

# Sustainability & Church

## Genesis 1:26

And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the **earth**, and over every creeping thing that creepeth upon the **earth**.

## Genesis 1:28

And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the **earth**, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the **earth**.

- Relevance (Gen X & Gen Y)
- Human Health Factor
- New Green Economy

# 12 EASY OPERATIONAL OPTIONS

Use natural light where possible;

Lower heating/cooling systems and lighting on move-in and move-out;

Use paint with low- or no-VOCs (Volatile Organic Compounds);

Buy local and organic food, and buy it in bulk;

Use recycled paper and print with soy inks;

Don't print what you don't need;

Reuse signs or use biodegradable paper-like products;

Do not use cut flowers or plants;

Do not supply water bottles and don't pre-fill water glasses;

Use China service instead of paper flatware;

Recycle and compost all waste;

Ensure that your event is carbon neutral by purchasing carbon offsets

- **Green Schools**
- **Green Affordable Housing**

# THE VISION: GREEN SCHOOLS WITHIN A GENERATION



**55** million students

and **5** million faculty

**20%** of America's population

spend over

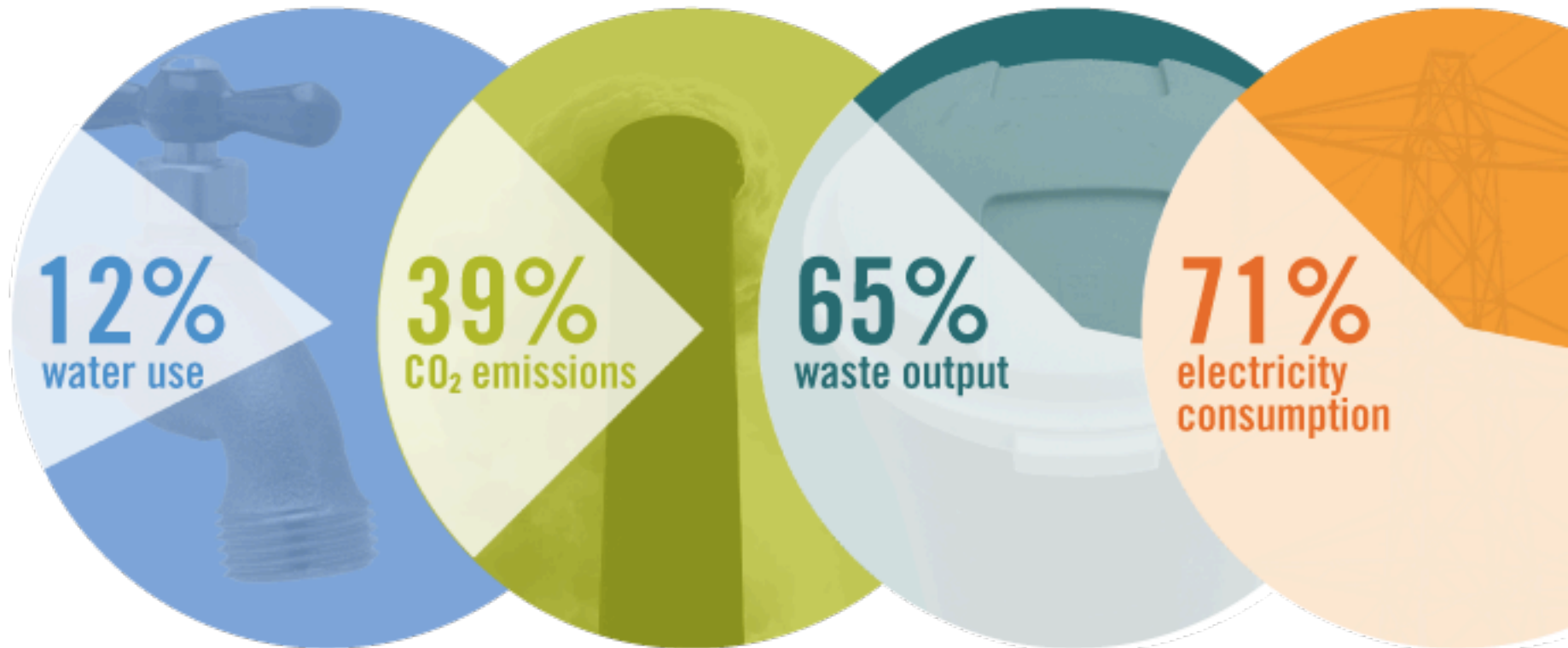
**\$35,000,000,000**

in tax dollars **annually**





## U.S. Building Impacts:



**ENERGY  
USE**

**CARBON  
EMISSIONS**

**WATER  
USE**

**SOLID  
WASTE**

**30-50%**

**35%**

**40%**

**70%**

**Average Savings of Green Buildings**

**ENERGY &  
WATER COSTS**



**STUDENT HEALTH  
& TEST SCORES**

A whiteboard with a grey border and a grey base. The text "PROVE IT." is written in the center in a bold, green, sans-serif font.

**PROVE IT.**



# Leadership in Energy and Environmental Design

A leading-edge system  
for certifying the  
greenest performing  
buildings in the world

LEED® Facts	
Building size 12,500 square ft	
Type of building	
LEED for Core & Shell Development	
Certification awarded July 27, 2006	
<b>Platinum</b>	<b>49*</b>
Sustainable Sites	13/15
Water Efficiency	5/5
Energy & Atmosphere	12/15
Materials & Resources	6/9
Indoor Environmental Quality	10/13
Innovation & Design	3/5

LEED® Facts	
Building size 12,500 square ft	
Type of building	
LEED for Core & Shell Development	
Certification awarded July 27, 2006	
<b>Platinum</b>	<b>49*</b>
Sustainable Sites	13/15
Water Efficiency	5/5
Energy & Atmosphere	12/15
Materials & Resources	6/9
Indoor Environmental Quality	10/13
Innovation & Design	3/5

LEED® Facts	
Building size 12,500 square ft	
Type of building	
LEED for Core & Shell Development	
Certification awarded July 27, 2006	
<b>Platinum</b>	<b>49*</b>
Sustainable Sites	13/15
Water Efficiency	5/5
Energy & Atmosphere	12/15
Materials & Resources	6/9
Indoor Environmental Quality	10/13
Innovation & Design	3/5

LEED® Facts	
Building size 12,500 square ft	
Type of building	
LEED for Core & Shell Development	
Certification awarded July 27, 2006	
<b>Platinum</b>	<b>49*</b>
Sustainable Sites	13/15
Water Efficiency	5/5
Energy & Atmosphere	12/15
Materials & Resources	6/9
Indoor Environmental Quality	10/13
Innovation & Design	3/5

\*Out of a possible 62 points

# Consensus-Based Standards

USGBC has four levels of LEED:





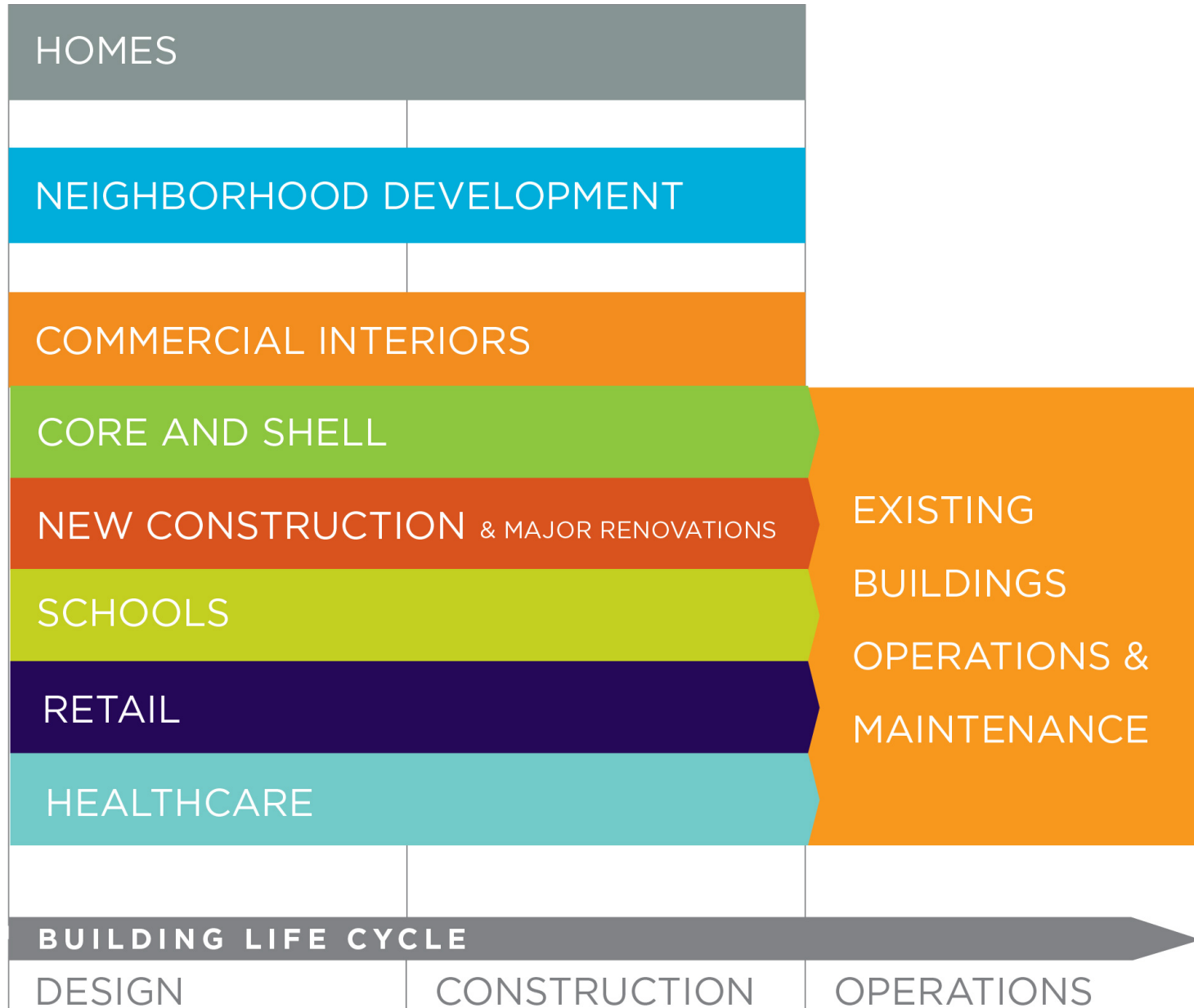
U.S. GREEN BUILDING COUNCIL

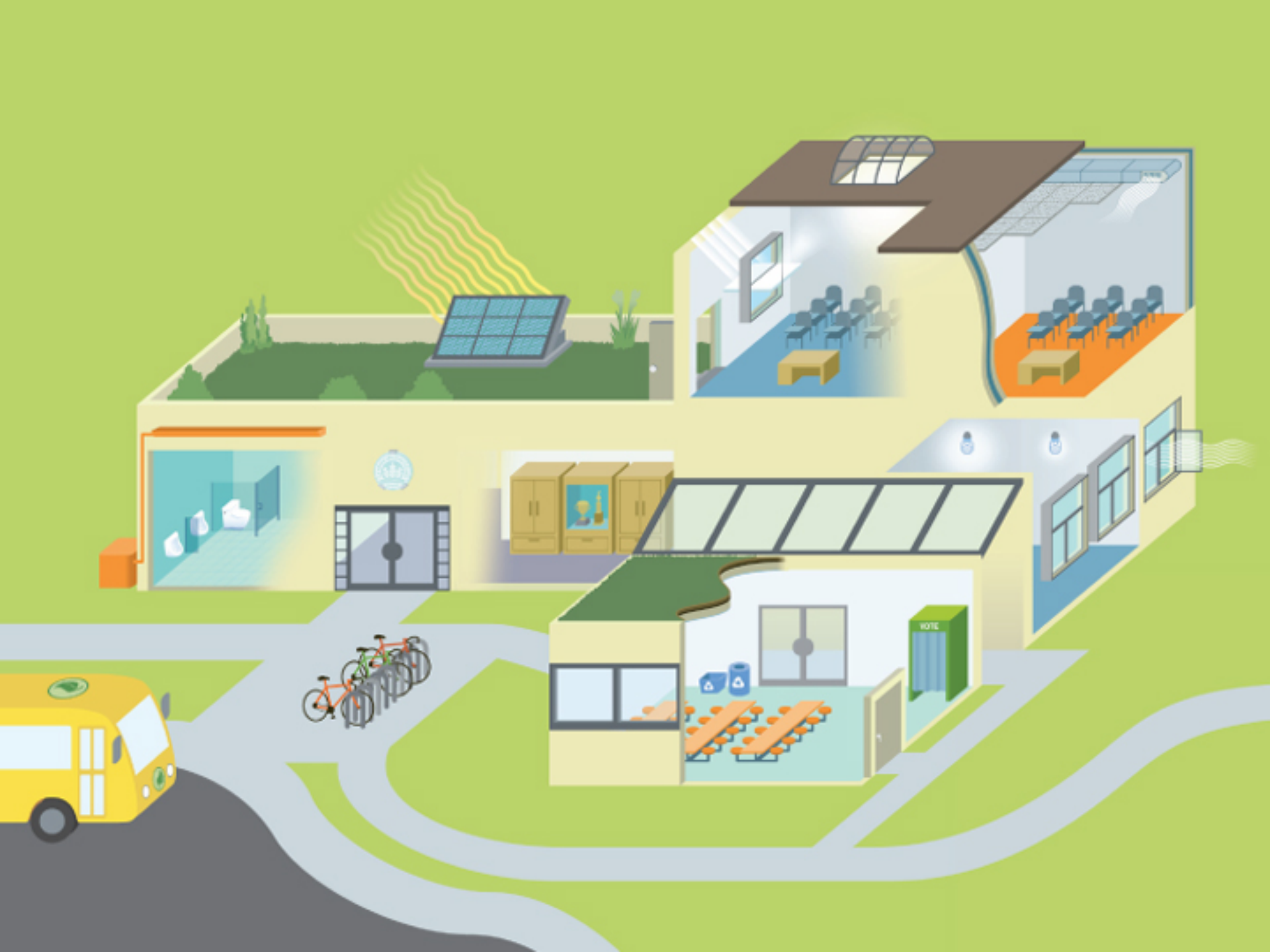
LEED PLATINUM

2009



# LEED address the complete lifecycle of buildings:





A whiteboard with a grey frame and a grey base. The text "THE NEW MATH" is written in the center in a bold, green, sans-serif font.

