

# Florida Green Home Retrofit Guidelines

## Checklist Instructions

Version 1

Effective January 1, 2012

Revised 2/13/12



The state of Florida has over 8 million existing homes, which provides an excellent opportunity to save energy and save money. Homeowners that wish to green their existing homes may be on a limited budget, so the FGBC wishes to recognize even small efforts to improve the performance of your home.

The FGBC Florida Green Home Retrofit Guidelines were developed to assist homeowners and remodelers in making home improvement decisions to improve the efficiency, health and environmental friendliness of their homes. The Green Home Retrofit Guide includes assessments in 5 Categories: Energy, Water, Health, Materials, and Durability.

The Florida Green Building Coalition is providing these guidelines as an information tool and opportunity for homeowners who may wish to receive third-party verification that efficiency improvements have been incorporated into their homes.

### Disclaimer

The Florida Green Building Coalition (FGBC) Green Home Retrofit Designation does not constitute an endorsement nor guarantee any performance level. The sole purpose of the program is to provide tools for homeowners who wish to implement strategies that have the potential to make a home operate in a more efficient and healthy manner.

### **Florida Green Building Coalition recommends the following process:**

1. Complete the home assessment. This will help you understand your energy and water consumption.
2. Choose to pursue a Level 1, 2 or 3 of the FGBC Green Home Retrofit.
3. To achieve each level, a minimum of 5 upgrades are required as described below (Second Step).
4. If desired, submit the required documentation to receive an acknowledgement indicating your retrofit accomplishments.

The FGBC Green Home Retrofit program is not a certification program. For homeowners wishing to pursue a green home certification, please see the FGBC Florida Green Home Standard. The FGBC Florida Green Home Standard is a certification program that includes both new construction and existing homes for those wishing to pursue a whole house green remodel.

### **First Step...Complete your home assessment:**

There are two assessment options.

1. Printable worksheets for the 5 categories, which can be completed by a homeowner to determine their annual energy and water use as compared to the average energy and water use in Florida. These worksheets can help you decide where the greatest potential for improvements and savings are. In addition, the worksheet helps you evaluate the durability and health of your home.
2. An Excel based evaluation tool for your homes energy use, water use, health, and durability. This tool includes helpful hints and links to additional information on conservation.

### **Second Step...Choose which level of retrofit you wish to complete:**

**Level 1** Select a minimum of 3 Energy and 2 Water conserving retrofit options for a total of 5 upgrades.

**Level 2** Select a minimum of 5 Energy, 3 Water, and 2 additional retrofit options from any of the 5 categories for a total of 10 upgrades.

**Level 3** Select a minimum of 5 Energy, 3 Water, 1 Health, 1 Materials, 1 Durability and 4 additional retrofit options from any of the 5 categories for a total of 15 upgrades.

**Third Step... (Optional)...To receive an FGBC acknowledgement of your retrofit upgrades, complete the application form and submit to FGBC.**



## Florida Green Home Retrofit Guidelines Version 1

### Third Step (Optional) . . .

To receive an acknowledgement of your retrofit strategies, submit this application form, the documentation required as noted in the FGBC Green Home Retrofit Reference Guide, and the appropriate payment based on the fee schedule noted below.

### APPLICATION

<b>Level Requested:</b>	
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Homeowner Name: \_\_\_\_\_

