

ASHRAE **Hellenic** Chapter

ΠΙΣΤΟΠΟΙΗΣΗ ΚΤΙΡΙΩΝ
ΜΕ ΤΗ ΜΕΘΟΔΟ

ΑΛΚΗΣ ΤΡΙΑΝΤΑΦΥΛΛΟΠΟΥΛΟΣ

Mechanical Engineer

Head of Engineering @ Menerga Hellas

ASHRAE TRAINER

™



L.E.E.D Leadership in Energy & Environmental Design

Η μέθοδος L.E.E.D (Leadership in Energy and Environmental Design) αποτελεί ένα διεθνώς αναγνωρισμένο σύστημα περιβαλλοντικής πιστοποίησης/αξιολόγησης κτιρίων και οικισμών





L.E.E.D Leadership in Energy & Environmental Design

Άρχισε να εφαρμόζεται πιλοτικά το **1998**

Αποτελεί δημιούργημα του **U.S.G.B.C** -U.S. Green Building Council (Συμβούλιο Πράσινων Κτιρίων των Η.Π.Α.)

Αποστολή/ Φιλοσοφία

Το L.E.E.D. ενθαρρύνει και επιταχύνει την υιοθέτηση πρακτικών για βιώσιμα και πράσινα κτίρια και οικισμούς σε διεθνές επίπεδο μέσω δημιουργίας και εφαρμογής διεθνώς κατανοητών και αποδεκτών κριτηρίων αναφοράς, τα οποία περιλαμβάνουν εφιστάμενα και νέα πρότυπα, εργαλεία και κριτήρια απόδοσης.

L.E.E.D

Leadership in Energy & Environmental Design



L.E.E.D Leadership in Energy & Environmental Design

To L.E.E.D. Rating System :

- Έχει εθελούσια βάση
- Market – driven
- Βασίζεται σε κοινές παραδοχές





LEED for **Building Design + Construction**



LEED for **Existing Buildings**



LEED for **Core & Shell**



LEED for **Commercial Interiors**



LEED for **Retail**



LEED for **Homes**



LEED for **Neighborhood Development**



LEED for **Schools**



LEED for **Healthcare**

ΚΑΤΗΓΟΡΙΕΣ ΧΩΡΩΝ ΠΡΟΣ ΠΙΣΤΟΠΟΙΗΣΗ



NEW
CONSTRUCTION
MAJOR RENOVATIONS

Ενεργειακά Οφέλη

EXISTING
BUILDINGS
OPERATIONS &
MAINTENANCE

Υψηλών Προδιαγραφών Συνθήκες Άνεσης

CORE
SHELL
DEVELOPMENT

Οικονομικά Οφέλη.

COMMERCIAL
INTERIORS

Εμπορικά – Επενδυτικά Οφέλη

RETAIL

Τραπεζικά Οφέλη

HOMES

Περιβαλλοντικά Οφέλη

NEIGHBORHOOD
DEVELOPMENT

LEED for **Neighborhood Development**

SCHOOLS

Εκπαιδευτικά Οφέλη

HEALTHCARE

Οφέλη Υγείας

ΠΟΛΛΑΠΛΑ ΟΦΕΛΗ

L.E.E.D
Leadership in Energy & Environmental Design





Οφέλη Πιστοποίησης L.E.E.D.



Οικονομικά

- Αύξηση εμπορικής αξίας του ακινήτου και της επιχείρησης
- Αύξηση πελατών λόγω βελτίωσης των συνθηκών του εσωτερικού χώρου
- Μείωση λειτουργικών εξόδων κτιρίου και αύξηση αξίας ενεργητικού
- Βελτίωση παραγωγικότητας των εργαζομένων
- Αναγνωρισιμότητα κτιρίου



Περιβαλλοντικά

- Μείωση του οικολογικού και ενεργειακού αποτυπώματος κτιρίου
- Εξοικονόμηση απαιτούμενης κατανάλωσης ενέργειας και πόσιμου νερού
- Μείωση αποβλήτων που καταλήγουν στους ΧΥΤΑ
- Μείωση επιβλαβών εκπομπών αερίων του θερμοκηπίου