**THE NEW MATH**

CASE STUDY  
30 Schools  
Studied

33.4%

Average direct  
energy savings

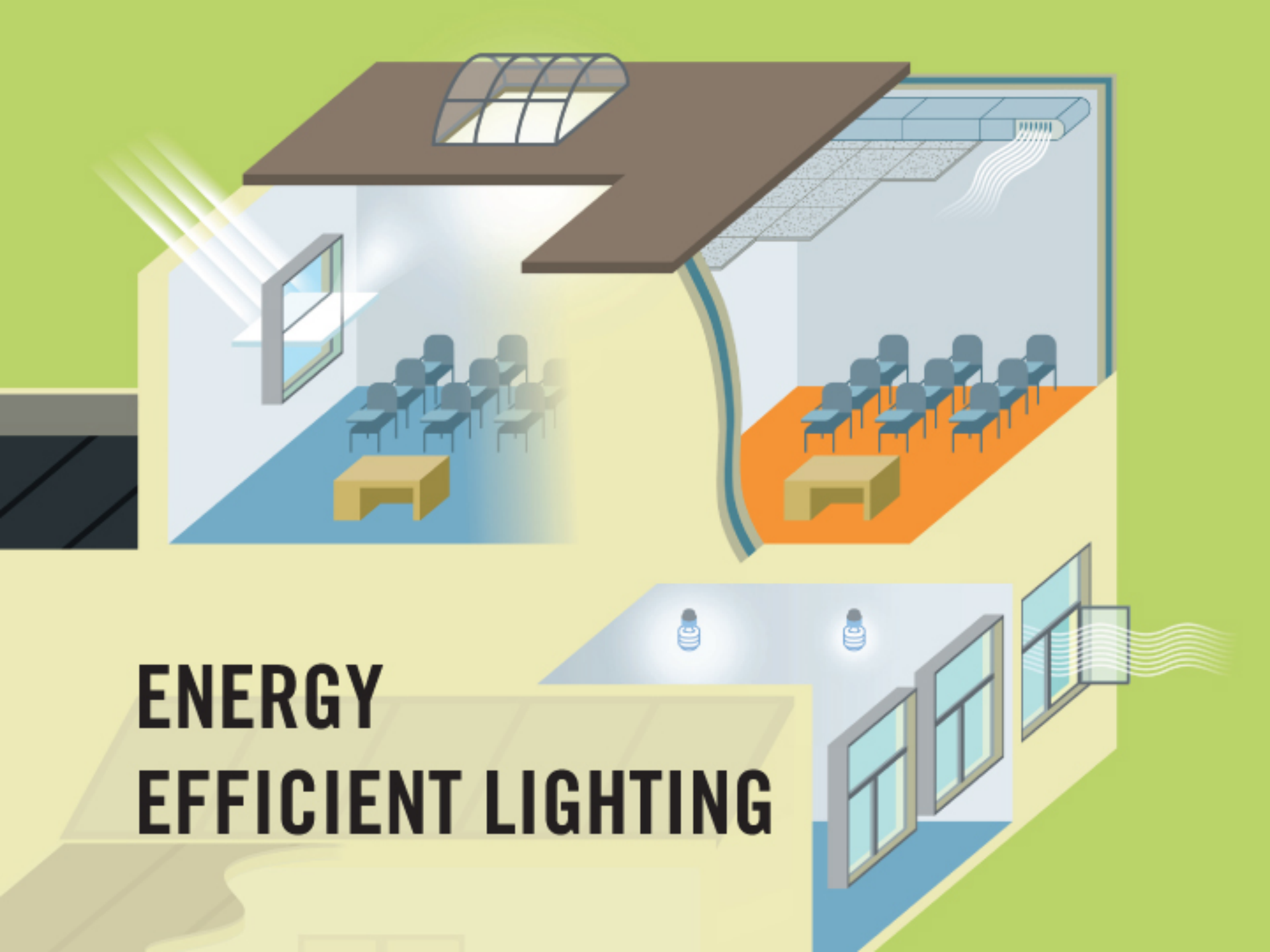
50%

Average indirect  
energy savings

32.1%

Average water  
savings





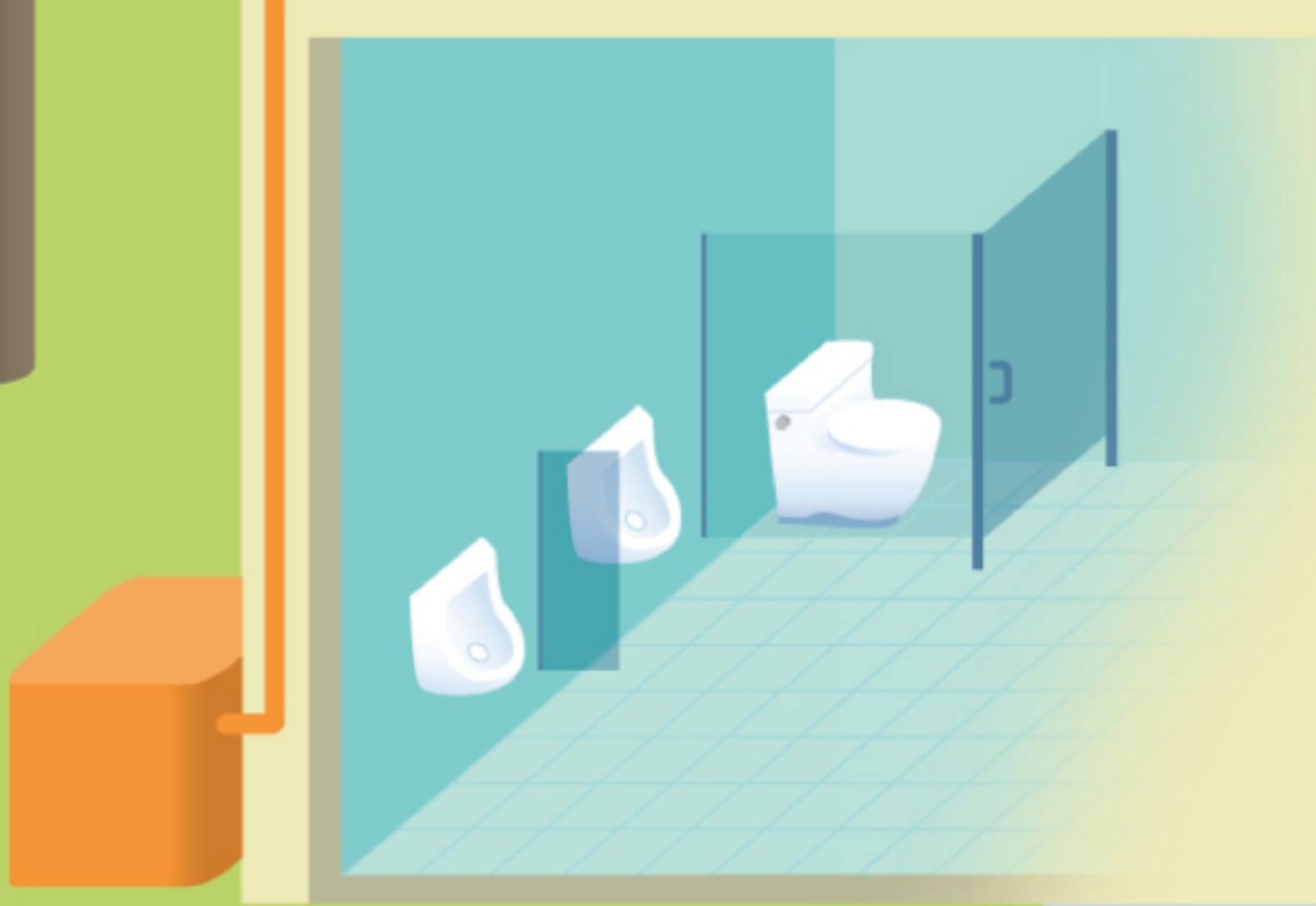
# ENERGY EFFICIENT LIGHTING

# SOLAR PANELS



# GREEN ROOF





**WATER EFFICIENT**



**DIRECT SAVINGS  
FOR AN AVERAGE  
GREEN SCHOOL**

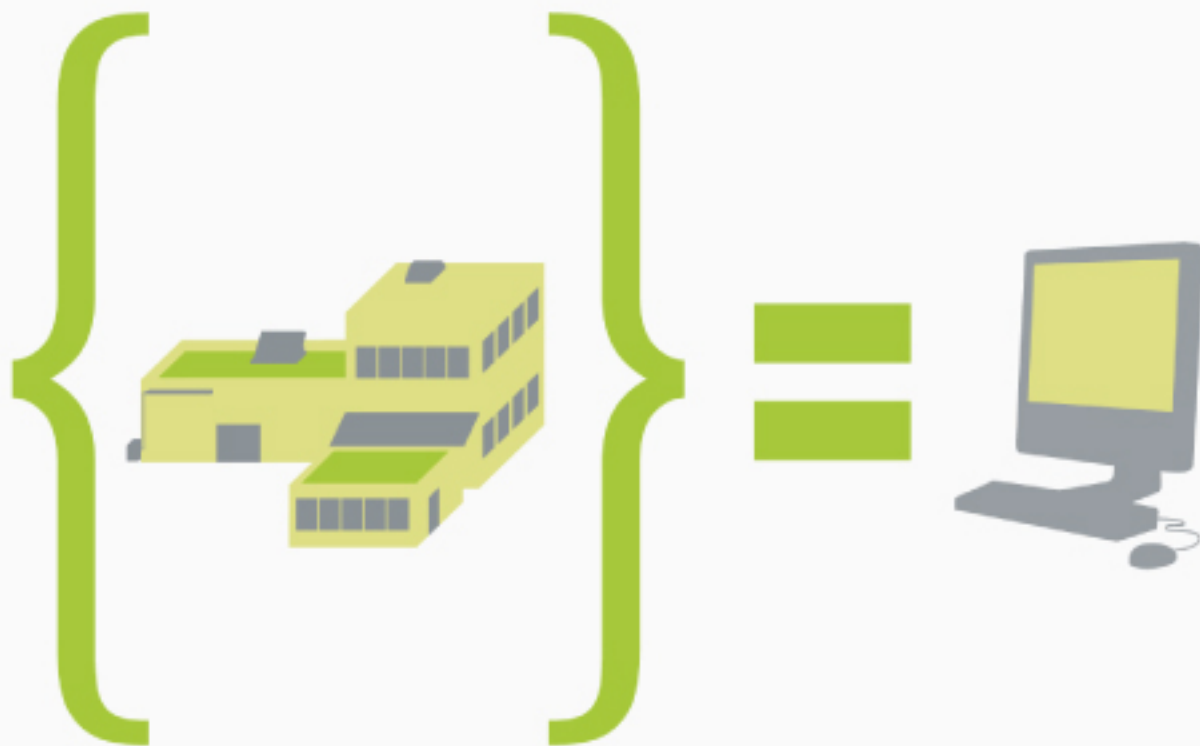
**\$47,880**

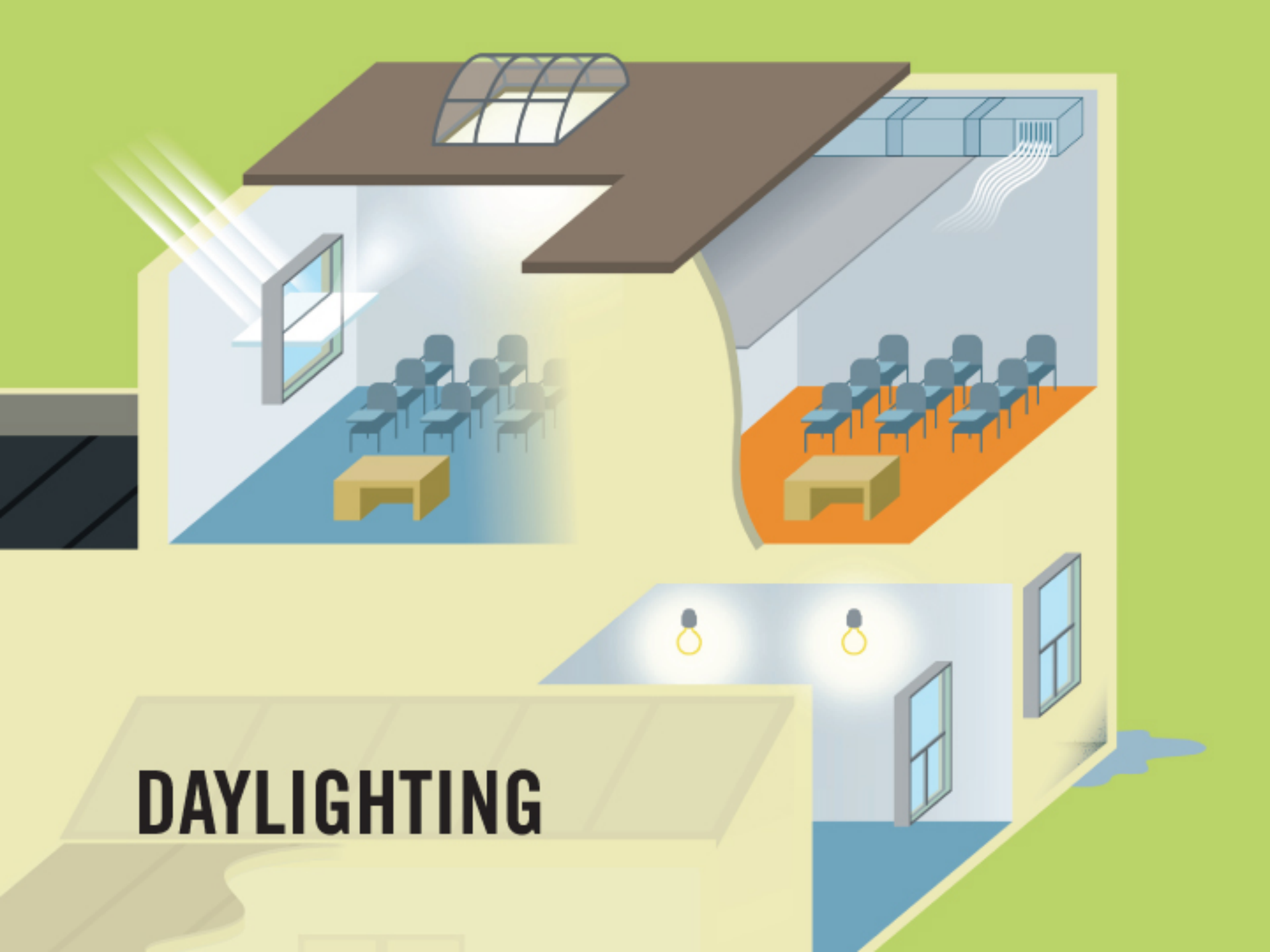
Annual Direct Energy Savings Per School

**\$95,760**

Annual Total Direct Savings Per School







**DAYLIGHTING**



# ACOUSTICS & THERMAL COMFORT

**LEARNING  
BENEFITS  
OF GREEN  
SCHOOLS**



- +3%**  
INCREASE IN PRODUCTIVITY,  
LEARNING, & PERFORMANCE
- AND
- 3%**  
DECREASE IN  
TEACHER TURNOVER



# MOLD PREVENTION



# LOW-EMITTING MATERIALS



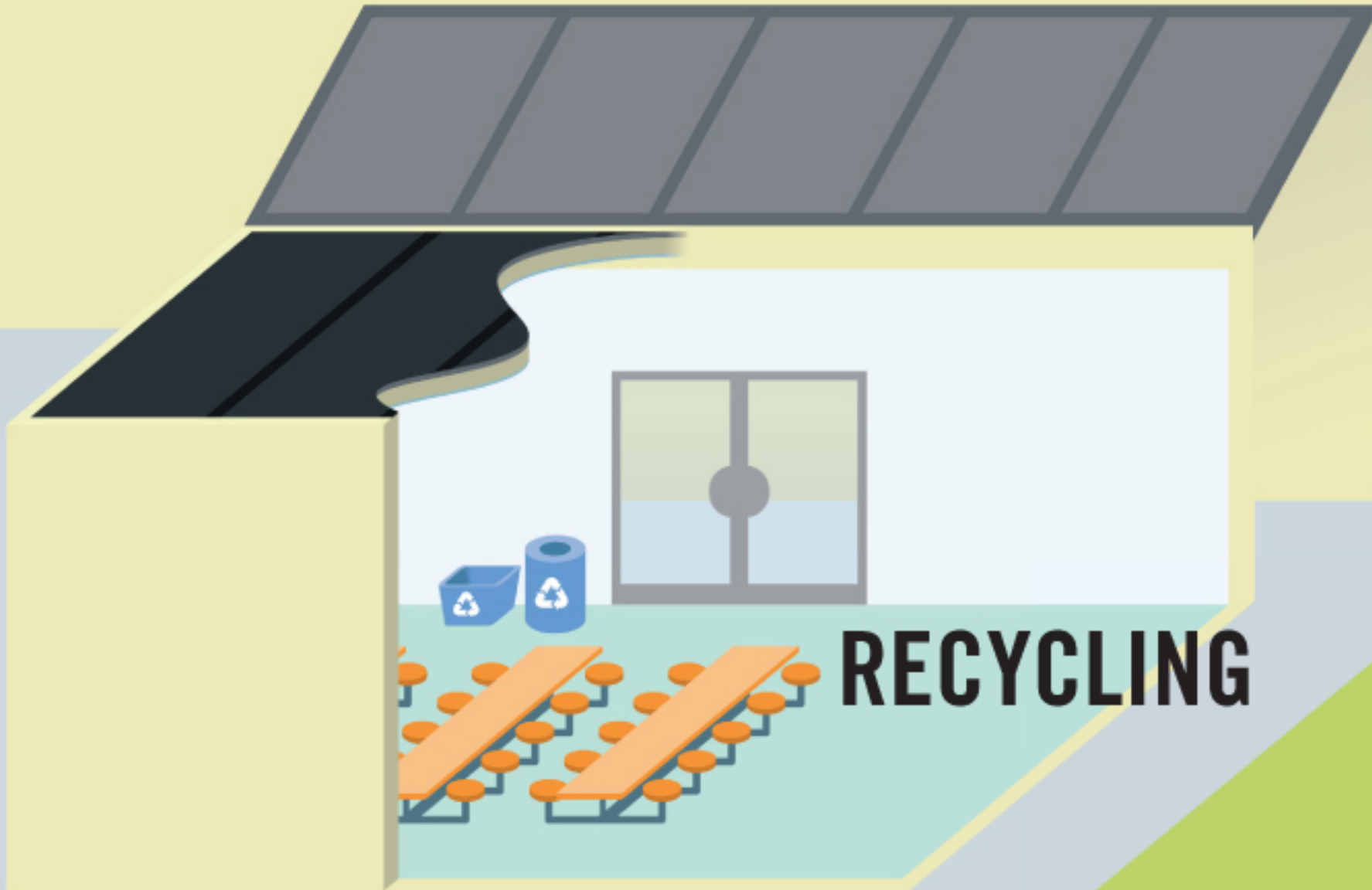
**500**  
HEALTHIER KIDS  
+  
BETTER LEARNING  
ENVIRONMENT

