#### 110TH CONGRESS 1ST SESSION

# H. R. 121

To improve efficiency in the Federal Government through the use of highperformance green buildings, and for other purposes.

### IN THE HOUSE OF REPRESENTATIVES

January 4, 2007

Mr. Doyle (for himself and Mrs. Bono) introduced the following bill; which was referred to the Committee on Energy and Commerce, and in addition to the Committees on Oversight and Government Reform, Science and Technology, and Transportation and Infrastructure, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

### A BILL

To improve efficiency in the Federal Government through the use 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 of 2007".
- 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. Definitions.
	TITLE I—OFFICE OF HIGH-PERFORMANCE GREEN BUILDINGS
	<ul> <li>Sec. 101. Oversight.</li> <li>Sec. 102. Office of High-Performance Green Buildings.</li> <li>Sec. 103. Green Building Advisory Committee.</li> <li>Sec. 104. Public outreach.</li> <li>Sec. 105. Research and development.</li> <li>Sec. 106. Budget and life-cycle costing and contracting.</li> <li>Sec. 107. Authorization of appropriations.</li> </ul>
	TITLE II—STRENGTHENING FEDERAL LEADERSHIP
	<ul><li>Sec. 201. Incentives.</li><li>Sec. 202. Federal procurement.</li><li>Sec. 203. Federal green building performance.</li></ul>
	TITLE III—DEMONSTRATION PROJECT
	Sec. 301. Coordination of goals. Sec. 302. Authorization of appropriations.
1	SEC. 2. DEFINITIONS.
2	In this Act:
3	(1) Administrator.—The term "Adminis-
4	trator" means the Administrator of General Serv-
5	ices.
6	(2) COMMITTEE.—The term "Committee"
7	means the Green Building Advisory Committee es-
8	tablished under section 103(a).
9	(3) Director.—The term "Director" means
10	the individual appointed to the position established
11	under section 101(a).
12	(4) Federal facility.—
13	(A) IN GENERAL.—The term "Federal fa-

cility' means any building or facility the in-

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1	tended use of which requires the building or fa-
2	cility to be—
3	(i) accessible to the public; and
4	(ii) constructed or altered by or on be-
5	half of the United States.
6	(B) Exclusions.—The term "Federal fa-
7	cility" does not include a privately-owned resi-
8	dential or commercial structure that is not
9	leased by the Federal Government.
10	(5) High-performance green building.—
11	The term "high-performance green building" means
12	a building that, during its life-cycle—
13	(A) reduces energy, water, and material re-
14	source use;
15	(B) improves indoor environmental quality
16	including, reducing indoor pollution, improving
17	thermal comfort, and improving lighting and
18	acoustic environments that affect occupant
19	health and productivity;
20	(C) reduces negative impacts on the envi-
21	ronment throughout the life-cycle of the build-
22	ing, including air and water pollution and waste
23	generation;
24	(D) increases the use of environmentally
25	preferable products, including biobased, recycled

1	content, and nontoxic products with lower life-
2	cycle impacts;
3	(E) increases reuse and recycling opportu-
4	nities;
5	(F) integrates systems in the building;
6	(G) reduces the environmental and energy
7	impacts of transportation through building loca-
8	tion and site design that support a full range
9	of transportation choices for users of the build-
10	ing; and
11	(H) considers indoor and outdoor effects of
12	the building on human health and the environ-
13	ment, including—
14	(i) improvements in worker produc-
15	tivity;
16	(ii) the life-cycle impacts of building
17	materials and operations; and
18	(iii) other factors that the Office con-
19	siders to be appropriate.
20	(6) Life-cycle.—The term "life-cycle", with
21	respect to a high-performance green building, means
22	all stages of the useful life of the building (including
23	components, equipment, systems, and controls of the
24	building) beginning at conception of a green building
25	project and continuing through site selection, design,