Εταιρική κοινωνική ευθύνη

- Ενίσχυση τοπικής αγοράς και οικονομίας
- Βελτίωση της εργασιακής κουλτούρας χρηστών
- Δημιουργία υγιούς και ασφαλούς εσωτερικού περιβάλλοντος
- Ενίσχυση εταιρικής εικόνας και περιβαλλοντικής πολιτικής
- Απόδειξη εταιρικής δέσμευσης για ορθή περιβαλλοντική διαχείριση

ASHRAE STANDARDS FOR LEED



ANSI/ASHRAE/IES Standard 90.1-2019
 (Supersedes ANSI/ASHRAE/IES Standard 90.1-2016)
 Includes ANSI/ASHRAE/IES addenda listed in Appendix I

Energy Standard for Buildings Except Low-Rise Residential Buildings (I-P Edition)

See Appendix I for approval dates by ASHRAE, the Illuminating Engineering Society, and the American National Standards Institute.

This Standard is under continuous maintenance by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the Standard. Instructions for how to submit a change can be found on the ASHRAE® website (www.ashrae.org/continuous-maintenance).

The latest edition of an ASHRAE Standard may be purchased from the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: orders@ashrae.org. Fax: 678-539-2129. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

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ANSI/ASHRAE Standard 62.1-2019
 (Supersedes ANSI/ASHRAE Standard 62.1-2016)
 Includes ANSI/ASHRAE addenda listed in Appendix C

Ventilation for Acceptable Indoor Air Quality

See Appendix C for approval dates by ASHRAE and the American National Standards Institute.

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ANSI/ASHRAE Standard 62.2-2016
 (Supersedes ANSI/ASHRAE Standard 62.2-2013)
 Includes ANSI/ASHRAE addenda listed in Appendix D

Ventilation and Acceptable Indoor Air Quality in Residential Buildings

See Appendix D for approval dates by the ASHRAE Standards Committee, the ASHRAE Board of Directors, and the American National Standards Institute.

This Standard is under continuous maintenance by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the Standard. The change addenda form, instructions, and details may be obtained in electronic form from the ASHRAE website (www.ashrae.org) or in paper form from the Senior Manager of Standards. The latest edition of an ASHRAE Standard may be purchased from the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: orders@ashrae.org. Fax: 678-539-2129. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

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ANSI/ASHRAE Standard 55-2020
 (Supersedes ANSI/ASHRAE Standard 55-2017)
 Includes ANSI/ASHRAE addenda listed in Appendix N

Thermal Environmental Conditions for Human Occupancy

See Appendix N for ASHRAE and American National Standards Institute approval dates.

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ASHRAE STANDARD 189.1

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ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017

(Supersedes ANSI/ASHRAE/USGBC/IES Standard 189.1-2014)

Includes ANSI/ASHRAE Addenda listed in Appendix J

Standard for the Design of High-Performance Green Buildings

Except Low-Rise
Residential Buildings

The Complete Technical Content of the International Green Construction Code®

See Appendix J for approval dates by the ASHRAE Standards Committee, the ASHRAE Board of Directors, the International Code Council, U.S. Green Building Council, the Illuminating Engineering Society, and the American National Standards Institute.

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LEED IN DATA CENTERS ASHRAE STANDARD 90.4



ASHRAE STANDARD 90.4 for DATA CENTERS



ANSI/ASHRAE Standard 90.4-2016

Energy Standard for Data Centers

Approved by the ASHRAE Standards Committee on June 29, 2016; by the ASHRAE Board of Directors on June 29, 2016; and by the American National Standards Institute on July 27, 2016.