Home Address: \_\_\_\_\_

City: \_\_\_\_\_

Zip Code: \_\_\_\_\_

County: \_\_\_\_\_

Development/Subdivision  
If known \_\_\_\_\_

Home Size (in square feet) \_\_\_\_\_

Year Home was Built \_\_\_\_\_

Number of Bedrooms \_\_\_\_\_

Number of Bathrooms \_\_\_\_\_

Does the Home Have a Pool? \_\_\_\_\_

#### Payment by Check Payable to "FGBC" or Credit Card Accepted (Visa, AX, MC & Discover)

Credit Card #: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

Name on Card: \_\_\_\_\_

Billing Zip Code: \_\_\_\_\_

Signature: \_\_\_\_\_

#### The following indicates the FGBC application fee and requirements for each level

All applications must include documentation for each upgrade claimed

Level	Fee	Total # of Upgrades	Requirements
<b>Level 1</b>	<b>\$25</b>	5	Select a minimum of <b>3 Energy</b> and <b>2 Water</b> conserving retrofit options for a total of 5 upgrades.
<b>Level 2</b>	<b>\$35</b>	10	Select a minimum of <b>5 Energy</b> , <b>3 Water</b> , and <b>2 additional retrofit options</b> from any of the 5 categories for a total of 10 upgrades.
<b>Level 3</b>	<b>\$50</b>	15	<p>(1) Select a minimum of <b>5 Energy</b>, <b>3 Water</b>, <b>1 Health</b>, <b>1 Materials</b>, <b>1 Durability</b> and <b>4 additional retrofit options</b> from any of the 5 categories for a total of 15 upgrades.</p> <p>(2) Level 3 <b>requires</b> that an FGBC Certifying Agent verify the installed home improvements. The fee charged by a Certifying Agent is in addition to the FGBC Green Home Retrofit Application Process Fee. You may find a list of FGBC Certifying Agents at <a href="http://www.FloridaGreenBuilding.org">www.FloridaGreenBuilding.org</a>.</p> <p>(3) Once the Certifying Agent has verified the installations, the Certifying Agent will submit the application, appropriate documentation, and the processing fee to the Florida Green Building Coalition.</p>

#### Level 3 Only - Certifying Agent Authorization

CA ID#: \_\_\_\_\_ Typed Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Complete the home assessment for each category and then choose your upgrades on the Checklist

## ENERGY HOME ASSESSMENT



INPUT

How much is your electric bill?

January \_\_\_\_\_  
 February \_\_\_\_\_  
 March \_\_\_\_\_  
 April \_\_\_\_\_  
 May \_\_\_\_\_  
 June \_\_\_\_\_  
 July \_\_\_\_\_  
 August \_\_\_\_\_  
 September \_\_\_\_\_  
 October \_\_\_\_\_  
 November \_\_\_\_\_  
 December \_\_\_\_\_

**Total**

Add 12 months of electric bills to see how much you spend on electricity each year.

COMPARE

Compare how much you spend on electricity to the Florida average. If you are spending more than the Florida average there may be opportunity to save money and energy.

Florida Average Home Size, Energy Use and Cost per year

House Size	Bedrooms	Bathrooms	average Florida energy use (kWh/year)	energy equivalent (gallons of gas/year)	cost per year
1001-1400 square feet	2	1	14,000	382	\$ 1,680
1401-1800 square feet	3	2	16,500	450	\$ 1,980
1801-2500 square feet	4	2	20,000	546	\$ 2,400
Over 2500	4	3	25,000	682	\$ 3,000

TIPS

Answer "Yes" or "No" to the questions below:

Do you....

- \_\_\_\_\_ Turn off fans when you leave a room?
- \_\_\_\_\_ Turn off the lights when you leave a room?
- \_\_\_\_\_ Replace dead light bulbs with CFL bulbs?
- \_\_\_\_\_ Turn off the TV when you leave a room?
- \_\_\_\_\_ Unplug chargers when not being use?
- \_\_\_\_\_ Turn off your computer when you go to sleep?
- \_\_\_\_\_ Keep your doors and windows closed if your air conditioning is on?
- \_\_\_\_\_ Adjust the thermostat when you leave the house?
- \_\_\_\_\_ Replace old appliances with ENERGY STAR® appliances?

If you answered...

- "Yes" to all of these, you may find more energy saving tips in the Green Retrofit Checklist
- "Yes" to 7 or less of these, work on making all of your answers "yes" and see the Green Retrofit Guidelines for additional ways to save energy.
- "Yes" to 2 or less of of these, you have some easy opportunities to save energy and money on your electric bills. Work on turning off electronics when not in use and see the Green Retrofit Guidelines for new ideas

**Make it your goal to answer "Yes" to all of these questions!**

**WATER HOME ASSESSMENT**

INPUT

How much is your water bill?

- January \_\_\_\_\_
- February \_\_\_\_\_
- March \_\_\_\_\_
- April \_\_\_\_\_
- May \_\_\_\_\_
- June \_\_\_\_\_
- July \_\_\_\_\_
- August \_\_\_\_\_
- September \_\_\_\_\_
- October \_\_\_\_\_
- November \_\_\_\_\_
- December \_\_\_\_\_



**Total**

Add 12 months of water bills to see how much you spend on water each year.

ESTIMATE

How much water are you using in your home per day?

How many people are in your home?

