GREEN Building Ratings & Certifications

by Randy White, CEO

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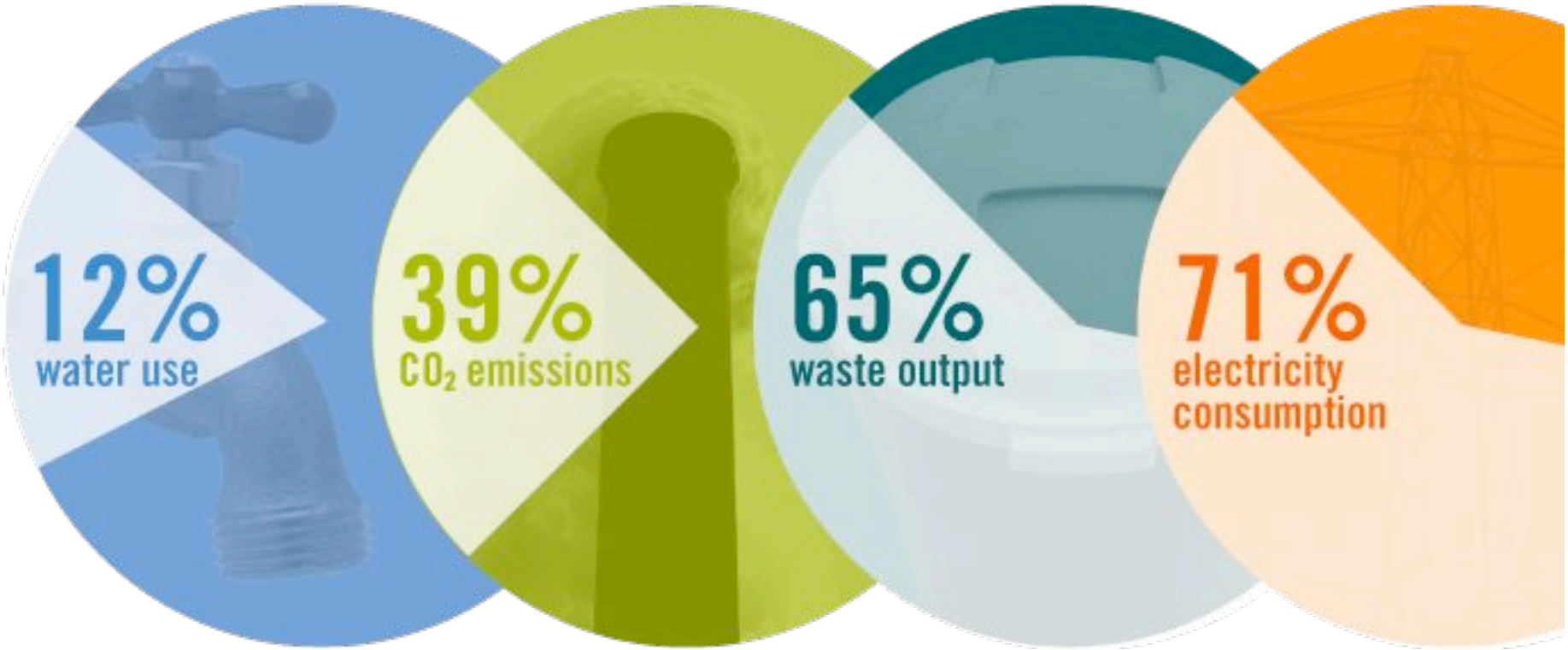
LEISURE & LEARNING GROUP

In today's environmentally conscious world the childcare industry is finally starting to demand sustainable facilities from designers

It's just not an issue of what is good for mother nature and the world as a whole, but also, what type environment children should be exposed to in the indoor and outdoor classroom

U.S. Building Impacts:



U.S. BUILDINGS IMPACTS ON RESOURCES

39% of total energy consumption

71% of electricity consumption

39% CO_2 emissions

30% of raw materials use

30% of waste output

12% of potable water consumption

WORLDWIDE, BUILDINGS ACCOUNT FOR...

17% fresh water withdrawals

25% wood harvest

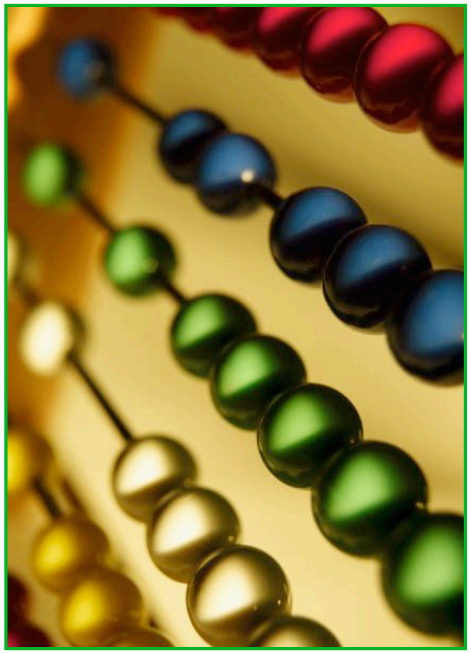
33% CO_2 emissions

40% material and energy use

45% in china

Every childcare project has the opportunity for high performance environmental design

High performance ecological facilities requires environmental benchmarking, evaluations, and assessment