= **BENEFITS**<sup>∞</sup>



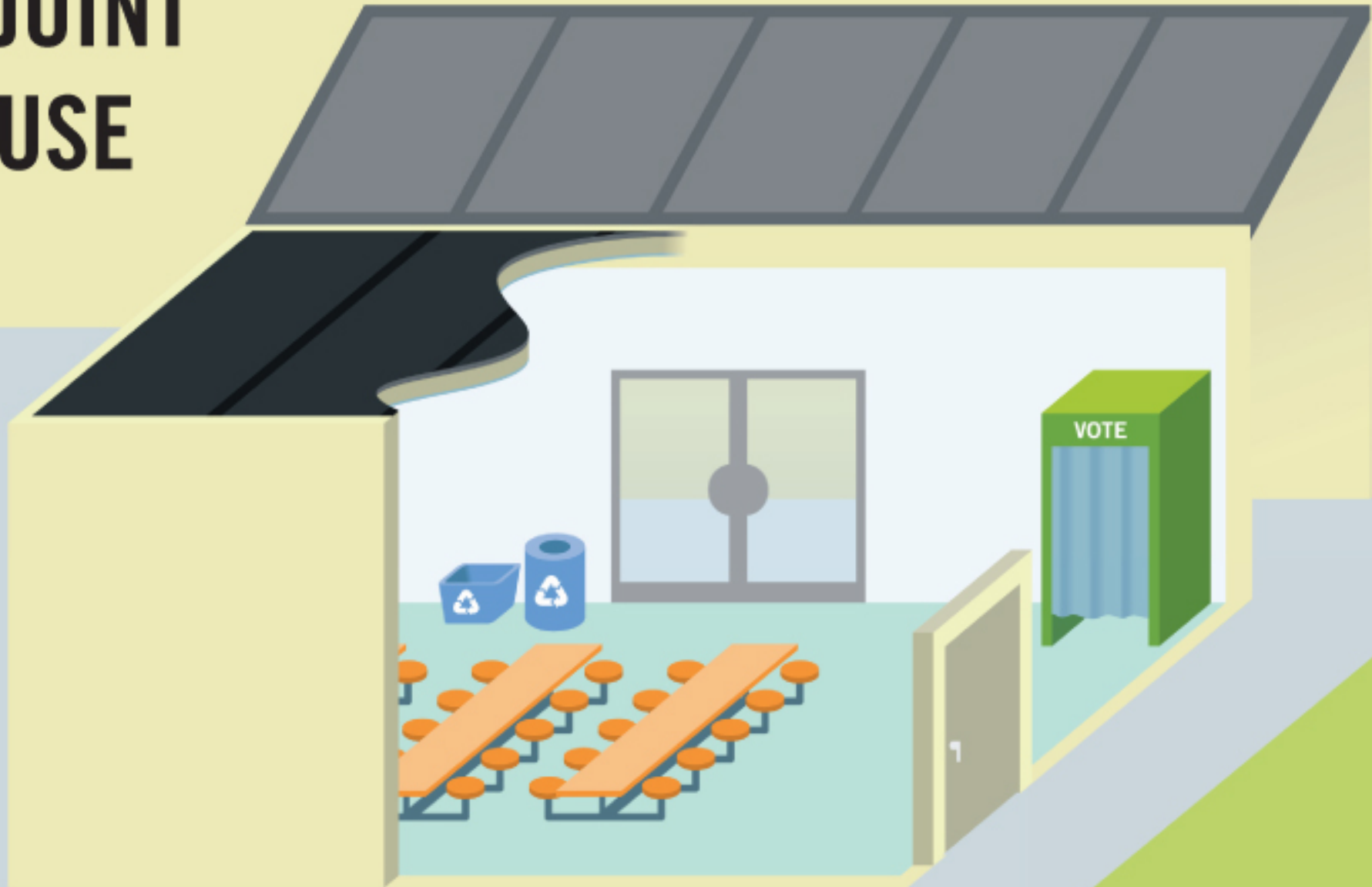


# ALTERNATIVE TRANSPORTATION



**RECYCLING**

# JOINT USE





# GREEN SCHOOLS ARE SPRINGING UP EVERYWHERE

LEED Certified:

**559**

Registered:

**1,709**

HECTOR P. GARCIA MIDDLE SCHOOL

Photo by James Steinkamp

As of September 2011



## The Willow School Phase 1

**25%** energy savings

**34%** water savings

**84%** waste diverted

Willow School  
Gladstone, NJ





## Milton Academy Wigglesworth Hall

**15%** energy savings

**30%** water savings

**75%** waste diverted

Milton Academy  
Milton, MA





# Milton Academy Schwartz Student Center

**30%** energy savings  
**30%** water savings

Milton Academy  
Milton, MA





## Homewood Middle School

**35%** energy savings  
**43%** water savings

Homewood Board of Education  
Homewood, AL





## Fossil Ridge High School

**59%** energy savings

**69%** waste diverted

Poudre School District  
Fort Collins, CO



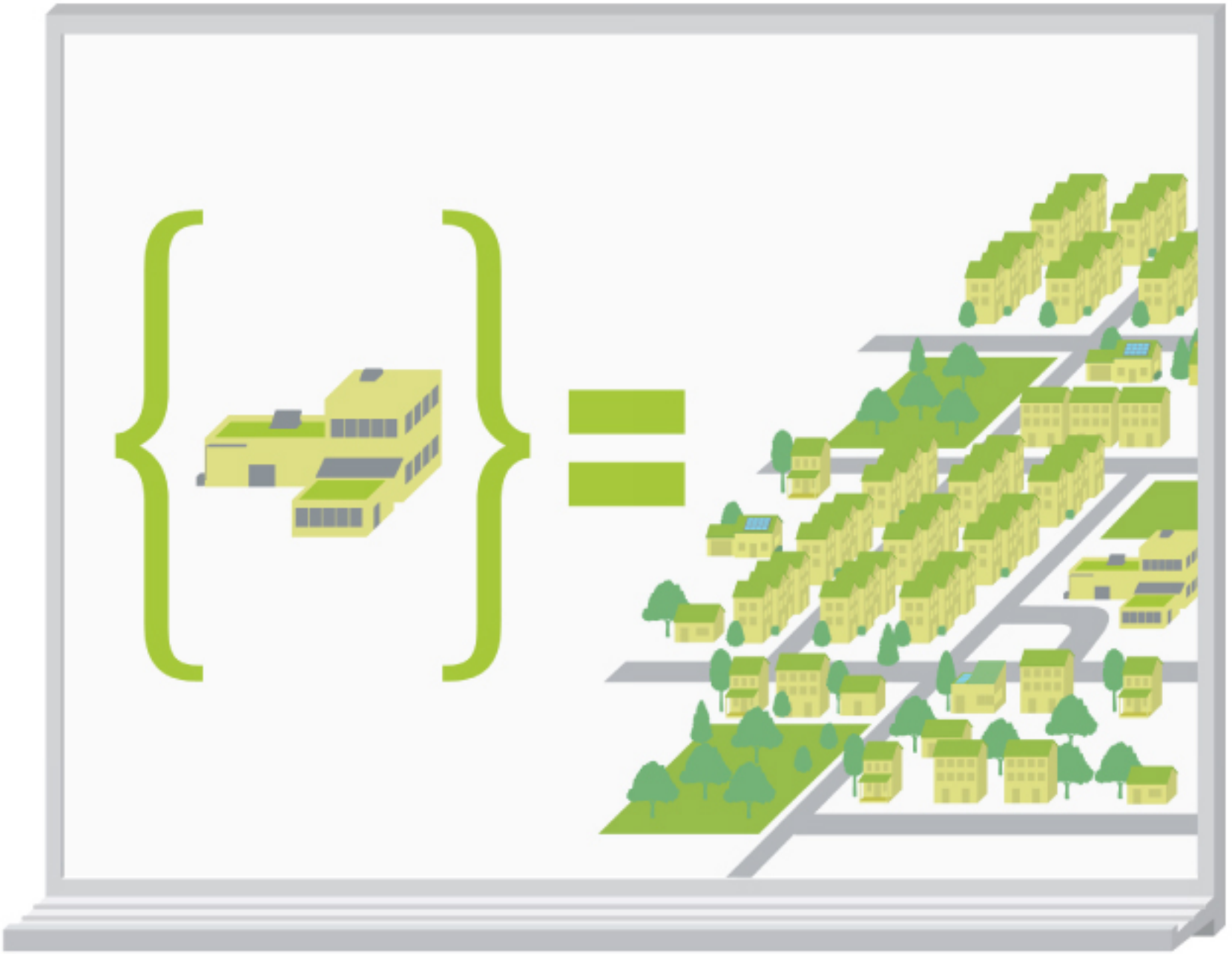


Baca/  
Dlo'ay azhi  
Community Day  
School

**20%** energy savings

**22%** water savings

Baca Community School  
Prewitt, NM



# How you can help

- Visit [www. buildgreenschools.org](http://www.buildgreenschools.org)
- Take the Green Schools Pledge
- Become familiar with LEED for Schools
- Distribute copies of “Greening America’s Schools”
- Join your local Green Schools advocacy team