- number of people: \_\_\_\_\_ x 12 = \_\_\_\_\_ gallons of water used showering daily
- number of people: \_\_\_\_\_ x 18 = \_\_\_\_\_ gallons of water used in the toilets daily
- number of people: \_\_\_\_\_ x 15 = \_\_\_\_\_ gallons of water in washing machine daily
- number of people: \_\_\_\_\_ x 1 = \_\_\_\_\_ gallons of water used in a dishwasher daily
- number of people: \_\_\_\_\_ x 11 = \_\_\_\_\_ gallons of water used by faucets daily
- minutes sprinklers are on each day: \_\_\_\_\_ x 17 = \_\_\_\_\_ gallons of water used by sprinklers daily
- minutes the hose is on each day: \_\_\_\_\_ x 18 = \_\_\_\_\_ gallons of water used by the hose daily

Add gallons of water to find total use:  **Total gallons of water used daily**

Multiply total gallons of water use daily: \_\_\_\_\_ to see how much \_\_\_\_\_ x 365 =  
 water is used every year:  **Total gallons of water used each year**

TIPS

Answer "Yes" or "No" to the questions below:

For indoor water use, do you....

- \_\_\_\_\_ Turn off water while you brush your teeth?
- \_\_\_\_\_ Turn off water while you wash your hands?
- \_\_\_\_\_ Shower in under 5 minutes?
- \_\_\_\_\_ Fix a leak as soon as it starts?
- \_\_\_\_\_ Use low-flow faucets and shower heads?
- \_\_\_\_\_ Replace old fixtures and appliances with WaterSense® fixtures and appliances?

For outdoor water use, do you....

- \_\_\_\_\_ Only water plants and grass early in the morning?
- \_\_\_\_\_ Turn off sprinklers if it rained the day before or will rain the next day?
- \_\_\_\_\_ Point sprinkler heads at plants, not sidewalks or driveways?
- \_\_\_\_\_ Only cut your grass to as low as 3 inches?
- \_\_\_\_\_ Use slow-release nitrogen and no phosphorus for fertilizer?
- \_\_\_\_\_ Only use pesticides where there are spots or bug problems?

If you answered...

"Yes" to all of these, you are a water saver! Check out the retrofit guidelines to find more water saving ideas.  
 "Yes" to 7 or less of these, work on making all of your answers "yes" and see the retrofit guidelines for additional ways to save water.  
 "Yes" to 2 or less of these, you have some easy opportunities to save water and money on your water bills. Work on turning off water when not in use and see the retrofit guidelines for additional water saving ideas.

**Make it your goal to answer "Yes" to all of the questions!**

**HEALTH HOME ASSESSMENT**

Answer "Yes" or "No" to the questions below:

Do you....

- Change your air filter every month?
- Take batteries, paint, electronics, and chemicals to a hazardous waste disposal site?
- Bring only natural fabrics into your home?
- Leave your bath fan on for 20 minutes after showering?
- Use exhaust fans when cooking, dishwashing, and cleaning?
- Clean mold off hard surfaces with water and detergent (NOT bleach) and dry?
- Replace any moldy carpets, ceiling tiles, wallpaper, drywall, and furniture?



TIPS

If you answered...

- "Yes" to 6 or less of these, try doing a few more to improve your air quality!
- "Yes" to 2 or less of these, you can easily improve your indoor air quality by changing your habits to include these actions!

**Make it your goal to answer "Yes" to all of these questions!**

To find low-VOC finishing products, such as paints, varnishes, and stains, look for labels by:

- GREENGUARD
- GREEN SEAL
- FloorScore

For safe, alternative cleaning products:

RESOURCES

**All-Purpose Disinfecting Cleaner**

2 cups water (preferably distilled)  
 1.5-3 tsp liquid castile soap  
 1 tsp tea tree oil  
 (2 drops essential oil for scent)  
 Mix ingredients. Cleaner may be stored at room temperature.

**Counter/Bathtub Cleaner**

baking soda  
 soap

**Toilet Bowl Cleaner**

1 cup borax  
 Pour into toilet bowl, leave overnight. Scrub and flush.

**Dusting (no chemicals needed)**

microfiber cloth

**Mold/Mildew/Germ Cleaner**

hydrogen peroxide *OR* distilled white vinegar

**Stain Removal (Countertop/Bathtub)**

borax  
*OR* hydrogen peroxide  
*OR* distilled white vinegar

**Glass Cleaner**

1/4 cup white distilled vinegar  
 1 qt warm water  
 Mix ingredients. Apply with spray bottle or sponge, wipe dry.