- construction, landscaping, commissioning, operation, maintenance, renovation, deconstruction or demolition, removal, and recycling of the green building.
  - (7) LIFE-CYCLE ASSESSMENT.—The term "life-cycle assessment" means a comprehensive system approach for measuring the environmental performance of a product or service over the life of the product or service, beginning at raw materials acquisition and continuing through manufacturing, transportation, installation, use, reuse, and end-of-life waste management.
  - (8) LIFE-CYCLE COSTING.—The term "life-cycle costing", with respect to a high-performance green building, means a technique of economic evaluation that—
    - (A) sums, over a given study period, the costs of initial investment (less resale value), replacements, operations (including energy use), and maintenance and repair of an investment decision; and

### (B) is expressed—

(i) in present value terms, in the case of a study period equivalent to the longest useful life of the building, determined by taking into consideration the typical life of

1	such a building in the area in which the
2	building is to be located; or
3	(ii) in annual value terms, in the case
4	of any other study period.
5	(9) Office.—The term "Office" means the Of-
6	fice of High-Performance Green Buildings estab-
7	lished under section 102(a).
8	TITLE I—OFFICE OF HIGH-PER-
9	FORMANCE GREEN BUILD-
10	INGS
11	SEC. 101. OVERSIGHT.
12	(a) In General.—The Administrator shall establish
13	within the General Services Administration, and appoint
14	an individual to serve as Director in, a position in the ca-
15	reer-reserved Senior Executive service, to—
16	(1) establish and manage the Office in accord-
17	ance with section 102; and
18	(2) carry out other duties as required under
19	this Act.
20	(b) Compensation.—The compensation of the Di-
21	rector shall not exceed the maximum rate of basic pay for
22	the Senior Executive Service under section 5382 of title
23	5, United States Code, including any applicable locality-
24	based comparability payment that may be authorized
25	under section 5304(h)(2)(C) of that title.

1	SEC. 102. OFFICE OF HIGH-PERFORMANCE GREEN BUILD-
2	INGS.
3	(a) Establishment.—The Director shall establish
4	within the General Services Administration an Office of
5	High-Performance Green Buildings.
6	(b) Duties.—The Director shall—
7	(1) ensure full coordination of high-performance
8	green building information and activities within the
9	General Services Administration and all relevant
10	agencies, including, at a minimum—
11	(A) the Environmental Protection Agency;
12	(B) the Office of the Federal Environ-
13	mental Executive;
14	(C) the Office of Federal Procurement Pol-
15	icy;
16	(D) the Department of Energy;
17	(E) the Department of Health and Human
18	Services;
19	(F) the Department of Defense; and
20	(G) such other Federal agencies as the Di-
21	rector considers to be appropriate;
22	(2) establish a senior-level Federal green build-
23	ing advisory committee, which shall provide advice
24	and recommendations in accordance with section
25	103;

1	(3) identify and biennially reassess improved or
2	higher rating standards recommended by the Com-
3	mittee;
4	(4) establish a national high-performance green
5	building clearinghouse in accordance with section
6	104, which shall provide green building information
7	through—
8	(A) outreach;
9	(B) education; and
10	(C) the provision of technical assistance;
11	(5) ensure full coordination of research and de-
12	velopment information relating to high-performance
13	green building initiatives under section 105;
14	(6) identify and develop green building stand-
15	ards that could be used for all types of Federal fa-
16	cilities in accordance with section 105;
17	(7) establish green practices that can be used
18	throughout the life of a Federal facility;
19	(8) review and analyze current Federal budget
20	practices and life-cycle costing issues, and make rec-
21	ommendations to Congress, in accordance with sec-
22	tion 106; and
23	(9) complete and submit the report described in
24	subsection (c).

1	(c) Report.—Not later than 2 years after the date
2	of enactment of this Act, and biennially thereafter, the Di-
3	rector shall submit to Congress a report that—
4	(1) describes the status of the green building
5	initiatives under this Act and other Federal pro-
6	grams in effect as of the date of the report, includ-
7	ing—
8	(A) the extent to which the programs are
9	being carried out in accordance with this Act;
10	and
11	(B) the status of funding requests and ap-
12	propriations for those programs;
13	(2) identifies within the planning, budgeting,
14	and construction process all types of Federal facility
15	procedures that inhibit new and existing Federal fa-
16	cilities from becoming high-performance green build-
17	ings as measured by—
18	(A) a silver rating, as defined by the Lead-
19	ership in Energy and Environmental Design
20	Building Rating System standard established by
21	the United States Green Building Council (or
22	an equivalent rating); or
23	(B) an improved or higher rating standard,
24	as identified by the Committee;