This Standard is under continuous maintenance by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the Standard. The change submittal form, instructions, and deadlines may be obtained in electronic form from the ASHRAE website (www.ashrae.org) or in paper form from the Senior Manager of Standards. The latest edition of an ASHRAE Standard may be purchased from the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: orders@ashrae.org; Fax: 678-539-2129; Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

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LEED IN HOUSES ASHRAE STANDARD 62.2

1st LEED HOME n GREECE
is under Development



LEED[®]
FOR HOMES



ANSI/ASHRAE Standard 62.2-2016
(Supersedes ANSI/ASHRAE Standard 62.2-2013)
Includes ANSI/ASHRAE addenda listed in Appendix D

Ventilation and Acceptable Indoor Air Quality in Residential Buildings

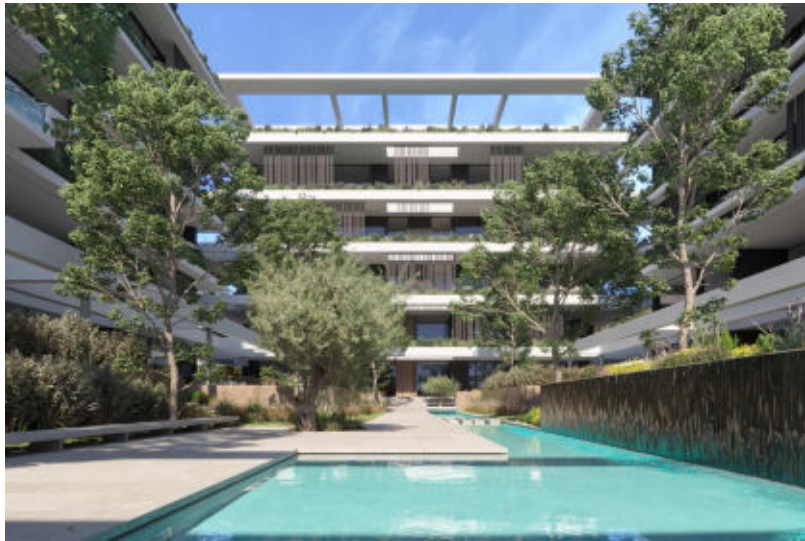
See Appendix D for approval dates by the ASHRAE Standards Committee, the ASHRAE Board of Directors, and the American National Standards Institute.

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1st LEED for HOMES in GREECE



Υπεροχή της μεθόδου L.E.E.D. σε σχέση με άλλες μεθόδους αξιολόγησης

- Διεθνώς αναγνωρισμένο σύστημα
- Μεγάλο εύρος παραμέτρων εξέτασης της βιωσιμότητας του κτιρίου
- Το κτίριο πρέπει να πληροί ορισμένες **ελάχιστες προϋποθέσεις** για να ενταχθεί στο σύστημα αξιολόγησης
- Ευνοεί την βιώσιμη ανάπτυξη σε **πολεοδομικό και περιφερειακό επίπεδο**