**Rust Removal**

1 lime  
 salt  
 Sprinkle salt onto the rust, squeeze lime juice onto salt until it is well-soaked. Let sit for 2-3 hours. Scrub off rust with lime

**Cleaner Additive for Scent/Air Freshener/Candle Replacement**

essential oils (e.g., lavender, rose, vanilla, pine, chamomile, cinnamon, eucalyptus, grapefruit, lemon, orange)

**DURABILITY HOME ASSESSMENT**

Answer "Yes" or "No" to the questions below:



Do you....

- Have impact-resistant shutters or screens on windows, skylights, and glass doors?
- Have rain gutters that let water out at least 3 feet away from the house?
- Have secondary water protection on your roof, such as roofing underlayment?
- Have water and non-refrigerated food stored in your home for emergencies?
- Have local emergency phone number and evacuation zone information?
- Have a checklist for steps to take during a disaster?

TIPS

If you answered... "Yes" to all of these, great job to provide a durable home.  
 "Yes" to 5 or less of these, review the above list and the retrofit guidelines for additional ways to improve your homes durability.  
 "Yes" to 2 or less of of these, try to complete the above items and review the retrofit guidelines for new durable ideas.

**Make it your goal to answer "Yes" to all of these questions!**

## Florida Green Home Retrofit Guidelines

Version 1

### Checklist - Choose Your Upgrades!

Revised 2/13/12

#### ENERGY

- E1 Weatherize home by doing ALL of the following:
  1. Replace weather-stripping on exterior doors
  2. Remove HVAC vent covers (diffusers) and install gaskets or caulk behind them, reinstall
  3. Remove trim around recessed can lighting and install gaskets or caulk behind them, reinstall
  4. Remove electrical outlet covers on exterior walls and install gaskets or caulk behind them, reinstall
- E2 Replace a minimum of 75% of installed light bulbs with CFL or LED light bulbs
- E3 Replace thermostat with a programmable thermostat
- E4 Increase attic insulation to a minimum of R-38 at the ceiling
- E5 Add a radiant barrier in the attic to the underside of the roof sheathing
- E6 Add window tint film to decrease heat gain from the sun into your home
- E7 Install/replace with motion/light sensors to all exterior lighting
- E8 Replace an old refrigerator with a new ENERGY STAR® refrigerator
- E9 Replace an old dishwasher with a new ENERGY STAR® dishwasher
- E10 Replace an old clothes washer with a new ENERGY STAR® clothes washer
- E11 Install new ENERGY STAR® ceiling fans in the main living area and 75% of bedrooms
- E12 In all bathrooms without exhaust fans, install new ENERGY STAR® exhaust fans
- E13 Install and set timer on water heater
- E14 Replace hot water heater with state certified solar or ENERGY STAR® hot water heating system
- E15 Replace HVAC system with new, properly sized per current or manual J calculations, air conditioning system with SEER 15 and 8.5 HSPF minimum efficiency
- E16 Seal ductwork and joints with mastic to prevent leaks
- E17 Have duct work smoke tested for leaks and sealed by a professional if necessary
- E18 Spray foam, minimum R-19, to the bottom of the roof deck to create an unvented attic
- E19 Re-roof: replace with roofing that is ENERGY STAR® labeled
- E20 Repaint home exterior in a color with light reflective value of greater than 50
- E21 Change existing pool heater to solar
- E22 Replace pool pump with ENERGY STAR® pool pump
- E23 Plant trees for shade East/West; in North Florida deciduous trees, based on coverage with 5 years in ground growth
- TOTAL (Minimum 3 for Level 1, Minimum 5 for Level 2, Minimum 5 for Level 3)



## WATER

### Interior Water Saving

- W1 Change rubber hoses to reinforced hoses
- W2 Replace showerheads with 2.0 gallons per minute (gpm) or lower flow rate showerheads
- W3 Install aerators for bathroom faucets (1.5 gpm)
- W4 Replace dishwasher with ENERGY STAR® appliance using less than or equal to 5.8 gallons per cycle (gpc)  
*(Note: if you claim this point in ENERGY, you cannot claim it again in WATER)*
- W5 Replace clothes washer with ENERGY STAR® labeled water saving clothes washer  
*(Note: if you claim this point in ENERGY, you cannot claim it again in WATER)*
- W6 Re-plumb residence with PEX manifold type system
- W7 Add on demand (button or switch triggered) water recirculation pump to existing system
- W8 Remove existing garbage disposal
- W9 Replace toilets with WaterSense® or minimum MaP 350, dual flush or maximum 1.28 gpf toilets
- W10 Install grey water collection on bathroom sinks to reuse for toilet flushing