1	(3) identifies inconsistencies, as reported to the
2	Committee, in Federal law with respect to product
3	acquisition guidelines and high-performance product
4	guidelines;
5	(4) recommends language for uniform stand-
6	ards for use by Federal agencies in environmentally
7	responsible acquisition;
8	(5) in coordination with the Office of Manage-
9	ment and Budget, reviews the budget process for
10	capital programs with respect to alternatives for—
11	(A) restructuring of budgets to require the
12	use of complete energy- and environmental-cost
13	accounting;
14	(B) using operations expenditures in budg-
15	et-related decisions while simultaneously incor-
16	porating productivity and health measures (as
17	those measures can be quantified by the Office,
18	with the assistance of universities and national
19	laboratories);
20	(C) permitting Federal agencies to retain
21	all identified savings accrued as a result of the
22	use of life-cycle costing for future high-perform-
23	ance green building initiatives; and
24	(D) identifying short- and long-term cost
25	savings that accrue from high-performance

- green buildings, including those relating to health and productivity;
- (6) identifies green, self-sustaining technologies
   to address the operational needs of Federal facilities
   in times of national security emergencies, natural
   disasters, or other dire emergencies;
  - (7) summarizes and highlights development, at the State and local level, of green building initiatives, including executive orders, policies, or laws adopted promoting green building (including the status of implementation of those initiatives); and
- 12 (8) includes, for the 2-year period covered by 13 the report, recommendations to address each of the 14 matters, and a plan for implementation of each rec-15 ommendation, described in paragraphs (1) through 16 (6).
- 17 (d) IMPLEMENTATION.—The Office shall carry out 18 each plan for implementation of recommendations under 19 subsection (c)(7).
- 20 SEC. 103. GREEN BUILDING ADVISORY COMMITTEE.
- 21 (a) Establishment.—Not later than 180 days after
- 22 the date of enactment of this Act, the Director shall estab-
- 23 lish a committee to be known as the "Green Building Ad-
- 24 visory Committee".

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1	(b) Membership.—The Committee shall be com-
2	posed of representatives of, at a minimum—
3	(1) each agency referred to in section
4	102(b)(1); and
5	(2) other relevant entities, as determined by the
6	Director, including at least 1 representative of each
7	of the following:
8	(A) State and local governmental green
9	building programs.
10	(B) Independent green building associa-
11	tions or councils.
12	(C) Building experts, including architects,
13	material suppliers, and construction contrac-
14	tors.
15	(D) Security advisors focusing on national
16	security needs, natural disasters, and other dire
17	emergency situations.
18	(E) Children and adult environmental
19	health experts.
20	(c) Meetings.—The Director shall establish a reg-
21	ular schedule of meetings for the Committee, which shall
22	convene a minimum of 6 times each year.
23	(d) Duties.—The Committee shall provide advice
	and expertise for use by the Director in carrying out the
	duties under this Act. including such recommendations re-

1	lating to Federal activities carried out under sections 104
2	through 106 as are agreed to by a majority of the mem-
3	bers of the Committee.
4	(e) FACA EXEMPTION.—The Committee shall not be
5	subject to the Federal Advisory Committee Act (5 U.S.C.
6	App.).
7	SEC. 104. PUBLIC OUTREACH.
8	The Director, in coordination with the Committee,
9	shall carry out public outreach to inform individuals and
10	entities of the information and services available Govern-
11	ment-wide by—
12	(1) establishing and maintaining a national
13	high-performance green building clearinghouse, in-
14	cluding on the Internet, that—
15	(A) identifies existing similar efforts and
16	coordinates activities of common interest; and
17	(B) provides information relating to high-
18	performance green buildings, including
19	hyperlinks to Internet sites that describe the ac-
20	tivities, information, and resources of—
21	(i) the Federal Government;
22	(ii) State and local governments;
23	(iii) the private sector (including non-
24	governmental and nonprofit entities and
25	organizations); and