# Environmental Impact of Homes

**In the United States, residential units consume 22% of the nation's energy and cause 20% of its greenhouse gas emissions.**

According to Green Home Owners,  
**Top 3 Benefits of  
a Green Home are:**

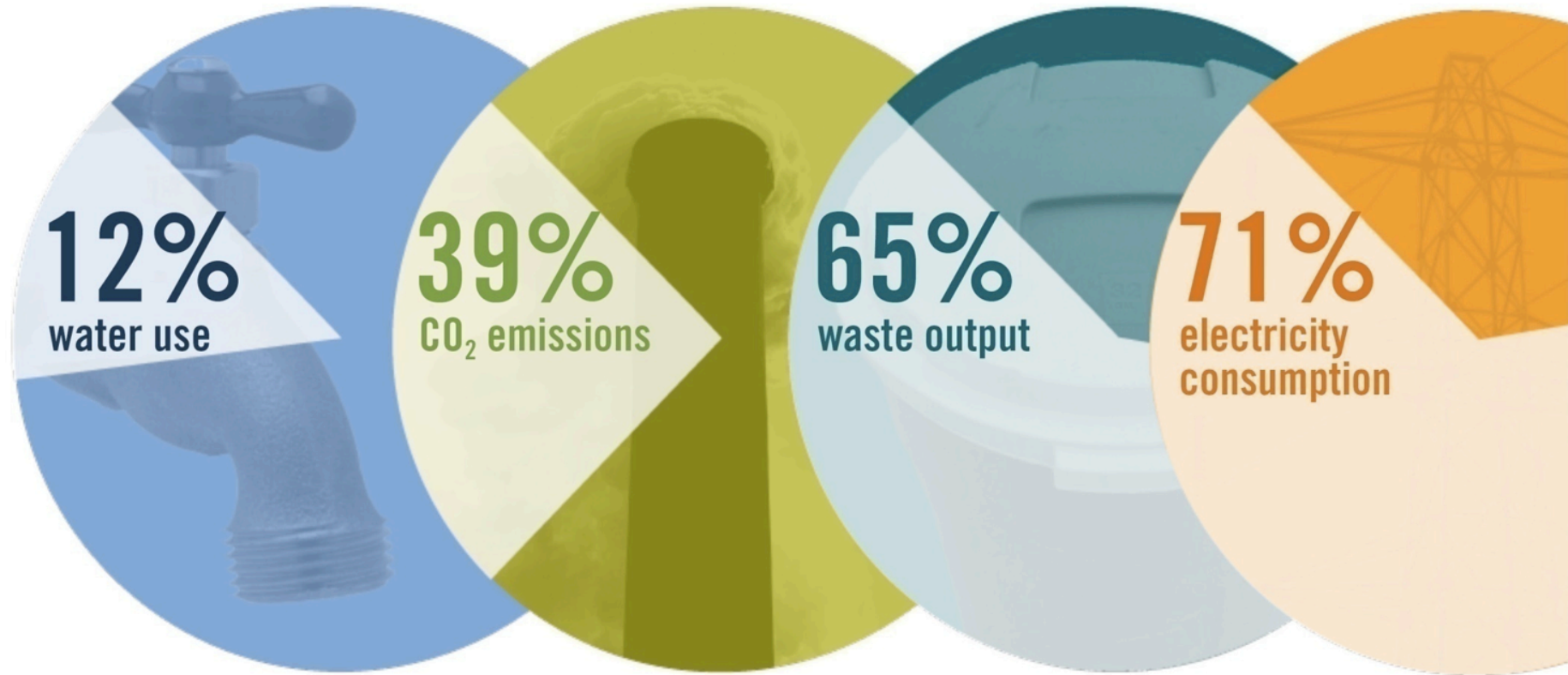
**1. Healthier  
place to live**

**2. Lower  
operating  
costs**

(avg. 18% savings on  
energy and water)

**3. Part  
of a more  
sustainable  
lifestyle**

# US. Building Impacts:





**87% of home buyers**

are at least moderately knowledgeable

**about green homes**

(This has jumped 16% in 1 year)

with **59% very/extremely knowledgeable**

**70% of home buyers**  
**are more inclined to buy a green home**  
**during a down economy**



# Nutrition Facts

Serving Size 8 crackers (28g)

Servings Per Container About 2

## Amount Per Serving

**Calories** 120      Calories From Fat 30

**% Daily Value\***

**Total Fat** 3.5g      **5%**

Saturated Fat 1g      **5%**

Trans Fat 0g

Polyunsaturated Fat 1.5g

Monounsaturated Fat 0.5g

**Cholesterol** 0mg      **0%**

**Sodium** 140mg      **6%**

**Total Carbohydrate** 22g      **7%**

Dietary Fiber Less than 1g      **3%**

Sugars 7g

**Protein** 2g

Vitamin A 0%      • Vitamin C 0%

Calcium 10%      • Iron 4%

\* Percent Daily Values are based on a 2,000 calorie diet.

**CONTINUED ON OTHER SIDE**



# New from USGBC GreenHomeGuide.com

The definitive site for homeowners looking to green their residences – and the professionals who can help them get the job done.

The screenshot shows the Green Home Guide website interface. At the top, there is a navigation bar with "Sign In" and "Sign Up" buttons, a search bar, and the site title "U.S. Green Building Council's Green Home Guide BETA" with the tagline "Connecting you to ideas, advice and green home professionals". Below the navigation bar, there are tabs for "KNOW HOW", "ASK A PRO", "FIND A PRO", and "RESIDENTIAL PROGRAMS". The main content area is titled "ASK A PRO" and features a question from Sharon DeRidder: "I am just starting to design a home and want to incorporate GREEN things. Do I start now or wait until I start working with a builder." The question is answered by David Bergman, a David Bergman Architect in New York, NY. Below the question and answer, there are "ASK A PRO TOPICS" including Bathroom, Bedroom, Countertop, Energy Efficiency, Finance, Flooring, Furniture, Healthy Home, Home Basics, Kitchen, Landscaping, New Home, Nursery, Paint & Coatings, Solar & Alternative, and Stone & Tile. The "KNOW HOW" section features an article titled "Selecting Green Paint" with a sub-headline "A new coat of paint can make a room feel fresh again, but it often has the opposite effect on the air quality in your home. According to the U.S. Environmental Protection Agency (EPA), paints, stains, and other architectural coatings produce about 9 percent of the volatile organic compound (VOC) emissions from consumer and commercial products, making them the second-largest source of VOC emissions after automobiles. More..." and a list of other articles: "Creating a Green Kitchen: From Resource Planning to Maintenance", "Choosing Kitchen Countertops: Our Top Picks", and "9 Ways to Make Your Home More Energy Efficient". On the right side, there are sections for "FREE Directory Listing" (Connect with new clients and colleagues by listing your company, for free, in our professional services directory. LEARN MORE), "Find a Pro Near You" (Enter a city/state or zip to find professionals in your area. Enter a City, State, OR Enter a Zip. SUBMIT), "Welcome! The newest members of our Pro Directory" (Heidi von Korff Sustainable Civil, Vince DeFreitas Silver Developers, LLC, Louise Griffin Breeze Realty Network), and "Subscribe to Our Newsletter".



# The State of the Art in Residential Green.


U.S. Green Building Council's **Green Home Guide** BETA  
Connecting you to ideas, advice and green home professionals

Welcome to Green Home Guide! [Sign In](#) [Sign Up](#)

KNOW HOW ASK A PRO FIND A PRO RESIDENTIAL PROGRAMS

**GREEN FEATURED ADVICE**

**Choosing Kitchen Countertops: Our Top Picks**  
By Green Home Guide Staff



Countertops are often kitchen showpieces, speaking to the style and environmental sensibilities of the homeowner. And because we prepare our meals on them, their environmental and health effects are intimately linked with our daily lives. [More...](#)

**5 Tips for Choosing a Low-Flow Toilet**  
By Willem Maas

Whether your motivation is environmental responsibility, saving money, or meeting building codes, installing a more efficient toilet is an effective and easy way to upgrade your home. [More...](#)

**9 Ways to Make Your Home More Energy Efficient**  
By Harvey M. Sachs, Ph.D.

The house is a system. You save money and improve performance when you take cost-effective measures that reduce building load and then install systems and appliances that are the right size to meet the reduced loads. In general, over-sizing worsens performance and increases costs. [More...](#)

**Founding Sponsor**  
**Newland COMMUNITIES**  
A residential real estate leader

**Find a Pro Near You**  
Enter a city/state or zip to find professionals in your area.  
Enter a City:  State:   
Enter a Zip:   
**SUBMIT**

**Welcome!**  
The newest members of our **Pro Directory**

- Michael McMillan  
MCM - Incentive Construction MGMT
- Bill Beasley  
Red-B Construction
- Patrick Lancaster  
Limestone Builders

KNOW HOW ASK A PRO FIND A PRO RESIDENTIAL PROGRAMS

Articles, insights & tips from green pros.

related articles

U.S. Green Building Council's **Green Home Guide** BETA  
Connecting you to ideas, advice and green home professionals

Welcome to Green Home Guide! [Sign In](#) [Sign Up](#)

KNOW HOW ASK A PRO FIND A PRO RESIDENTIAL PROGRAMS

**Choosing Kitchen Countertops: Our Top Picks**  
September 4, 2009 By Green Home Guide Staff

Countertops are often kitchen showpieces, speaking to the style and environmental sensibilities of the homeowner. And because we prepare our meals on them, their environmental and health effects are intimately linked with our daily lives. While no countertop material has zero impact on our planet, we believe the materials below have the most favorable environmental and health attributes. For more information on the pros and cons of materials and others, see our complete [guide to choosing countertop materials](#).

**Related Know How**

- Choosing a Green Countertop that Works with Your Style and Your Life
- Choose the Best Countertop Material for Your Home and the Environment
- Buyer's Guide to Green Countertop Materials
- 5 Gorgeous Green Countertop Materials
- 8 Tips for Selecting Healthy and Environmentally Sound Flooring

**Related Ask a Pro**

- We're remodeling our bathroom due to faulty construction. Can you offer some green pointers?
- Are there non-toxic alternatives to vinyl and lead sheeting for shower pans?
- What can I do to reduce my home's carbon footprint?
- Is limestone tile a sustainable choice for a wall and patio surface?
- We want to design a granite system for the campground we're renovating. Can you help?