### Exterior Water Saving

- W11 Install a rain gauge that will shut off irrigation during rain events
  - W12 Update irrigation controller to a programmable controller
  - W13 Install cistern(s), minimum 250 gallons total capacity, for irrigation
  - W14 Turf area less than 50% of landscaped area
  - W15 50% of all landscape plants are on the Florida Friendly Plants list
  - W16 Replace a minimum of 200 square feet of turf with Florida Friendly Plants
  - W17 Install rain barrels for rainwater harvesting
  - W18 Add a pool cover to an existing pool
  - W19 Have an irrigation professional perform a “check up” on existing irrigation system
  - W20 Permanently abandon existing irrigation system
- TOTAL (Minimum 2 for Level 1, Minimum 3 for Level 2 and Minimum 3 for Level 3)

## HEALTH

- H1 Use green cleaning products
  - H2 Replace existing bathroom exhaust fans with ENERGY STAR® labeled exhaust fans that include a timer or humidistat
  - H3 Use low-VOC paints, stains, finishes, as defined in the Reference Guide, on all interior surfaces
  - H4 Replace at least 50% of existing carpet with healthy flooring, as defined in the Reference Guide
  - H5 Seal wall/openings between garage and conditioned residence
  - H6 Install fixed exhaust fan with motion sensor and timer in garage
  - H7 Install carbon monoxide alarms: Entrances to garage and to all sleeping areas
  - H8 Install dehumidifier in HVAC system
  - H9 Install make-up air source to laundry room located within the conditioned envelope
  - H10 Replace range hood with exterior ducted, ENERGY STAR® labeled range hood
  - H11 Tape and mastic any air handler located in unconditioned space
  - H12 Make or install a mud room or otherwise usable entry area
- TOTAL (Minimum 0 for Level 1, Minimum 0 for Level 2, Minimum 1 for Level 3)



## MATERIALS

- \_\_\_ M1 Dedicated recycling bins in place
- \_\_\_ M2 Use locally sourced materials
- \_\_\_ M3 Use non-cypress mulch
- \_\_\_ M4 Develop a construction and demolition waste management plan
- \_\_\_ M5 Implement a recycle, reuse, repurpose plan for construction
- \_\_\_ M6 Engineered/alternative materials for outdoor living
- \_\_\_ TOTAL (Minimum 0 for Level 1, Minimum 0 for Level 2, Minimum 1 for Level 3)

## DURABILITY

- \_\_\_ D1 Have a hurricane plan and a hurricane kit available
- \_\_\_ D2 Attic sealed to prevent water intrusion and to mitigate uplift
- \_\_\_ D3 Exterior structures properly anchored
- \_\_\_ D4 Improve tie-downs of house trusses and foundation
- \_\_\_ D5 Brace gable roofs
- \_\_\_ D6 Add a hurricane system, other than plywood or OSB, for window and door protection
- \_\_\_ D7 Replace garage door and tracks with hurricane resistant system
- \_\_\_ D8 Re-roofing: Install secondary water protection
- \_\_\_ D9 Install gutters and downspouts to divert water at least 3' away from foundation
- \_\_\_ TOTAL (Minimum 0 for Level 1, Minimum 0 for Level 2, Minimum 1 for Level 3)

## Determine Your Project Retrofit Level

Level 1: 5 Upgrades Required		Level 2: 10 Upgrades Required		Level 3: 15 Upgrades Required	
Number of Upgrades Completed		Number of Upgrades Completed		Number of Upgrades Completed	
Energy Upgrades	___ (3 Min.)	Energy Upgrades	___ (5 Min.)	Energy Upgrades	___ (5 Min.)
Water Upgrades	___ (2 Min.)	Water Upgrades	___ (3 Min.)	Water Upgrades	___ (3 Min.)
Health Upgrades	___ (0 Min.)	Health Upgrades	___ (0 Min.)	Health Upgrades	___ (1 Min.)
Materials Upgrades	___ (0 Min.)	Materials Upgrades	___ (0 Min.)	Materials Upgrades	___ (1 Min.)
Durability Upgrades	___ (0 Min.)	Durability Upgrades	___ (0 Min.)	Durability Upgrades	___ (1 Min.)
Additional Upgrades	___ (0 Min.)	Additional Upgrades	___ (2 Min.)	Additional Upgrades	___ (4 Min.)
<b>Total Upgrades</b> ___		<b>Total Upgrades</b> ___		<b>Total Upgrades</b> ___	

FGBC Reviewer: \_\_\_\_\_

Signature: \_\_\_\_\_

Date Reviewed: \_\_\_\_\_