1	(iv) international organizations;
2	(2) identifying and recommending educational
3	resources for implementing high-performance green
4	building practices, including security and emergency
5	benefits and practices;
6	(3) providing access to technical assistance or
7	using tools and resources to make more cost-effec-
8	tive, energy-efficient, health-protective, and environ-
9	mentally beneficial decisions for constructing high-
10	performance green buildings, particularly tools avail-
11	able to conduct life-cycle costing and life-cycle as-
12	sessment;
13	(4) providing information on application proc-
14	esses for certifying a high-performance green build-
15	ing, including certification and commissioning;
16	(5) providing technical information, market re-
17	search, or other forms of assistance or advice that
18	would be useful in planning and constructing high-
19	performance green buildings; and
20	(6) using such other methods as are determined
21	by the Director to be appropriate.
22	SEC. 105. RESEARCH AND DEVELOPMENT.
23	(a) Establishment.—The Director, in coordination
24	with the Committee, shall—

1	(1)(A) survey existing research and studies re-
2	lating to high-performance green buildings; and
3	(B) coordinate activities of common interest;
4	(2) develop and recommend a high-performance
5	green building research plan that—
6	(A) identifies information and research
7	needs, including the relationships between
8	health, occupant productivity, and each of—
9	(i) pollutant emissions from materials
10	and products in the building;
11	(ii) natural day lighting;
12	(iii) ventilation choices and tech-
13	nologies;
14	(iv) heating, cooling, and system con-
15	trol choices and technologies;
16	(v) moisture control and mold;
17	(vi) maintenance, cleaning, and pest
18	control activities;
19	(vii) acoustics; and
20	(viii) other issues relating to the
21	health, comfort, productivity, and perform-
22	ance of occupants of the building; and
23	(B) promotes the development and dissemi-
24	nation of high-performance green building

1	measurement tools that, at a minimum, may be
2	used—
3	(i) to monitor and assess the life-cycle
4	performance of facilities (including dem-
5	onstration projects) built as high-perform-
6	ance green buildings; and
7	(ii) to perform life-cycle assessments;
8	(3) assist the budget and life-cycle costing func-
9	tions of the Office under section 106;
10	(4) study and identify potential benefits of
11	green buildings relating to security, natural disaster,
12	and emergency needs of the Federal Government;
13	and
14	(5) support other research initiatives deter-
15	mined by the Office.
16	(b) Indoor Air Quality.—The Director, in con-
17	sultation with the Committee, shall develop and implement
18	a comprehensive indoor air quality program for all Federal
19	facilities to ensure the safety of Federal workers and facil-
20	ity occupants—
21	(1) during new construction and renovation of
22	facilities; and
23	(2) in existing facilities.

1	SEC. 106. BUDGET AND LIFE-CYCLE COSTING AND CON
2	TRACTING.
3	(a) Establishment.—The Director, in coordination
4	with the Committee, shall—
5	(1) identify, review, and analyze current budge
6	and contracting practices that affect achievement or
7	high-performance green buildings, including the
8	identification of barriers to green building life-cycle
9	costing and budgetary issues;
10	(2) develop guidance and conduct training ses
11	sions with budget specialists and contracting per-
12	sonnel from Federal agencies and budget examiners
13	to apply life-cycle cost criteria to actual projects;
14	(3) identify tools to aid life-cycle cost decision
15	making; and
16	(4) explore the feasibility of incorporating the
17	benefits of green buildings, such as security benefits
18	into a cost-budget analysis to aid in life-cycle costing
19	for budget and decision making processes.
20	SEC. 107. AUTHORIZATION OF APPROPRIATIONS.
21	There is authorized to be appropriated to carry our
22	this title \$4,000,000 for each of fiscal years 2008 through
23	2013, to remain available until expended.