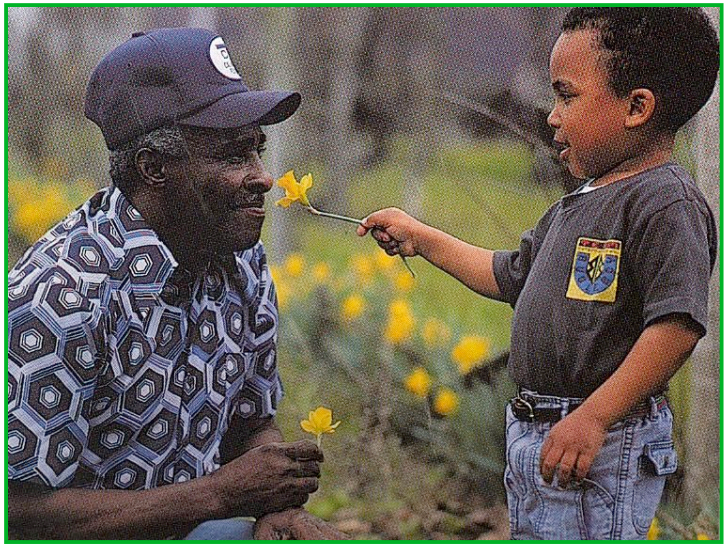
No comprehensive, integrated worldwide industry agreement on a methodology or one rating system

By getting informed, the practitioner can make an educated choice between

various assessment tools and methodologies

DEFINING SUSTAINABILITY

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs



Environmental ratings and certifications are international programs that have established sustainability and efficiency standards for buildings and projects.

6 Principles of Environmental Design

What are available sustainable design tools

Rating systems

Breeam

(Building Research Establishment's Environmental Assessment Method)

CASBEE

(Comprehensive Assessment System for Building Environmental Efficiency)

GBTool

Green Globes^{tm} US

LEED® (Leadership in Energy and Environmental Design)

Green Guide for Healthcare

Sustainable design tools

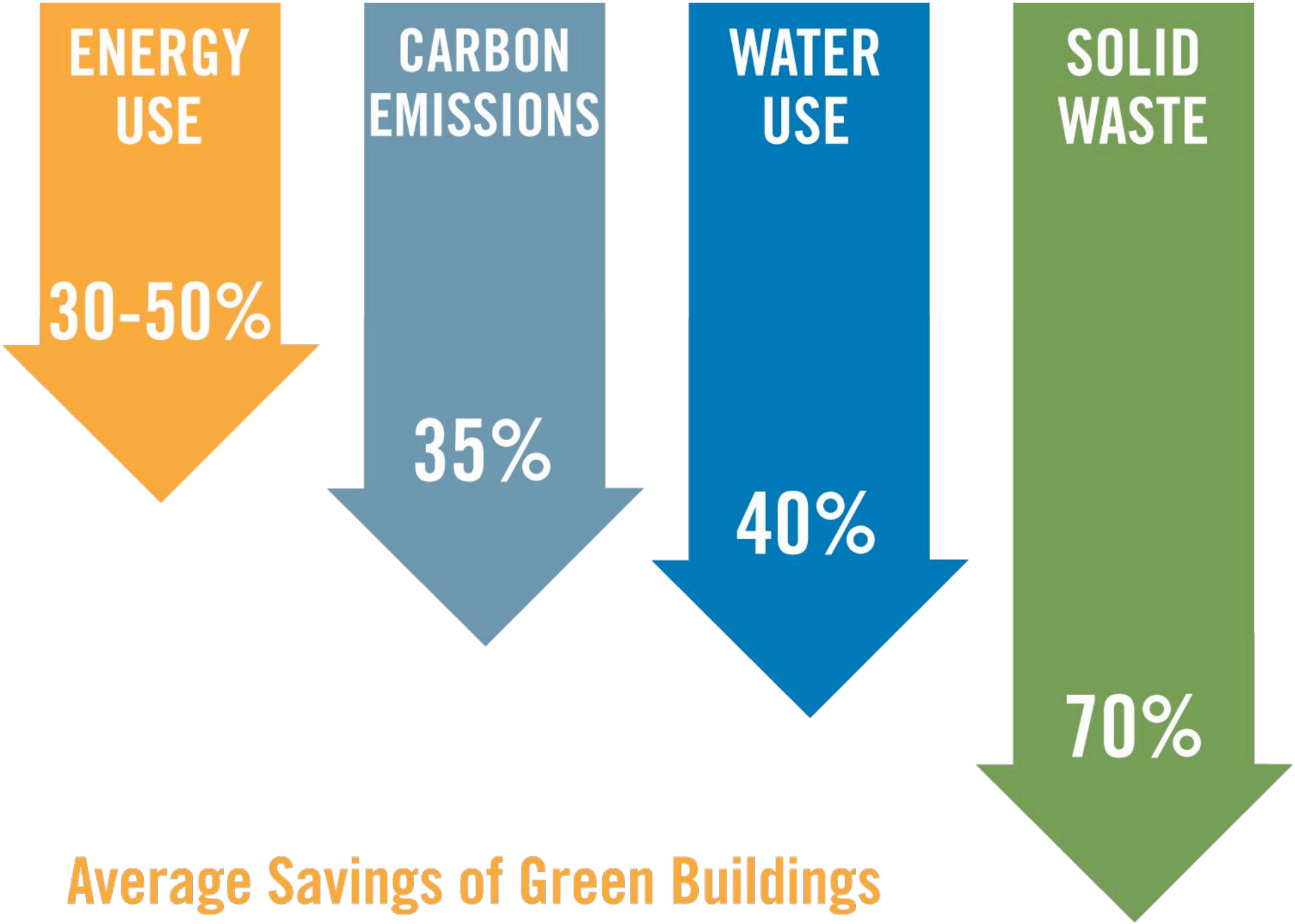
BREEAM United Kingdom but not used much in the U.S. BREEAM is updated annually, however, the current version is not publicly available for purchase and muse be acquired through a licensed assessor. The licensed assessor organization determines the BREEAM rating based on quantifiable design achievements.

CASBEE New system developed in the Japanese market and offers the unique “BEE approach” to representing the performance evaluation data. Based on the information available, it would not be applicable, specifically tenant build-out. The system requires documentation of quantifiable sustainable design achievements which are assessed by trained, first-class architects which have passes the CASBEE assessor examination. Fewer than 10 buildings have used the system and all of those are in Japan, thus it is relatively unknown in the U.S. market.

