of operations expenditures
11 in budget-related decisions while simulta-
12 neously incorporating productivity and
13 health measures (as those measures can be
14 quantified by the Office, with the assist-
15 ance of universities and national labora-
16 tories); and

17 (iii) means by which Federal agencies
18 may be permitted to retain and reuse all
19 identified savings accrued as a result of
20 the use of high-performance life cycle cost-
21 ing for future high-performance green
22 building initiatives.

23 (b) AUDITS.—The Comptroller General may conduct
24 periodic audits of a Federal project over the life of the
25 project to inspect whether—

1 (1) the design stage of high performance green
 2 building measures were achieved; and

3 (2) the high performance building data were
 4 collected and reported to the Office.

5 **TITLE IV—DEMONSTRATION** 6 **PROJECT**

7 **SEC. 401. COORDINATION OF GOALS.**

8 (a) IN GENERAL.—The Office shall establish guide-
 9 lines for a demonstration project conducted as a public-
 10 private partnership to contribute to the research goals of
 11 the Office.

12 (b) PROJECTS.—In accordance with guidelines estab-
 13 lished by the Office under subsection (a) and the duties
 14 of the Office described in section 101(b), the individual
 15 appointed under section 101(a) shall carry out—

16 (1) for each of fiscal years 2005 through 2008,
 17 a demonstration project, in a Federal building se-
 18 lected by the Office in accordance with the criteria
 19 described in subsection (c)(1), that—

20 (A) provides for the evaluation and, as
 21 practicable, use of the information obtained
 22 through the conduct of projects and activities
 23 under this Act;

24 (B) requires at least 1 project or activity
 25 referred to in subparagraph (A) to achieve a

1 platinum rating, as defined by the Leadership
 2 in Energy and Environmental Design Building
 3 Rating System standard established by the
 4 United States Green Building Council (or
 5 equivalent rating), for each fiscal year; and

6 (C) requires the submission to the Office
 7 of an annual report describing recommenda-
 8 tions for the use of information gathered as a
 9 result of programs carried out under this Act;
 10 and

11 (2) a demonstration project involving at least 4
 12 universities, that, as determined by the Office in ac-
 13 cordance with subsection (c)(2), have appropriate re-
 14 search capability and relevant projects to meet the
 15 goals of the demonstration project established by the
 16 Office.

17 (c) CRITERIA.—

18 (1) FEDERAL BUILDINGS.—With respect to the
 19 Federal building at which a demonstration project
 20 under this section is conducted, the Federal building
 21 shall—

22 (A) be an appropriate model for a project
 23 involving—

1 (i) location and design that promote
 2 access to the Federal building through
 3 walking, biking, and mass transit;

4 (ii) construction or renovation to meet
 5 high indoor environmental criteria;

6 (iii) deployment, and assessment of ef-
 7 fectiveness, of high performance tech-
 8 nologies;

9 (iv) analysis of life cycles of all mate-
 10 rials, components, and systems in the
 11 building; and

12 (v) assessment of beneficial impacts
 13 on public health and the health of individ-
 14 uals that enter or work in the building;
 15 and

16 (B) possess sufficient technological and or-
 17 ganizational adaptability.

18 (2) UNIVERSITIES.—With respect to the 4 uni-
 19 versities at which a demonstration project under this
 20 section is conducted—

21 (A) the universities should be selected
 22 based on—

23 (i) successful and established public-
 24 private research and development partner-
 25 ships;

(ii) demonstrated capabilities to construct or renovate buildings that meet high indoor environmental qualities;

(iii) organizational flexibility;

(iv) technological adaptability;

(v) energy and environmental effectiveness throughout the life cycles of all materials, components, and systems deployed within the building; and

(vi) the demonstrated capacity of at least 1 university to replicate lessons learned among nearby or sister universities, preferably by participation in groups or consortia that promote sustainability;

(B) each university shall be located in a different climatic region of the United States, each of which regions shall have, as determined by the Office—

(i) a hot, dry climate;

(ii) a hot, humid climate;

(iii) a cold climate; or

(iv) a mild climate;

(C) each university shall agree that the focuses of the project shall be—

1 (i) the effectiveness of various high
 2 performance technologies in each of the 4
 3 climatic regions of the United States de-
 4 scribed in subparagraph (B);

5 (ii) the identification of the most ef-
 6 fective ways to use high performance build-
 7 ing and landscape technologies to engage
 8 and educate undergraduate and graduate
 9 students; and

10 (iii) quantifiable and nonquantifiable
 11 beneficial impacts on public health and
 12 worker and student performance.

13 **SEC. 402. AUTHORIZATION OF APPROPRIATIONS.**

14 (a) **FEDERAL DEMONSTRATION PROJECT.**—There is
 15 authorized to be appropriated to carry out the Federal
 16 demonstration project described in section 401(b)(1)
 17 \$5,000,000 for the period of fiscal years 2005 through
 18 2010.

19 (b) **UNIVERSITY DEMONSTRATION PROJECTS.**—
 20 There is authorized to be appropriated to carry out the
 21 university demonstration projects described in section
 22 401(b)(2) \$10,000,000 for the period of fiscal years 2005
 23 through 2010.

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