**Related Tiles**

- Glass tiles can be environmentally preferable to ceramic because they can have 100 percent recycled content. The production process for recycling glass into tiles, called sineling, consumes far less energy than making new tiles from virgin materials.
- Glass tiles scratch more easily than ceramic, however, and may be less uniform, making it necessary to use more grout. Their potential surface irregularity may also make them less suitable for use as wall tiles or as accents or backsplashes.

**1** While the technologies vary, what really matters is performance.



# The State of the Art in Residential Green.

U.S. Green Building Council's **Green Home Guide** BETA  
Connecting you to ideas, advice and green home professionals

Welcome to Green Home Guide! [Sign In](#) [Sign Up](#)

KNOW HOW ASK A PRO FIND A PRO RESIDENTIAL PROGRAMS

**EDITOR'S PICK** 1 2 3

**Have a Question?**  
Ask our knowledgeable panel of professionals  
[Sign In](#) or [Sign Up](#) to ask a question.

**All Topics**  
Bathroom  
Bedroom  
Countertop  
Energy Efficiency  
Finance  
Flooring  
Furniture  
Healthy Home  
Home Basics  
Kitchen  
Landscaping  
New Home  
Nursery  
Paint & Coatings  
Solar & Alternative  
Stone & Tile

**Green roof to offset the required land space for zoning?**  
— [Ieng schaefer](#)  
Answered by [Kathy Spence](#) on February 1, 2010

**Is bamboo flooring with aluminum oxide finish considered a green choice?**  
— [Liz Cohen](#)  
Answered by [Mary Cordaro](#) on January 28, 2010

**What are the best ways to reduce my electric and propane consumption for heating and air conditioning? What should we do first?**  
— [Gregory Ayias](#)  
Answered by [Denny Kelly](#) on January 28, 2010

**We are building a new "green" home in Utah. Can a foundation drain contribute to home health?**  
— [Shary Furko](#)  
Answered by [Greg Fitzpatrick](#) on January 28, 2010

**Anybody Install Radiant Heating for the Kitchen or Bathroom Floor?**  
— [Justin Hankarson](#)  
Answered by [Polly Osborne, AIA, LEED AP](#) on January 26, 2010

**I'm interested in planting bamboo, but I am concerned as to how best to limit the bamboo from spreading outside the area I've planted.**  
— [Joel Kams](#)  
Answered by [Richard Heiler](#) on January 25, 2010

**Founding Sponsor**  
 **Newland COMMUNITIES**  
AT THE HEART OF GREEN LIVING

KNOW HOW ASK A PRO FIND A PRO RESIDENTIAL PROGRAMS

**Answer readers' green home questions.**

U.S. Green Building Council's **Green Home Guide** BETA  
Connecting you to ideas, advice and green home professionals

Welcome to Green Home Guide! [Sign In](#) [Sign Up](#)

KNOW HOW ASK A PRO FIND A PRO RESIDENTIAL PROGRAMS

[Subscribe](#) [Print](#) [Share](#)

**All Topics**  
Bathroom  
Bedroom  
Countertop  
Energy Efficiency  
Finance  
Flooring  
Furniture  
Healthy Home  
Home Basics  
Kitchen  
Landscaping  
New Home  
Nursery  
Paint & Coatings  
Solar & Alternative  
Stone & Tile

**QUESTION**  
**Is bamboo flooring with aluminum oxide finish considered a green choice?**  
Asked by [Liz Cohen](#)

**ANSWER**  
Answered by [Mary Cordaro](#)  
[Valley Village, CA](#)  
[Mary Cordaro, Inc.](#)

January 28, 2010

Liz, you're right to be concerned about possible indoor air quality issues from wood flooring finishes. The good news is there are now more decent alternatives to standard construction and interior design materials. You just need to do some homework.

There are three things to consider here: First, your concerns regarding the aluminum oxide finish itself. The second concern is what will happen when you eventually need to refinish it. The third concern deals with what's underneath that pretty bamboo surface. Lets take each one separately. First - the finish itself.

**Aluminum Oxide Finishes**  
Aluminum oxide finishes can be fast curing and healthy from a chemical outgassing standpoint, depending on a few variables. Unlike some water-based polyurethane finishes, which often contain chemicals called glycols that may "outgas" for several months (and may not be easily detected by odors), UV cured aluminum oxide finishes, which are modified urethane finishes, are often well tolerated even by many chemically sensitive individuals. This is particularly true if the finish is baked on and UV cured, which is usually the case with prefinished wood floors.

But here's where things get more complicated, unfortunately. Besides low chemical toxicity, there are some additional factors to consider regarding an aluminum oxide finish. First, from a healthy house standpoint, very little is known about possible health effects from the aluminum content in aluminum oxide floor finishes.

In the past few years, there has been a growing, heightened awareness of the potential toxicity from nano-sized heavy metals in products that touch the skin. Although this concern has been directed primarily at personal products, it is worth considering for any product that touches the skin. One MD I know of, whose patients include chemically sensitive people, has been strongly advising against aluminum oxide finishes, due to the possibility of aluminum oxide absorption through the skin on bare feet. Prompted by these concerns, a client with an autistic child requested that I look into one particular flooring product, called Bellwood, a brand that is well tolerated by many chemically sensitive people. Bellwood is a solid hardwood flooring product, prefinished with UV cured, baked on aluminum oxide urethane. Bellwood is coated multiple times and comes with a 50 year warranty on the finish. I spoke with a technical expert who works for the industrial finish manufacturer that makes the Bellwood finish. He reported to me that the aluminum oxide particles in the finish are much larger than nano-sized. In fact, we both agreed that theoretically, the aluminum oxide particles are probably much too large to penetrate bare skin. I have not researched other aluminum oxide finishes in terms of the particle size, but it's possible, given the similar characteristics of aluminum oxide finishes in general, that this may be true for other brands as well. However, as far as I know, there is really no real conclusive data on this issue, regarding possible toxicity from skin contact. So even if

**Have a Question?**  
Ask our knowledgeable panel of professionals  
[Sign In](#) or [Sign Up](#) to ask a question.

**Related Ask a Pro**  
[We are considering radiant heat. Will manufactured bamboo flooring stand up to the challenge?](#)  
[We're expanding before soon. How can we refinish our floors now with the least harm to air quality?](#)  
[Can you recommend healthy flooring for a home with kids and pets?](#)  
[Can we avoid formaldehyde in adhesives by choosing hardwood flooring that is nailed into place?](#)  
[For a baby nursery, is refinishing the hardwood floor better than installing new carpet?](#)

**Related Know How**  
[Make Floor Refinishing Greener and Safer](#)  
[About VOCs](#)  
[8 Tips for Selecting Healthy and Environmentally Sound Flooring](#)  
[Navigating the Flooring Thicket: Find the Greenest Way to Meet Your Needs](#)  
[Buyer's Guide to Green Floor Materials](#)



# The State of the Art in Residential Green.

KNOW HOW

ASK A PRO

FIND A PRO

RESIDENTIAL PROGRAMS

A geographically searchable green services directory.

The screenshot displays the Green Home Guide website interface. At the top, there are navigation tabs for 'KNOW HOW', 'ASK A PRO', 'FIND A PRO', and 'RESIDENTIAL PROGRAMS'. Below these is a search bar with the text 'Search greenhomeguide.com'. The main content area features a 'Find Pros in your Area' section with input fields for 'City', 'State', and 'Zip', and a 'GO' button. To the left, there is a sidebar with 'All Categories' and a list of professions including Architects, Builders & Contractors, Cleaning, Consultants, Electricians, Energy Auditors, Engineers, Finance, Flooring, Green Program Services, HVAC, Interior Designers, Kitchen, Landscapers, Painting, Pest Control, Plastering, Plumbing, Real Estate, Roofing, Solar & Alt Energy, and Tile & Stone. The main content area is titled 'GREEN PROFESSIONALS' and shows 'Sponsored Listings'. Three listings are visible: 'Go Green Construction, Inc.' in Northridge, CA; 'Eco-Friendly Building Center' in Scottsdale, AZ; and 'Green Building Florida' in Hollywood, FL. Each listing includes a logo, a brief description, and a 'portfolio slide show' icon. A 'USGBC member' icon is also present next to the 'Green Building Florida' listing. The bottom of the page shows a 'Four Points Consulting Group' listing in New York, NY.

enhanced listings

articles contributed

USGBC member

portfolio slide show



# The State of the Art in Residential Green.

KNOW HOW    ASK A PRO    FIND A PRO    RESIDENTIAL PROGRAMS

Learn about programs offering green home education and certification.

U.S. Green Building Council's **Green Home Guide** BETA  
Connecting you to ideas, advice and green home professionals

Welcome to Green Home Guide! [Sign In](#)    KNOW HOW    ASK A PRO    FIND A PRO    RESIDENTIAL PROGRAMS

### Green Home Certification and Education Programs

There are two kinds of green residential programs: national programs and local programs. National programs (listed below) offer green building certification and/or education nationwide. Local programs are provided by organizations that have a defined geographical focus whether it be a metropolitan area, a county (or counties), statewide or regional. If you have indicated your location, local programs in your area are visible in the right column.

#### LEED for Homes

LEED for Homes is a voluntary rating system that promotes the design and construction of high-performance green homes, including affordable housing, mass-production homes, custom designs, stand-alone single-family homes, duplexes and townhouses, suburban and urban apartments and condominiums and lofts in historic buildings. [More...](#)

#### REGREEN

The REGREEN Residential Remodeling program is a collaborative effort between the American Society of Interior Designers (ASID) and the U.S. Green Building Council (USGBC). REGREEN was designed to provide best green practices and resources for green remodeling professionals and savvy homeowners alike. Find out how the REGREEN program can support you in your next green retrofit project. [More...](#)

#### Energy Star

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy helping us all save money and protect the environment through energy efficient products and practices. [More...](#)

#### US Department of Energy Builders Challenge

DOE has posed a challenge to the homebuilding industry to build an increasing number of high performance homes which achieve a 70 or better on the EnergySmart Home Score (E-Score). These homes will use at least 30% less energy than a typical new home built to code. The E-Score allows homebuyers to understand – at a glance – how the energy performance of a particular home compares with others. [More...](#)

[About](#)    [Contact](#)    [Subscribe](#)    [Terms](#)    [Privacy](#)

U.S. Green Building Council's **Green Home Guide** BETA  
Connecting you to ideas, advice and green home professionals

Welcome to Green Home Guide! [Sign In](#)    KNOW HOW    ASK A PRO    FIND A PRO    RESIDENTIAL PROGRAMS

### Green Home Certification and Education Programs

There are two kinds of green residential programs: national programs and local programs. National programs (listed below) offer green building certification and/or education nationwide. Local programs are provided by organizations that have a defined geographical focus whether it be a metropolitan area, a county (or counties), statewide or regional. If you have indicated your location, local programs in your area are visible in the right column.