GBTOOL An international system that has been used to evaluate U.S. buildings for the Green Building Challenge, including one GSA Building. With respect GBTool would be applicable for all tenant build out and operations and maintenance applications, however, an operations and maintenance version is under development. A third party team establishes the qualitative and quantitative measures that are used to evaluate sustainable design achievements and expected building performance. Due to the flexibility inherent in the application of GBTool, it tends to require greater technical expertise to implement than other rating systems.

Green Globes™US Adapted from Green Globes Canada in 2004. Currently, the U.S. version is not available for all project types, however, Green Globes™US is developing tools that address the major renovations, tenant build-out, and operations and maintenance applications. The Green Building initiative received accreditation as a standards developer by ANSI and is working toward developing Green Globes™US as an official ANSI standard.

LEED® Is currently the dominant system in the United States market and is being adopted worldwide. The currently available LEED® rating systems address all of the federal building and project types Documentation of the quantifiable sustainable design measures are provided to the U.S. Green Building Council, the developer of the LEED® rating system for third party verification. The assessors have been trained and must pass an assessor examination. More than 400 U.S. buildings have received LEED® ratings and more than 3,400 buildings are registered and therefore potentially seeking certification. LEED® is not only the U.S. market leader, but is also the most widely used rating system by Federal and State agencies.


ENERGY USE
30-50%
CARBON EMISSIONS
35%
WATER USE
40%
SOLID WASTE
70%
Average Savings of Green Buildings

LEED

GREEN BUILDING RATING SYSTEM

Leadership in Energy & Environmental Design®

A leading-edge system for designing, constructing, operating and certifying the world's greenest buildings.

Why Was LEED® Created?

- Facilitate positive results for the environment, occupant health and financial return
- Define “green” by providing a standard for measurement
- Prevent “greenwashing” (false or exaggerated claims)
- Promote whole-building, integrated design processes

CUMULATIVE LEED PROJECT REGISTRATIONS, 2004-2007

YEAR	LEED-NC	LEED-CS	LEED-CI	LEED-EB	TOTAL	GROWTH OF CUMULATIVE CERTIFICATIONS, ALL LEED RATING SYSTEMS	GROWTH OF CUMULATIVE LEED-NC REGISTRATIONS
2004	1792	62	106	88	2048		
2005	2758	142	233	151	3284	160	154
2006	3895	325	462	244	4926	150	141
2007*	5800	1147	852	769	8568	174	149

* DATA FROM USGBC; 2007 IS FOR 11 MONTHS

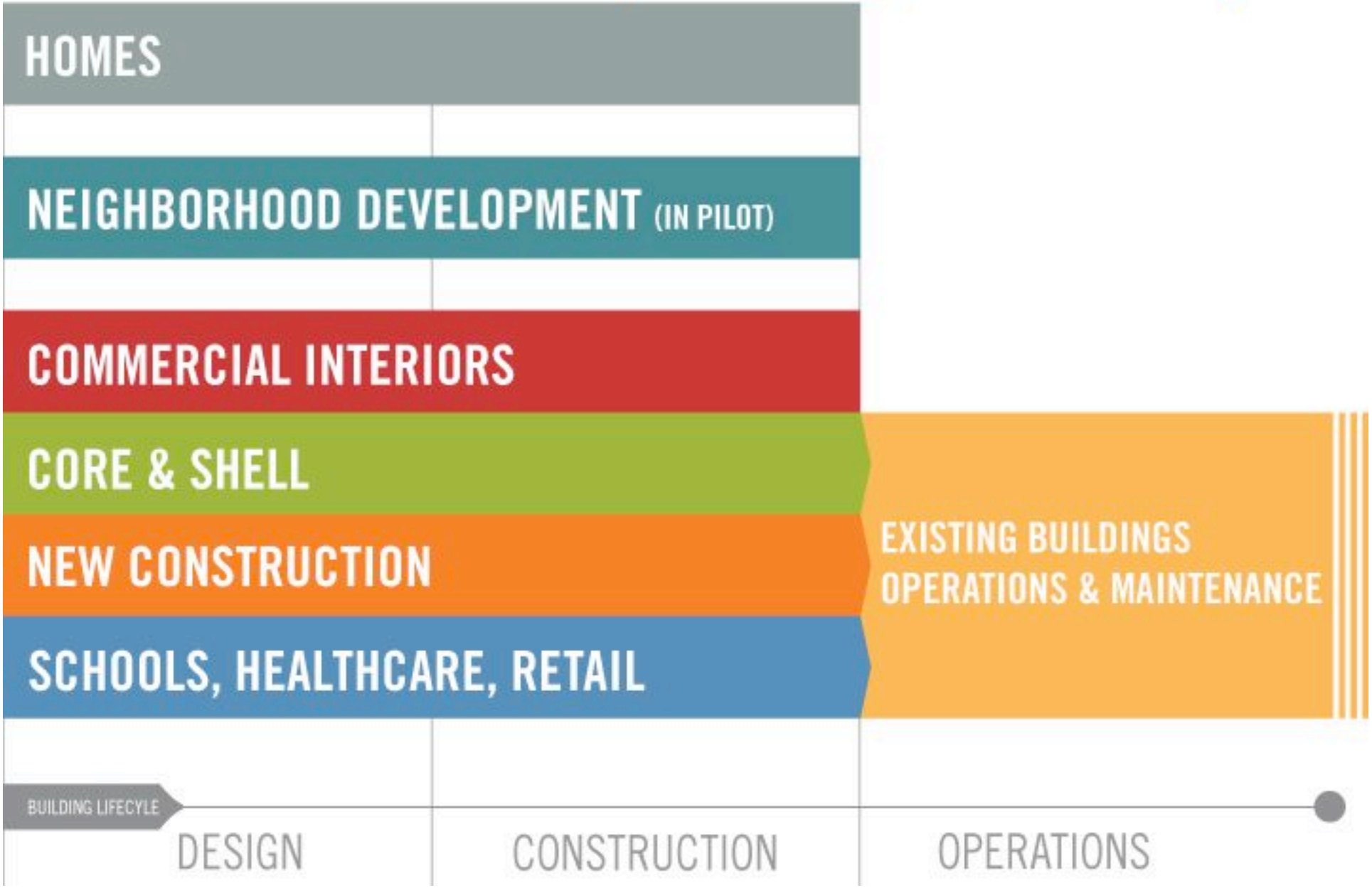
CUMULATIVE LEED PROJECT CERTIFICATIONS, 2004-2007