## 1 TITLE II—STRENGTHENING 2 FEDERAL LEADERSHIP

3	SEC. 201. INCENTIVES.
4	As soon as practicable after the date of enactment
5	of this Act, the Director shall identify incentives to encour-
6	age the use of green buildings and related technology in
7	the operations of the Federal Government, including
8	through—
9	(1) the provision of recognition awards; and
10	(2) the maximum feasible retention of financial
11	savings in the annual budgets of Federal agencies
12	for use in reinvesting in future green building initia-
13	tives.
14	SEC. 202. FEDERAL PROCUREMENT.
15	(a) In General.—Not later than 2 years after the
16	date of enactment of this Act, the Director of the Office
17	of Federal Procurement Policy, in consultation with the
18	Director and the Under Secretary of Defense for Acquisi-
19	tion, Technology, and Logistics, shall promulgate revisions
20	of the applicable acquisition regulations, to take effect as
21	of the date of promulgation of the revisions—
22	(1) to direct any Federal procurement execu-
23	tives involved in the acquisition, construction, or
24	major renovation (including contracting for the con-
25	struction or major renovation) of any facility—

1	(A) to employ integrated design principles;
2	(B) to improve site selection for environ-
3	mental and community benefits;
4	(C) to optimize building and systems en-
5	ergy performance;
6	(D) to protect and conserve water;
7	(E) to enhance indoor environmental qual-
8	ity; and
9	(F) to reduce environmental impacts of
10	materials and waste flows; and
11	(2) to direct Federal procurement executives in-
12	volved in leasing buildings, to give preference to the
13	lease of facilities that—
14	(A) are energy-efficient; and
15	(B) to the maximum extent practicable,
16	have applied contemporary high-performance
17	and sustainable design principles during con-
18	struction or renovation.
19	(b) Guidance.—Not later than 90 days after the
20	date of promulgation of the revised regulations under sub-
21	section (a), the Director shall issue guidance to all Federal
22	procurement executives providing direction and instruc-
23	tions to renegotiate the design of proposed facilities, ren-
24	ovations for existing facilities, and leased facilities to in-

1	corporate improvements that are consistent with this sec-
2	tion.
3	SEC. 203. FEDERAL GREEN BUILDING PERFORMANCE.
4	(a) In General.—Not later than October 31 of each
5	of the 2 fiscal years following the fiscal year in which this
6	Act is enacted, and at such times thereafter as the Comp-
7	troller General of the United States determines to be ap-
8	propriate, the Comptroller General of the United States
9	shall, with respect to the fiscal years that have passed
10	since the preceding report—
11	(1) conduct an audit of the implementation of
12	this Act; and
13	(2) submit to the Office, the Committee, the
14	Administrator, and Congress a report describing the
15	results of the audit.
16	(b) Contents.—An audit under subsection (a) shall
17	include a review, with respect to the period covered by the
18	report under subsection (a)(2), of—
19	(1) budget, life-cycle costing, and contracting
20	issues, using best practices identified by the Comp-
21	troller General of the United States and heads of
22	other agencies in accordance with section 106;
23	(2) the level of coordination among the Office,
24	the Office of Management and Budget, and relevant
25	agencies;

(3) the performance of the Office in carrying
out the implementation plan;
(4) the design stage of high-performance green
building measures;
(5) high-performance building data that were
collected and reported to the Office; and
(6) such other matters as the Comptroller Gen-
eral of the United States determines to be appro-
priate.
(c) Consultation.—The Director shall consult with
the Committee to enhance and assist the implementation
of the Environmental Stewardship Scorecard announced
at the White House Summit on Federal sustainable build-
ings in January 2006, to measure the implementation by
each Federal agency of sustainable design and green
building initiatives.
TITLE III—DEMONSTRATION
PROJECT
SEC. 301. COORDINATION OF GOALS.
(a) In General.—The Director shall establish
guidelines to implement a demonstration project to con-
tribute to the research goals of the Office.
(b) Projects.—In accordance with guidelines estab-
lished by the Director under subsection (a) and the duties

1	of the Director described in title I, the Director shall carry
2	out—
3	(1) for each of fiscal years 2009 through 2014
4	1 demonstration project in a Federal building se-
5	lected by the Director in accordance with relevant
6	agencies and described in subsection $(c)(1)$ , that—
7	(A) provides for the evaluation of the in-
8	formation obtained through the conduct of
9	projects and activities under this Act; and
10	(B) achieves a platinum rating, as defined
11	by the Leadership in Energy and Environ-
12	mental Design Building Rating System stand-
13	ard established by the United States Green
14	Building Council (or equivalent rating); and
15	(2) no fewer than 4 demonstration projects at
16	4 universities, that, as competitively selected by the
17	Director in accordance with subsection $(e)(2)$
18	have—
19	(A) appropriate research resources and rel-
20	evant projects to meet the goals of the dem-
21	onstration project established by the Office; and
22	(B) the ability—
23	(i) to serve as a model for high-per-
24	formance green building initiatives, includ-
25	ing research and education;