#### LEED for Homes

LEED for Homes is a voluntary rating system that promotes the design and construction of high-performance green homes, including affordable housing, mass-production homes, custom designs, stand-alone single-family homes, duplexes and townhouses, suburban and urban apartments and condominiums and lofts in historic buildings. [More...](#)

#### REGREEN

The REGREEN Residential Remodeling program is a collaborative effort between the American Society of Interior Designers (ASID) and the U.S. Green Building Council (USGBC). REGREEN was designed to provide best green practices and resources for green remodeling professionals and savvy homeowners alike. Find out how the REGREEN program can support you in your next green retrofit project. [More...](#)

#### Energy Star

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy helping us all save money and protect the environment through energy efficient products and practices. [More...](#)

#### US Department of Energy Builders Challenge

DOE has posed a challenge to the homebuilding industry to build an increasing number of high performance homes which achieve a 70 or better on the EnergySmart Home Score (E-Score). These homes will use at least 30% less energy than a typical new home built to code. The E-Score allows homebuyers to understand – at a glance – how the energy performance of a particular home compares with others. [More...](#)

### LEED for Homes Certification Program

Washington, DC

LEED for Homes is a voluntary rating system that promotes the design and construction of high-performance green homes, including affordable housing, mass-production homes, custom designs, stand-alone single-family homes, duplexes and townhouses, suburban and urban apartments and condominiums and lofts in historic buildings.

Provided By 

U.S. Green Building Council  
The U.S. Green Building Council (USGBC) is a non-profit organization committed to a prosperous and sustainable future for our nation through cost-efficient and energy-saving green buildings.

[View Profile](#)

For more information on LEED for Homes visit [www.usgbc.org/homes](http://www.usgbc.org/homes)!

[About](#)    [Contact](#)    [Subscribe](#)    [Terms](#)    [Privacy](#)

© Copyright 2009 U.S. Green Building Council. All Rights Reserved.





# Free Listings to Green Pros to Encourage Collaboration

Reserve your **FREE** directory listing and become part of our searchable database.

- Promote your business to site readers in your area.
- Upgrade to an enhanced listing for greater visibility.

list your business

U.S. Green Building Council's **Green Home Guide** BETA  
Connecting you to ideas, advice and green home professionals

Welcome to Green Home Guide! Sign In Sign Up

KNOW HOW ASK A PRO FIND A PRO RESIDENTIAL PROGRAMS

Find Pros in your Area City State OR Zip GO

APPLY FOR A FREE LISTING

All Categories  
Architects  
Builders & Contractors  
Clearing  
Consultants  
Electricians  
Energy Auditors  
Engineers  
Finance  
Flooring  
Green Program Services  
HVAC  
Interior Designers  
Kitchens  
Landscapers  
Painting  
Pest Control  
Plastering  
Plumbing  
Real Estate  
Roofing  
Solar & All Energy  
Tile & Stone

GREEN PROFESSIONALS

Sponsored Listings

Go Green Construction, Inc. Northridge, CA

Eco-Friendly Building Center Scottsdale, AZ

Learn About Sponsored Listings

Sort by Ranking 1 2 3 4 5 Next

**Eco-Friendly Building Center**  
Scottsdale AZ - Service area: 100 miles  
As the Valley of the Sun's leading provider of eco-friendly building materials and a full range of green design & consulting services, our mission is to be a catalyst of the widespread adoption of green building practices in Arizona.

**Green Building Florida**  
Hollywood FL - Service area: 200 miles  
Offering Green Building, LEED Certification, Sustainable Design Consulting, Education and Evaluations. New or Existing Residential and Small Business. Existing Home - Green Building Evaluations Strategies for Green Homes, Sustainable Design, Products, Materials and Systems.

**Go Green Construction, Inc.**  
Northridge CA - Service area: 50 miles  
At Go Green Construction we pride ourselves on delivering quality craftsmanship using renewable, sustainable materials. Our homes offer an attractive alternative to traditional construction while promoting a healthier environment for our clients and the environment.

**Four Points Consulting Group**  
New York NY - Service area: 100 miles  
Works with architects and clients to offer sustainable design strategies for New York City residences.

**Kofika Phakos Design**  
Los Angeles CA - Service area: 50 miles  
Kofika Phakos Design was founded in 2002 and offers complete architectural and interior design services. After completing architecture school, we worked as interns and then went on to senior positions at larger architecture firms for several years before

connect with clients & colleagues

upgrade to an enhanced listing

contribute content & showcase work

submit articles

U.S. Green Building Council's **Green Home Guide** BETA  
Connecting you to ideas, advice and green home professionals

Welcome to Green Home Guide! Sign In Sign Up

KNOW HOW ASK A PRO FIND A PRO RESIDENTIAL PROGRAMS

Subscribe Print Share

**QUESTION**

**Green roof to offset the required land space for zoning?**  
Asked by feng schaefer

Hello, I live in DC, and we would like to add an addition in the back as we anticipate two additions in our household. The zoning requirement in DC is to have 20 feet land in the back and 60% maximum of building space. We currently have about 40 feet in the back which includes the car port. We were told that it's possible to have a green roof so that we don't have to get rid of the car port in addition to the greening benefits. Please advise us. Thank you very much.

**ANSWER**

Answered by Kathy Spence  
Charlotte, NC  
Banister Homes  
February 1, 2019

Expanding the size of your home is a balancing act between different priorities- cost and budget, the needs of your family, the best layout and structural design for the addition, and of course fitting in seamlessly with your existing home and neighborhood. Typically local municipal zoning regulations are in place for a variety of reasons, so an understanding of the purpose of the regulation could help you determine if a green roof can help your home stay within compliance with the addition. I would say the first step would be to contact your local planning commission or zoning office about your property to make sure you have all the information you need about your requirements and what would be considered as an exception. A green roof could certainly help with permeable space and help improve storm water quality and quantity, as well as reducing heat island effects. Open space requirements can sometimes be about storm water quantity and quality, but not always.

Another motivation behind open space requirements is cosmetic, perhaps the ordinance is in place to keep visual appeal and keep new development in harmony with existing homes. Established neighborhoods sometimes have open space requirements to keep adjoining neighbors from feeling "loosed in" if adjacent properties have large structures that take up most of the lot.

Another important step is to work with your contractor to confirm that the green roof you have in mind is in compliance with your local building codes, and if any items in your design might need to be altered.

Also, it is a good idea to check on the inspectors process for any green implementation that may not be typical in residential in advance. For example, will you need to provide documentation showing the structure can support a green roof? Will the inspector need a letter from the green roof subcontractor confirming that the material is waterproof and resistant to root penetration? I have found that a meeting in advance can be valuable.

**Have a Question?**  
Ask our knowledgeable panel of professionals  
Sign In or Sign Up to ask a question.

Related Ask A Pro

We want to add a green roof to our Virginia log cabin. Will grass and weeds be a problem?  
What's the best affordable sustainable siding option? Any thoughts on roofing materials and gutters?  
Can you use electric tankless water heaters in a LEED home, and can you use an electric radiant hydronic floor system?  
Can you recommend a program that prices up excess construction materials?  
Are structural insulated panels (SIPs) the right choice for building a healthy home?

Related Know How

19 Green Projects for Under \$500  
Green Retrofit Checklist  
Green Renovation Checklist  
45 Ways to Green the Not-So-New House  
Interactive Tools

topic areas

demonstrate your expertise

Answer Ask A Pro questions or submit Know How articles.

- Demonstrate your expertise to prime prospects.

# REGREEN

## ASID & USGBC

REGREEN Residential Remodeling - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.regreenprogram.org/

Most Visited MobileMe Mail - Nathan ... MobileMe Calendar Google Calendar Marketing Toolbox - N-... N-Hance Wood Renew... Mail :: Welcome to Om... MetaFrame XP Login

REGREEN Residential Rem...

Contact Us | Privacy | SHARE

### REGREEN

ASID & USGBC


ABOUT RESOURCES GREEN REMODELS EDUCATION

#### RESOURCES


## TOOLS FOR GREEN DESIGN

The REGREEN program has collected a variety of electronic resources that represent some of the best thinking in the field. Starting with the REGREEN guidelines themselves and including a survey of other web resources (mostly free!); this is the place to branch out to find related helpful tools for your green home remodeling project.

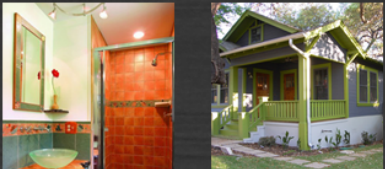
> LEARN MORE



#### GREEN MY PROJECT



#### FEATURED CASE STUDIES



Done

start REGR... Inbox... 5 Mi... 3 Mi... Green... Docu... Green... REGR... 63% 9:46 AM

# Visit [www.greenhomeguide.com](http://www.greenhomeguide.com)

- Consumer resources
- Ask a Pro (Q&A)
- Local Pro directory
- Other info



The screenshot shows the homepage of the Green Home Guide website. At the top, there is a navigation bar with the site's logo, the text "U.S. Green Building Council's Green Home Guide BETA", and the tagline "Connecting you to ideas, advice and green home professionals". A search bar is located on the right side of the header. Below the header, there are several menu items: "Welcome to Green Home Guide! Sign in.", "KNOW HOW", "ASK A PRO", "FIND A PRO", and "RESIDENTIAL PROGRAMS". The main content area is divided into sections. The "ASK A PRO" section features a question in a green speech bubble: "Which foam insulation is best for the south coast Atlantic region: closed cell or open cell?". Below the question, it says "Asked by Jud Laird, Miami, FL". To the right of the question, there are five numbered buttons (1-5), with the number 4 highlighted in green. Below the question, it says "ANSWERED BY Lily Livingston" and "Lily Marie Livingston, AIA San Francisco, CA". There is a small profile picture of Lily Livingston. Below the "ASK A PRO" section, there is a "KNOW HOW" section with a "Featured Articles" sub-section. The "ASK A PRO TOPICS" section lists various categories: Bathroom, Flooring, Kitchen, Solar & Alternative, Bedroom, Furniture, Landscaping, Stone & Tile, Countertop, Healthy Home, New Home, Energy Efficiency, Home Basics, and Nursery. On the right side of the page, there is a "Find a Pro Near You" section for Phoenix, AZ, with a "Change" link and a dropdown menu for "Architects (1)". Below this, there is a "Welcome!" section for the newest members of the Pro Directory, listing Green Home Guide Staff, Stone Tracy (Tracy A. Stone Architect), and Susan Wisniewski (Susan Wisniewski Landscape, LLC). At the bottom right, there is a "Subscribe to Our Newsletter" button.

## Questions?

- How do I get started?
- Where do I go?
- Who do I contact?
- What green building programs are available in my area?