YEAR	LEED-NC	LEED-CS	LEED-CI	LEED-EB	TOTAL	GROWTH OF CUMULATIVE CERTIFICATIONS, ALL LEED RATING SYSTEMS	GROWTH OF CUMULATIVE LEED-NC CERTIFICATIONS
2004	167	0	21	15	203		
2005	330	8	40	26	404	199	198
2006	513	27	92	37	669	166	155
2007*	878	53	169	63	1183	177	171

* DATA FROM USGBC; 2007 IS FOR 11 MONTHS

What Is Green Building?

LEED address the complete lifecycle of buildings:



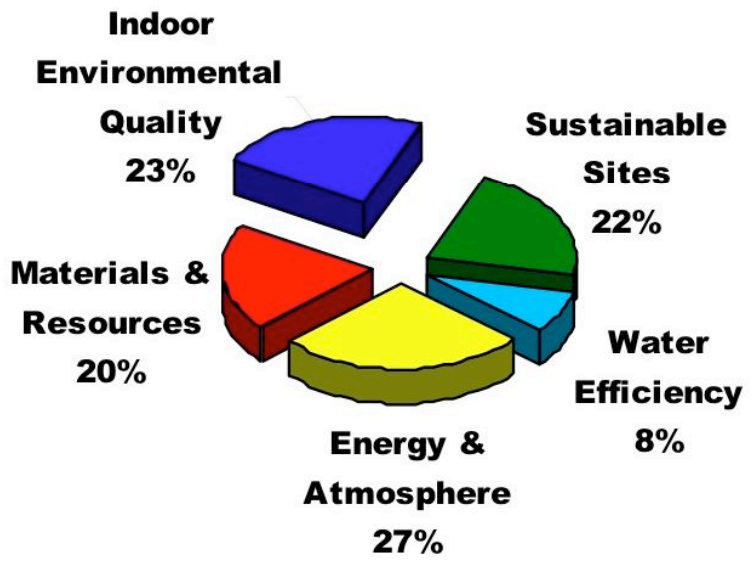
USGBC has four levels of LEED:

Technical Overview of LEED®

- Whole-building approach encourages and guides a collaborative, integrated design and construction process
- Optimizes environmental and economic factors
- Four levels of LEED-NC certification:
  - Certified Level 26 - 32 points
  - Silver Level 33 - 38 points
  - Gold Level 39 - 51 points
  - Platinum Level 52+ points (69 possible)

LEED-NC® Point Distribution

Five LEED credit categories



LEED-NC® Certification Process

A three step process:

- Step 1: Project Registration
  - LEED Letter Templates, CIR access, and on-line project listing
- Step 2: Technical Support
  - Reference Package
  - Credit Inquiries and Rulings (CIR)
- Step 3: Building Certification
  - Upon documentation submittal and USGBC review

Steps to LEED Certification

LEED® Products

LEED covers many different types of buildings and construction. These are covered under the following LEED products:

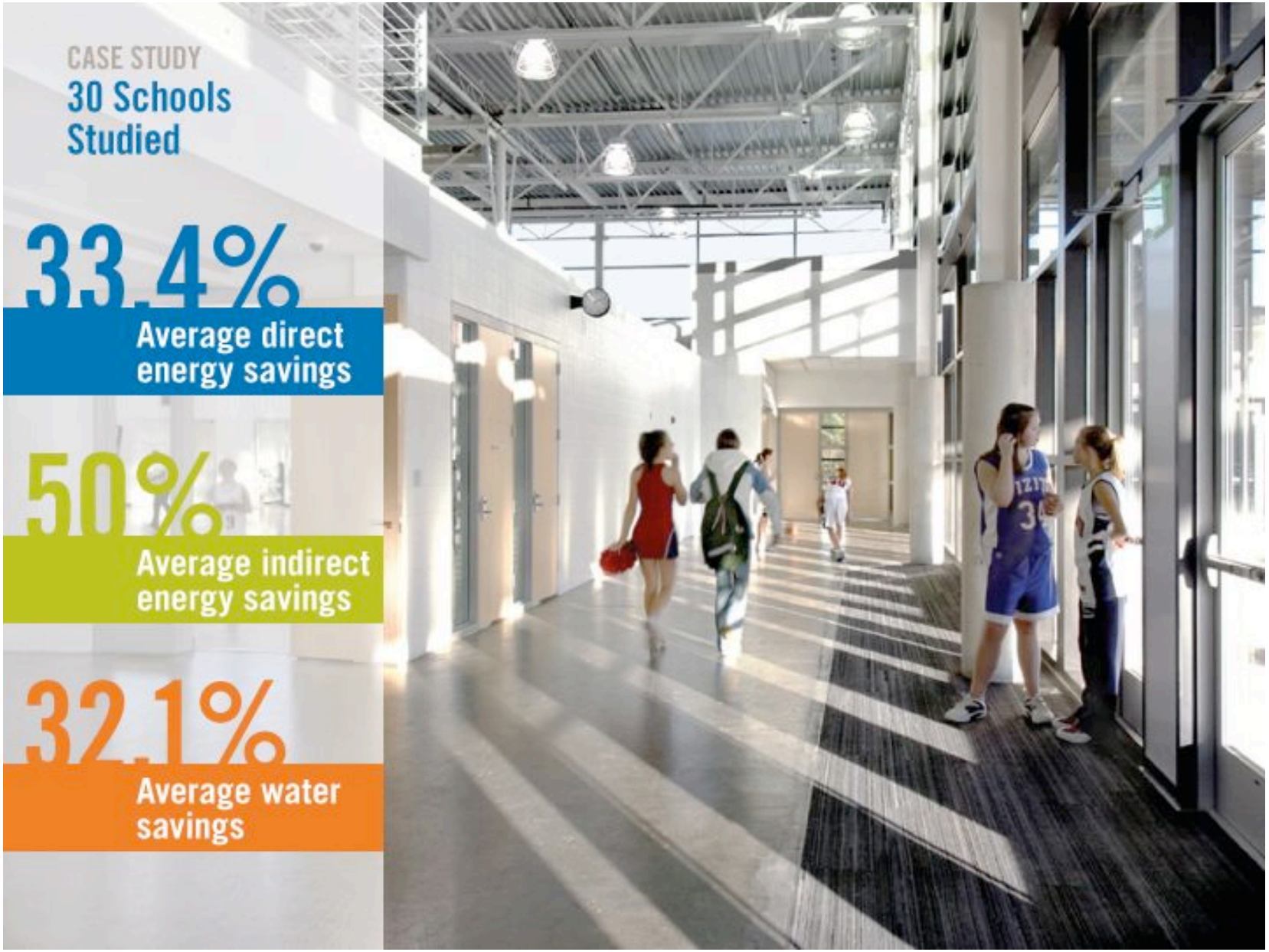
LEED-NC: LEED for New Construction and Major Renovations/Additions (for commercial and institutional buildings, released in 2000)
LEED-EB: LEED for Existing Buildings (released 2004)
LEED-CI: LEED for Commercial Interiors (released 2004)
LEED-CS: LEED for Core and Shell (public release: 2005)
LEED-H: LEED for Homes (public release: 2006)
LEED-NC: LEED for Neighborhood Developments

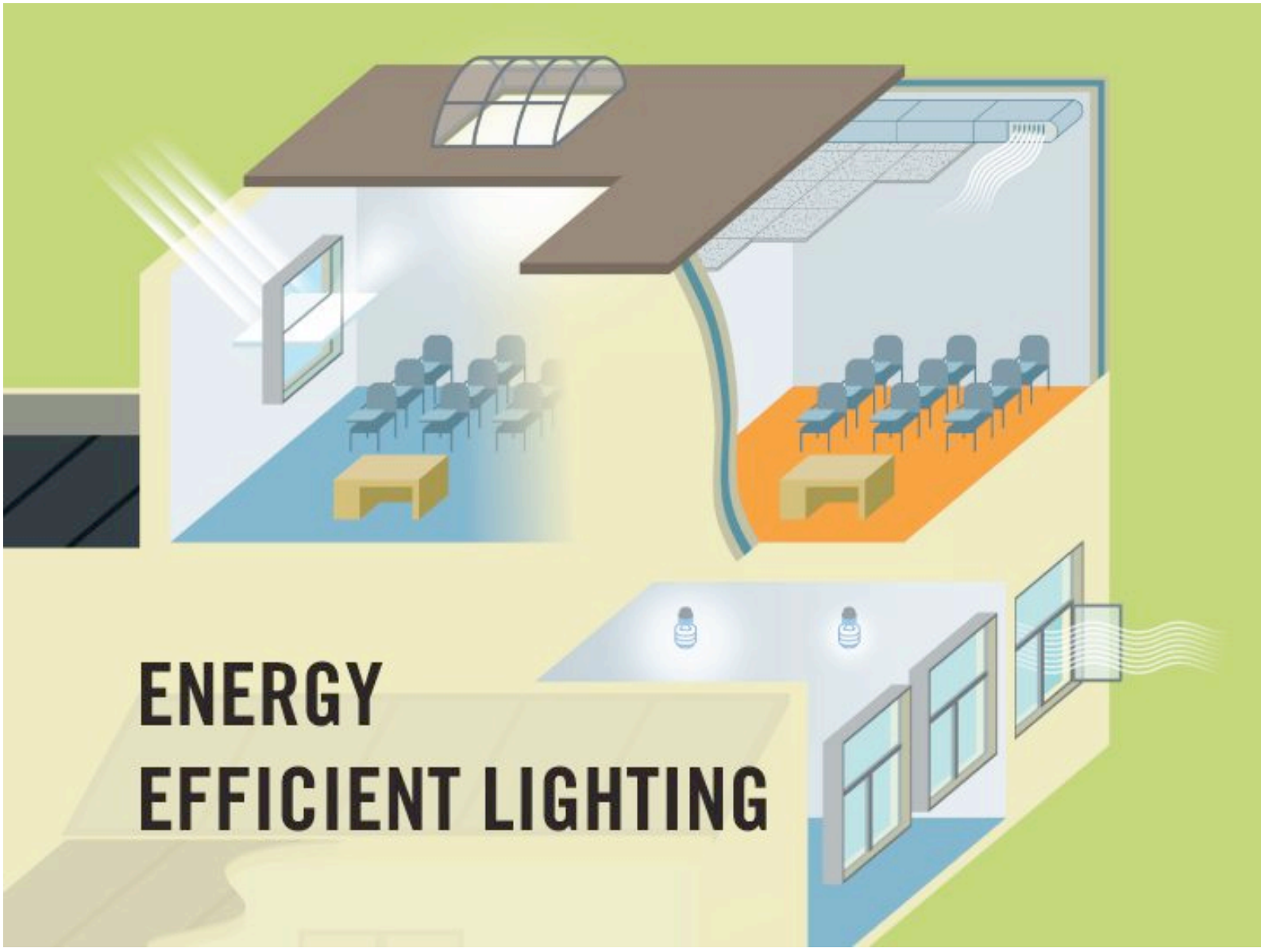
(public release: 2006)