L.E.E.D

Leadership in Energy & Environmental Design



LEED stands for **L**eadership in **E**nergy and **E**nvironmental **D**esign



Building Design and Construction

Interior Design and Construction

Building Operations and Maintenance

Neighborhood Development

Homes



CERTIFIED
40-49 points

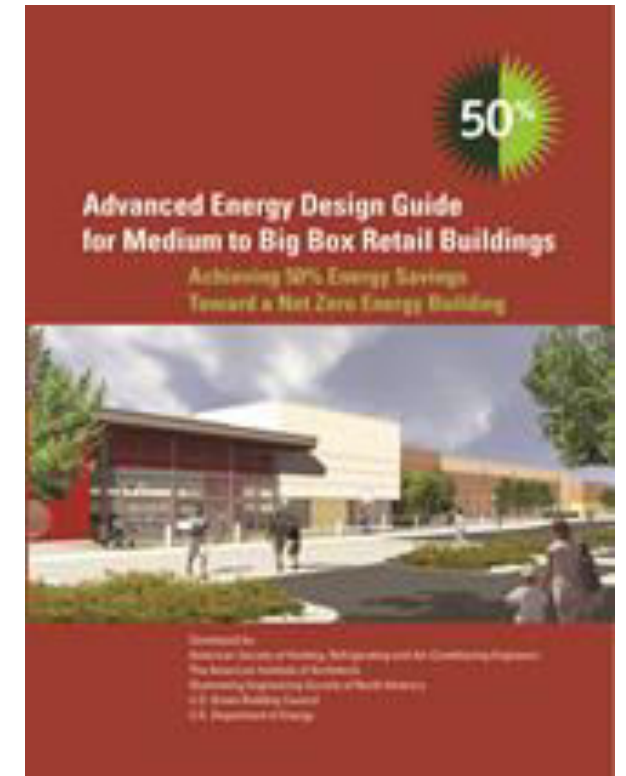
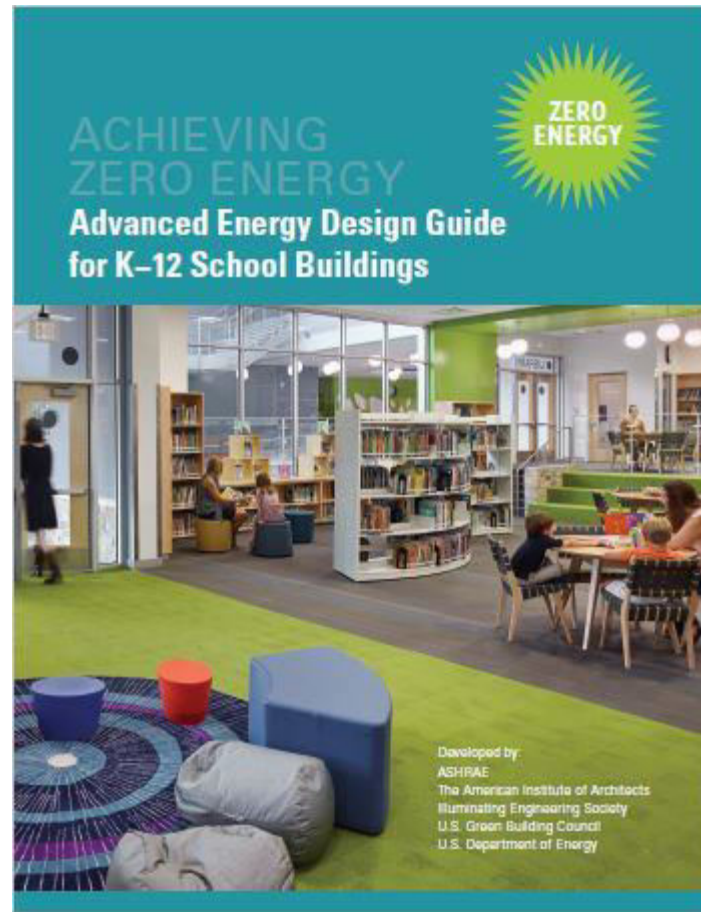
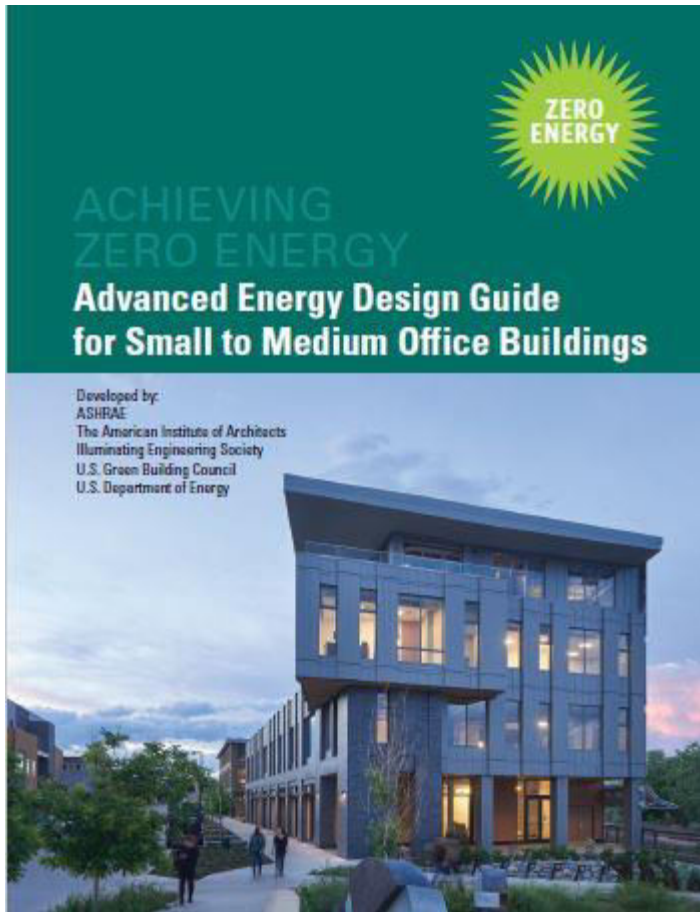
SILVER
50-59 points