1	(ii) to identify the most effective ways
2	to use high-performance green building
3	and landscape technologies to engage and
4	educate undergraduate and graduate stu-
5	dents;
6	(iii) to effectively implement a high-
7	performance green building education pro-
8	gram for students and occupants;
9	(iv) to demonstrate the effectiveness
10	of various high-performance technologies in
11	each of the 4 climatic regions of the
12	United States described in subsection
13	(e)(2)(B); and
14	(v) to explore quantifiable and non-
15	quantifiable beneficial impacts on public
16	health and employee and student perform-
17	ance.
18	(e) Criteria.—
19	(1) Federal facilities.—With respect to the
20	existing or proposed Federal facility at which a dem-
21	onstration project under this section is conducted,
22	the Federal facility shall—
23	(A) be an appropriate model for a project
24	relating to—

1	(i) the effectiveness of high-perform-
2	ance technologies;
3	(ii) analysis of materials, components
4	systems, and emergency operations in the
5	building, and the impact of those mate-
6	rials, components, and systems, including
7	the impact on the health of building occu-
8	pants;
9	(iii) life-cycle costing and life-cycle as-
10	sessment of building materials and sys-
11	tems; and
12	(iv) location and design that promote
13	access to the Federal facility through walk-
14	ing, biking, and mass transit; and
15	(B) possess sufficient technological and or-
16	ganizational adaptability.
17	(2) Universities.—With respect to the 4 uni-
18	versities at which a demonstration project under this
19	section is conducted—
20	(A) the universities should be selected
21	after careful review of all applications received
22	containing the required information, as deter-
23	mined by the Director, based on—

1	(i) successful and established public-
2	private research and development partner-
3	ships;
4	(ii) demonstrated capabilities to con-
5	struct or renovate buildings that meet high
6	indoor environmental quality standards;
7	(iii) organizational flexibility;
8	(iv) technological adaptability;
9	(v) the demonstrated capacity of at
10	least 1 university to replicate lessons
11	learned among nearby or sister univer-
12	sities, preferably by participation in groups
13	or consortia that promote sustainability;
14	(vi) the demonstrated capacity of at
15	least 1 university to have officially-adopt-
16	ed, institution-wide "green building" guide-
17	lines for all campus building projects; and
18	(vii) the demonstrated capacity of at
19	least 1 university to have been recognized
20	by similar institutions as a national leader
21	in sustainability education and curriculum
22	for students of the university; and
23	(B) each university shall be located in a
24	different climatic region of the United States,

1	each of which regions shall have, as determined
2	by the Office—
3	(i) a hot, dry climate;
4	(ii) a hot, humid climate;
5	(iii) a cold climate; or
6	(iv) a temperate climate (including a
7	climate with cold winters and humid sum-
8	mers).
9	(d) Report.—Not later than 1 year after the date
10	of enactment of this Act, and annually thereafter through
11	September 30, 2014—
12	(1) the Director shall submit to the Adminis-
13	trator a report that describes the status of the dem-
14	onstration projects; and
15	(2) each University at which a demonstration
16	project under this section is conducted shall submit
17	to the Administrator a report that describes the sta-
18	tus of the demonstration projects under this section.
19	SEC. 302. AUTHORIZATION OF APPROPRIATIONS.
20	(a) Federal Demonstration Project.—There is
21	authorized to be appropriated to carry out the Federal
22	demonstration project described in section 301(b)(1)
23	\$10,000,000 for the period of fiscal years 2009 through
24	2014, to remain available until expended.

- 1 (b) University Demonstration Projects.—
- 2 There is authorized to be appropriated to carry out the
- 3 university demonstration projects described in section
- 4 301(b)(2) \$10,000,000 for the period of fiscal years 2009

5 through 2014, to remain available until expended.

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