90% of what makes a project green is the first 10% of design

Design process must be totally integrated and concurrent

Green Childcare Facilities

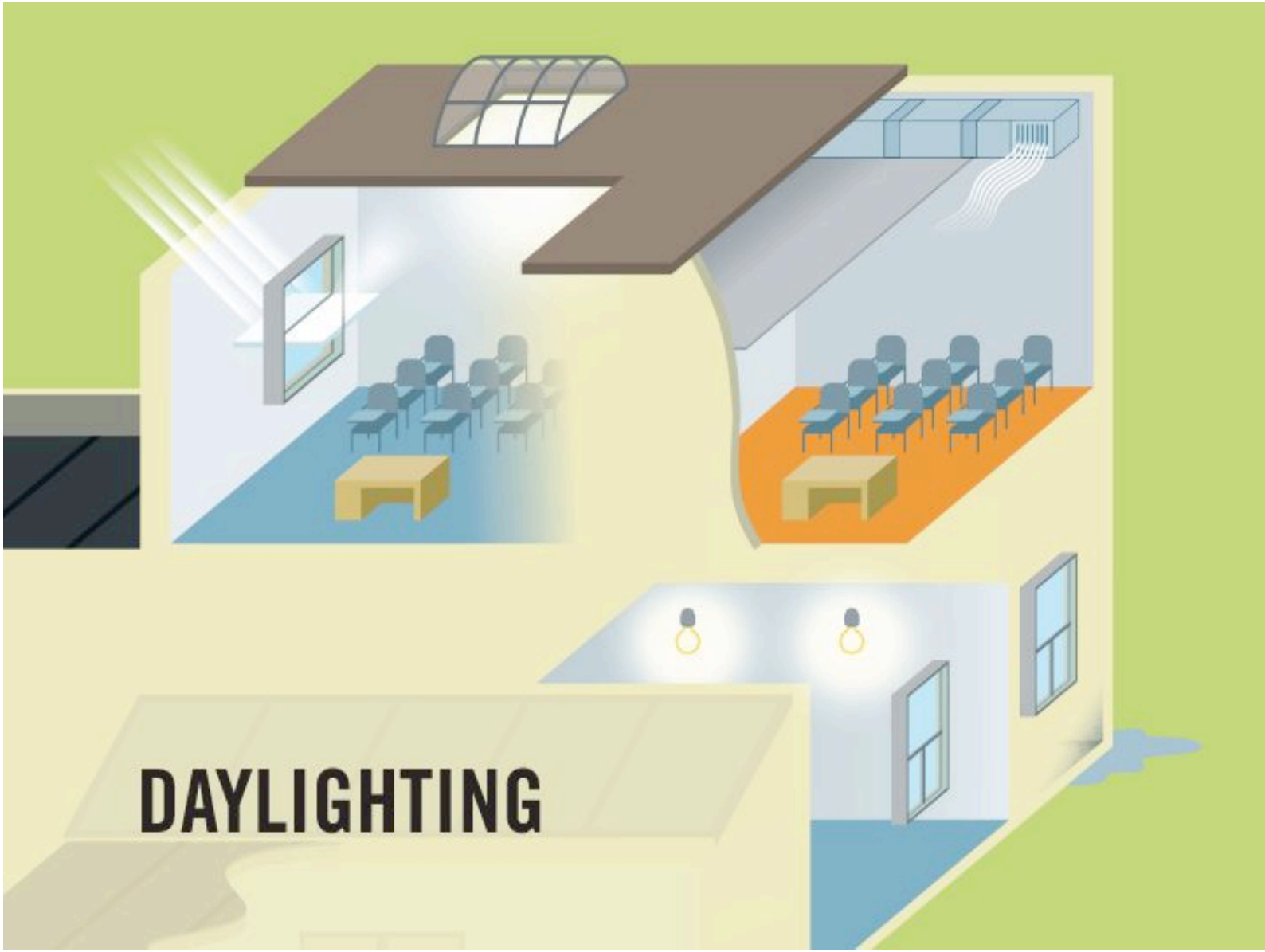

CASE STUDY
30 Schools Studied
33.4%
Average direct energy savings
50%
Average indirect energy savings
32.1%
Average water savings