## Answer

- [www.GreenHomeGuide.com](http://www.GreenHomeGuide.com)



# REGREEN

## ASID & USGBC



### GREEN REMODELS

**Brand New Appearance and Performance for An Older Duplex**  
**Location: Rochester, NY**

**PROJECT DETAILS**

**General Specs and Team**  
**Location:** Somerville, MA  
**Bedrooms:** 7  
**Bathrooms:** 2.5  
**Living Space:** 2966 sqf  
**Cost:** \$50k/lot  
 The home is a duplex (upstairs/downstairs). The deep energy retrofits involved strictly energy upgrades (interior of walls in basement, exterior of walls above-grade, and ceiling plane of attic).  
**Design:** Steve Raczek, ATA  
**Construction:** Bygmeister Associates  
**HERS Modeler:** Mike Dudas, EE Associates  
**Carpentry:** Raymond Brady  
**Heating:** Chris Ernst, Pipelines  
**Insulation:** Anderson Insulation  
**Solar PV:** Rich Herald, Nexamp

**Construction**  
**Foundation:** 8" concrete block with 3" of closed-cell spray foam (R-13) on the inside and framed stud wall with mold-resistant drywall.  
**Walls:** Existing walls are dense-packed with cellulose (R-13), 4"

**REGREEN**  
 ASID & USGBC

Residential Remodeling  
 Guidelines

Second Edition



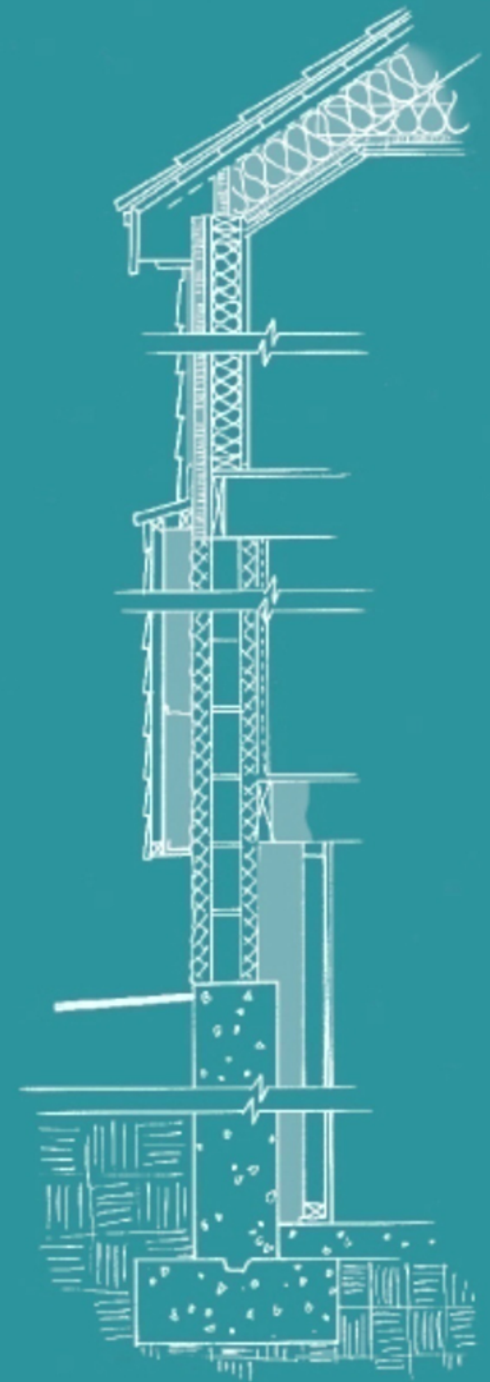
# What Green Residential Remodeling Addresses

- Climate control
- Resource depletion
- Water consumption
- Degradation of ecosystems/habitat
- Indoor environmental quality
- Occupant comfort and health
- Long term durability and maintenance costs



# Focus of REGREEN

- Whole house, systems-thinking (process and products)
- Professional integration – architects, interior designers, engineers, builders, trades
- Good design, green design



# REGREEN: Residential Remodeling Program

www.regreenprogram.org

- Remodeling Guidelines
- Green Remodel Case Studies
- Green My Project Tool: Green Strategy Generator
- Additional resources
- Education



The screenshot shows the REGREEN website homepage. At the top, the logo "REGREEN ASID & USGBC" is displayed. A navigation menu includes "ABOUT", "RESOURCES", "CASE STUDIES", "PROJECTS", and "EDUCATION". The main content area is divided into several sections: "ABOUT US" with a "WHY REGREEN?" section and a "LEARN MORE" link; "LATEST ADDITIONS" featuring a "TOOL TIPS" section with a hammer icon and an "EXPERTS" section with a group photo; "FEATURED" with a "MORE" section and a five-star rating; and "PROJECTS" with three categories: "RENEWABLE WOODS", "GLASS COUNTERTOPS", and "LOW-E GLAZINGS". The footer contains the copyright notice: "Copyright © 2009 American Society of Interior Designers, Inc. and U.S. Green Building Council. All rights reserved." and logos for ASID and USGBC.



# REGREEN Guidelines

## What They Are, and What They Are Not

- Comprehensive, but not stand-alone
- Interactive website with downloadable guidelines
- Project-based, not project-specific
- Product selection guidance



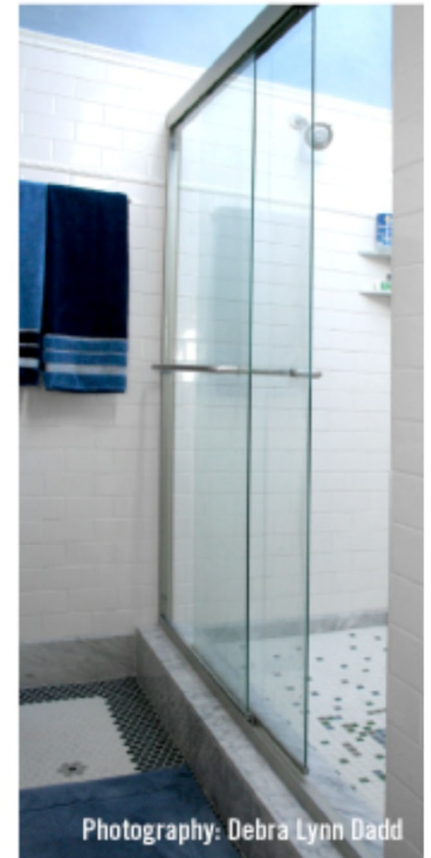
**REGREEN**  
ASID & USGBC

Residential Remodeling  
Guidelines

Second Edition

# Case Studies in REGREEN

- Kitchen
- Bathroom
- Bedroom
- Living and Working
- Outdoor Living Space



# Case Studies in REGREEN

- Finished Basement
- Home Performance
- Major Addition
- Gut Rehab
- Deep Energy Retrofit



# GREEN REMODELS

## Brand New Appearance and Performance for An Older Duplex

**Location:** Rochester, NY



### PROJECT DETAILS

#### General Specs and Team

**Location:** Somerville, MA

**Bedrooms:** 7

**Bathrooms:** 2.5

**Living Space:** 2966 sqf

**Cost:** \$50/sqf

The home is a duplex (upstairs/downstairs). The deep energy retrofit involved strictly energy upgrades (interior of walls in basement, exterior of walls above-grade, and ceiling plane of attic).

**Design:** Steve Baczek, AIA

**Construction:** Byggmeister Associates

**HERS Modeler:** Mike Duclos, EE Associates

**Carpentry:** Raymond Brady

**Heating:** Chris Ernst, Pipelines

**Insulation:** Anderson Insulation

**Solar PV:** Rich Herald, Nexamp

#### Construction

**Foundation:** 8" concrete block with 3" of closed-cell spray foam (R-18) on the inside and framed stud wall with mold-resistant drywall.

**Walls:** Existing walls are dense-packed with cellulose (R-13), 4"

# REGREEN: Strategy Generator

## Remodeling Strategies

Filter the strategies:

--Any Project--  --Any Topic--   
--Any Design/Construction Stage--

Your filters match 198 of 198 total strategies.

Code	Title
IDP1	Ensure durability
IDP2	Conduct home performance audit
IDP3	Optimize energy performance during design
IDP4	Manage noise
IDP5	Design with air quality in mind
IDP6	Design for sustainable lifestyle
IDP7	Employ universal design
IDP8	Optimize interior layout
IDP9	Design sheltered entryway
IDP10	Design for storage

# REGREEN: Strategy Generator

## Remodeling Strategies

Filter the strategies:

Your filters match 16 of 198 total strategies.

Code	Title
MR107	Manage construction and demolition waste
MR118	Use FSC-certified wood
MR122	Consider environmentally preferable piping material
MR126	Install environmentally preferable interior sheathing
MR130	Use appropriate sheens for paints and finishes
MR132	Consider tile and tile trim pieces with recycled content
MR133	Consider reuse of existing flooring and subflooring
MR135	Consider flooring made from certified or reclaimed wood
MR136	Consider flooring made from natural or rapidly renewable materials
MR140	Consider reusing clean existing cabinetry or buying salvaged

# Differentiate Yourself

- Step 1: Complete REGREEN Online Learning Series
- Step 2: Complete REGREEN 2-day Workshop
- Step 3: Complete 3 hrs. of residential green building-related courses offered by a USGBC/ASID approved provider



Enrollment costs: ~~\$60~~  
~~plus course~~  
~~registration~~

# REGREEN Trained Requirements



1. Five online e-learning courses:  
*Overview of Principles in REGREEN Guidelines*

- REGREEN: A Guide for REGREEN Remodeling Projects
- REGREEN: A Kitchen Remodel
- REGREEN: A Bath Remodel
- REGREEN: A Deep Energy Retrofit
- REGREEN: Home Performance

Cost starting at ~~\$60~~/each



# REGREEN Trained Requirements



## 2. Two-day workshop:

- REGREEN 301: Implementing Residential Remodeling

October 28<sup>th</sup> and 29<sup>th</sup>

8:30am-5:00pm

Design Institute of San Diego

Cost starting at ~~\$475~~

# REGREEN Trained Requirements



3. Three hrs. of elective courses:

- Green Remodeling Courses in USGBC Course Catalog

Webinar Options:

*REGREEN Case Studies from the Field*

- REGREEN Your Kitchen & Bath
- REGREEN & Deep Energy Retrofit
- Home Performance Audits - Get the Facts

Cost starting at ~~\$39~~/each

# Our Ask



1. Complete the program,
2. Implement REGREEN strategies on future projects, leaving your mark on San Diego,
3. Tell us how REGREEN is influencing your projects,
4. Share your client's reactions and preferences, and
5. Spread the word about REGREEN in our community.

[www.regreenprogram.org](http://www.regreenprogram.org)

# Thank You!