GOLD
60-79 points

PLATINUM
80+ points



ASHRAE AEDG: Advanced Energy Design Guides FREE



ASHRAE GLOBAL Headquarters LEED PLATINUM

NAMING OPPORTUNITIES



While showcasing individual systems and products can go a long way in bringing attention to a brand, the exposure that comes from securing naming rights is unmatched. ASHRAE's new global headquarters will have numerous opportunities for naming, such as:

- Full Facility (Individual Only)
- East Wing
- West Wing
- Atrium
- Deck
- Entry PV Arcade
- Training and Conference Rooms
- North Lobby
- Lakeside Lobby

Systems Donations

The feasibility of high-performance building retrofits typically depends on systems solutions that are fully integrated and address several project goals. While there are myriad systems approaches that can reduce a building's Energy Use Index (EUI), only a handful can do so while maintaining a positive project proforma.

The ASHRAE headquarters renovation strives to become a model for market-based system solutions that work to lower the EUI of an existing building while also maintaining a focus on occupant comfort.

Examples of Systems that could be showcased are:

- PhotovoltaicS—Roof Mounted, Canopies, Carports
- Radiant Ceiling Panels
- Water-to-Water Heat Pump Units
- Duct and Pipe Systems
- Pumps, Heat Exchangers and Hydronic Specialties
- DDC Control Systems
- Security and Fire Alarm Systems
- Dedicated Outdoor Air Systems
- Dashboard/Energy Management Systems
- Lighting Control Systems
- LED Lighting Fixtures
- Power
- Water-Reducing Plumbing Fixtures
- Hot Water Heaters
- Electric Car Charging Stations



New Global Headquarters

180 Technology Parkway, Peachtree Corners, GA 30092

Updated available naming opportunities will be provided on request.

ASHRAE GLOBAL Headquarters LEED PLATINUM- Occupant Oriented





LEED PLATINUM
LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

The growth of the U.S. Green Building Council (USGBC) among the national growth of the green building industry is a major goal. The organization designs its programs and the way that has made it possible to offer to demonstrate its commitment to building better and healthier while serving the public, working together and working together and best green building is better for everyone, better for everyone, better for the community and better for the planet.

AWARDED JULY 10, 2009

U.S. Green Building Council Headquarters

Executive Design
Vernacular
Charles E. Smith

James G. Davis Construction Corp.

Sustainable Sites SS-100	Water Efficiency WE-100	Energy & Atmosphere EA-100	Materials & Resources MR-100	Indoor Environmental Quality IEQ-100	Innovation & Design ID-100	Regional Priority RP-100
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ΕΥΧΑΡΙΣΤΟΥ

ΜΕ

ΑΛΚΗΣ

ΤΡΙΑΝΤΑΦΥΛΛΟΠΟΥΛΟΣ

HEAD OF ENGINEERING

in MENERGA

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energa.gr

L.E.E.D

Leadership in Energy & Environmental Design