ENERGY
EFFICIENT LIGHTING


SOLAR
PANELS


GREEN
ROOF

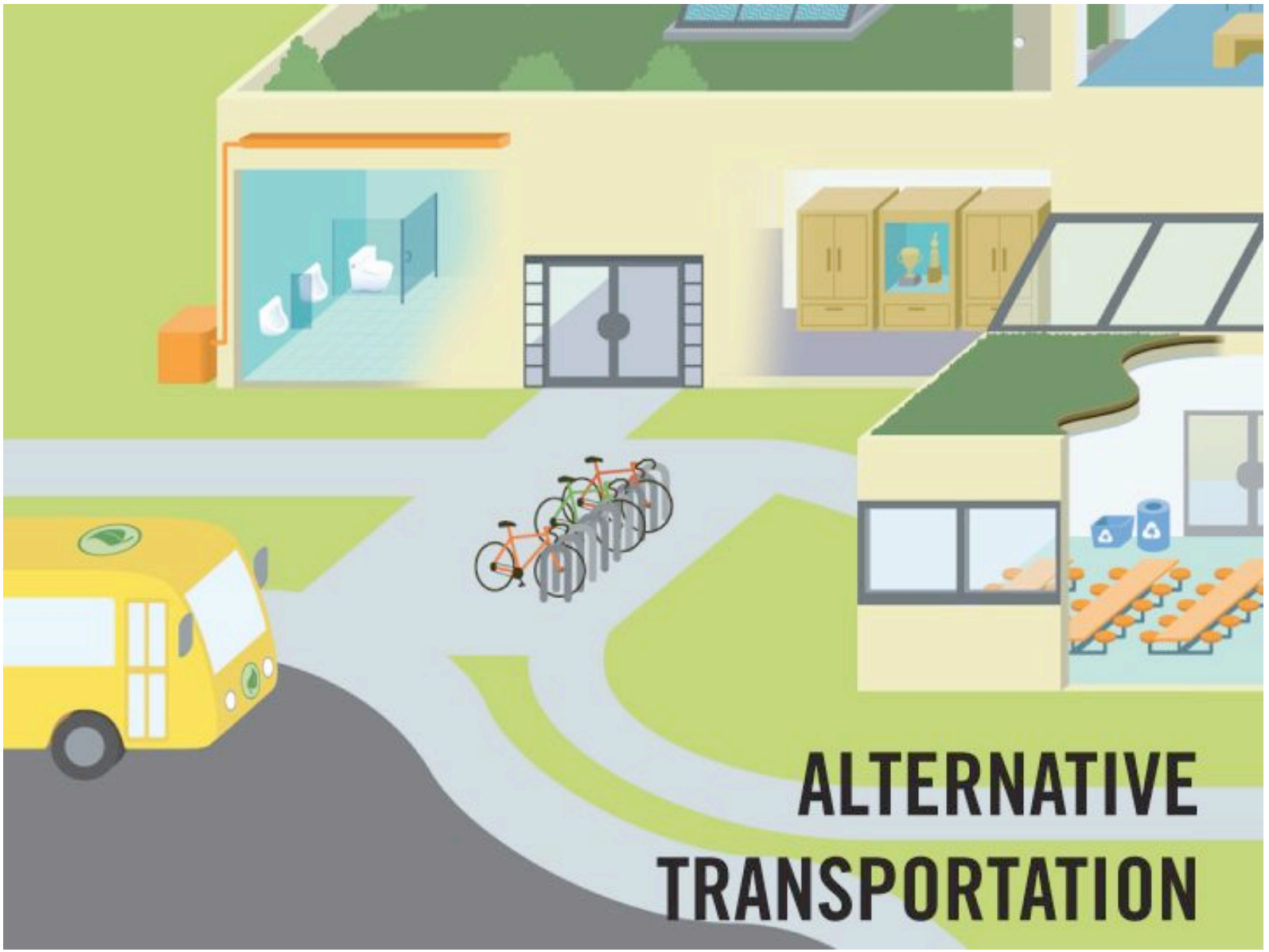

WATER EFFICIENT

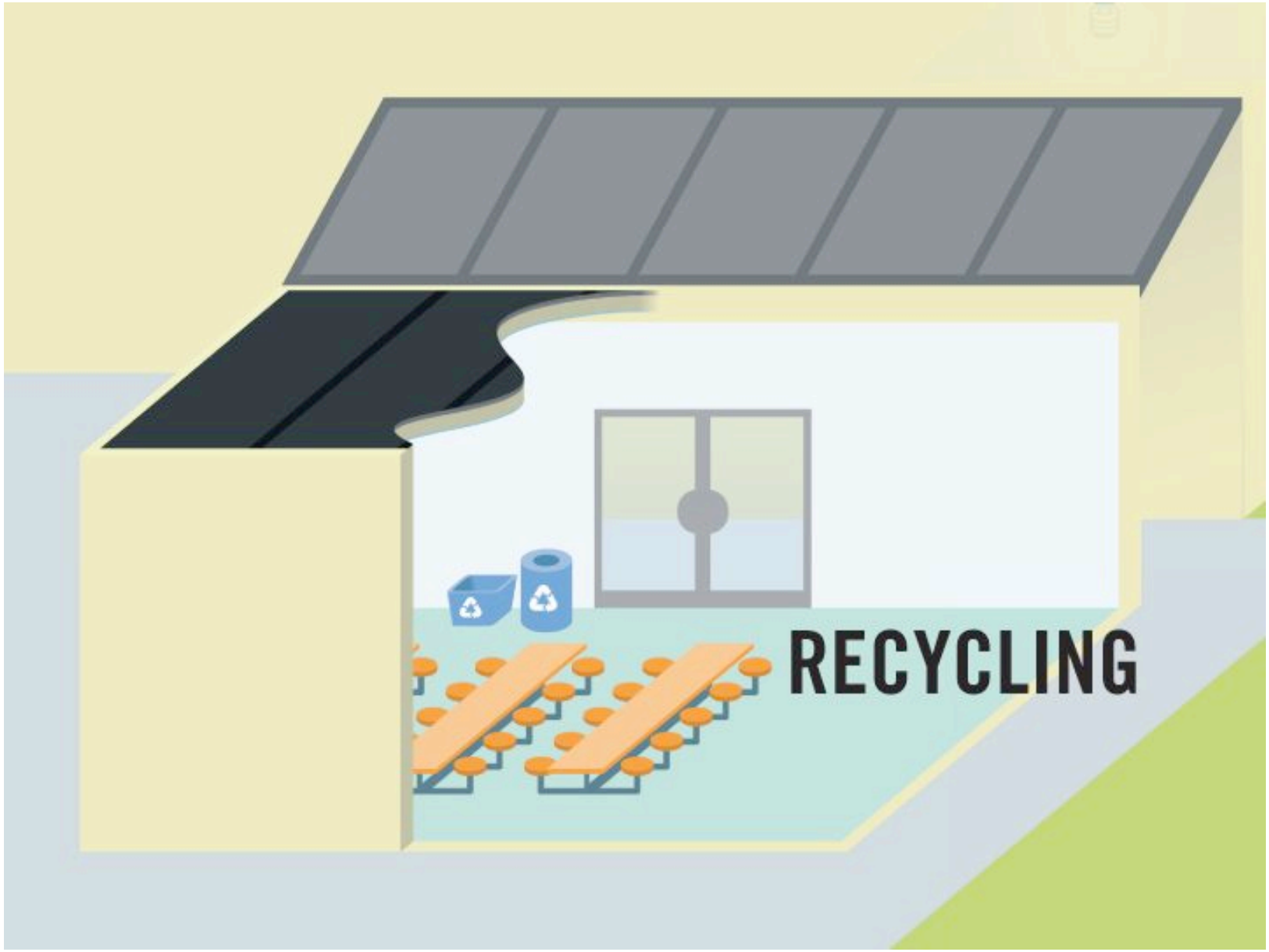

DAYLIGHTING

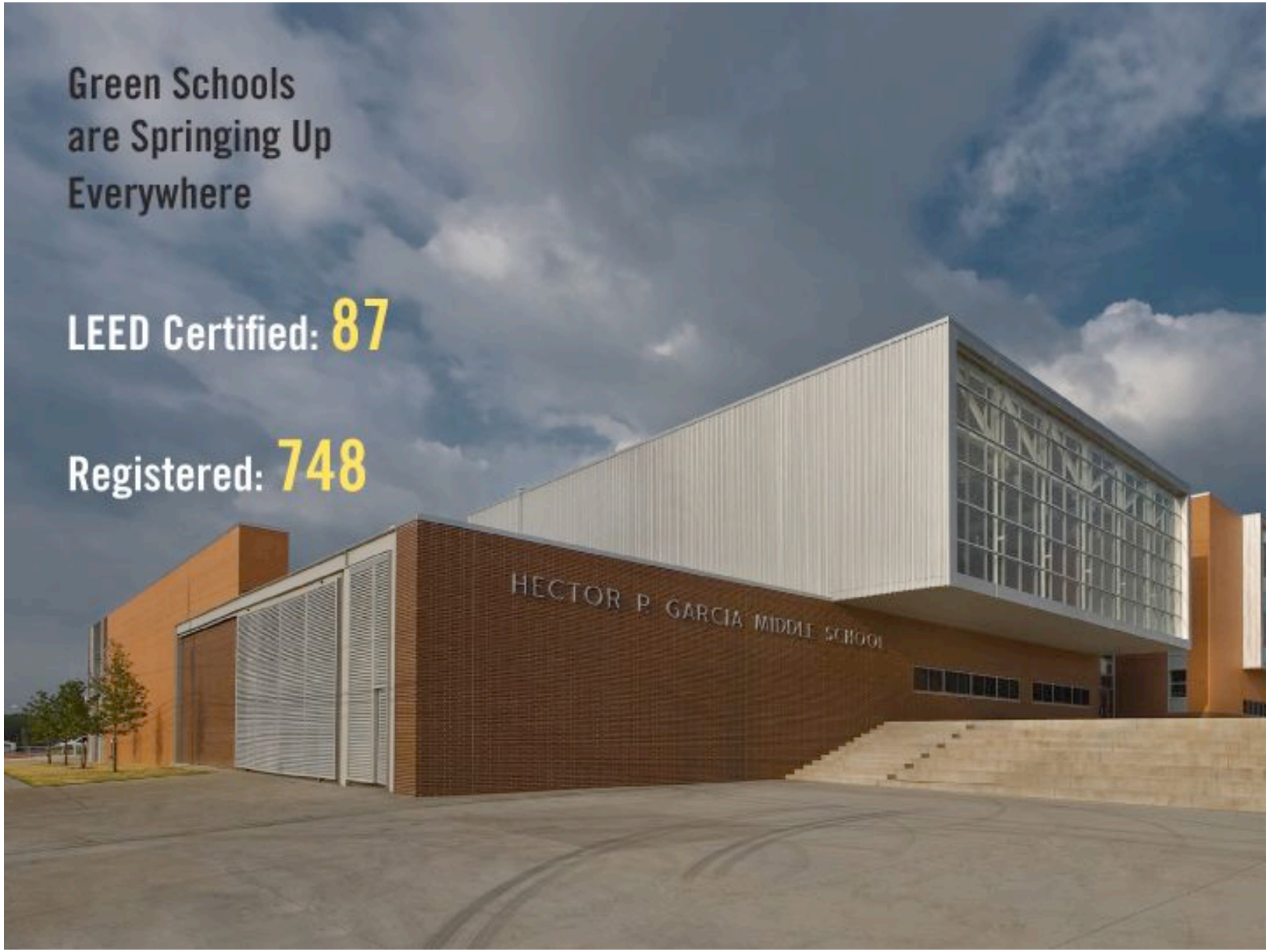

ACOUSTICS &
THERMAL COMFORT


MOLD PREVENTION


LOW-EMITTING
MATERIALS


ALTERNATIVE
TRANSPORTATION


RECYCLING


Green Schools
are Springing Up
Everywhere
LEED Certified: 87
Registered: 748
HECTOR P. GARCIA MIDDLE SCHOOL

Making it happen in your childcare center

- Get buy-in at the top
- Identify an internal champion
- Define & elaborate on health benefits first
- Use an integrated design approach
- Establish a vision of the project
- Set your sustainability baseline
- Go for successes/easy wins/low hanging fruit
- Include commissioning
- Consider community benefits, especially to parents, neighbors and staff
- Make the business case more than just a financial spread sheet


Awareness and tuning to
sustainable practices in
one’s personal life is the first
step to healing the plant.

Now this is not the end.

It is not even the beginning of the end.

But it is, perhaps, the end of the beginning.

Winston Churchill

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