

# Sustainability Certification Workbook for Single Family Homes



The step-by-step guide for Homeowners interested in having their single family home Certified by Audubon Lifestyles and earn the Seal of Sustainability from the International Sustainability Council .





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*A journey of 1000 miles starts with a single step, so the saying goes. That is the same philosophy that our Sustainability Programs are based on.*

*Over the past couple of decades many programs have been created that all have a focus on getting people to “save the earth” where they live, work and play. While that is certainly a laudable goal, the fact of the matter is that most of these programs are so complicated and so expensive that the vast majority of people do not participate in them.*

*What we are focusing on are the ten most important actions that people can take at home or at their places of business that will truly make a difference. We believe that this approach is more easily understood and that the proposed actions are keys to improving the quality of the environment in cost effective and meaningful ways.*

*It has been said that in many cases it is the first few actions taken that make the biggest difference and the last few are the most expensive and least beneficial. Becoming Certified from Audubon Lifestyles, and earning the Seal of Sustainability from the International Sustainability Council as demonstrated by taking the ten actions outlined in this program workbook might just be a single step, but when one thousand individuals take those same measures we truly create a meaningful journey toward improving the quality of the environment, and gain the monetary rewards associated with being more sustainable at the same time.*

*We are trying to save the earth, one person, one place at a time please join us in this journey!!*

*R. Eric Dodson*



*Executive Director*



## **The Sustainable Homes Program**

A Sustainable Future... It Starts Where People Live

How we build and operate our homes, both in design and choice of materials, is one of the most significant ways that we can affect our future. Much of the concern boils down to the use of energy. How much energy is embodied in the building materials themselves, in their transportation and assembling? Then once the house is built, how much energy does it consume to keep its inhabitants comfortable?

Consumption of energy has a direct influence on environmental quality, because of the inherent pollution through greenhouse gasses and other emissions. Then there is the loss of natural beauty, ecosystems and basic resources associated with the extraction of fossil fuels and building materials.

There are some very simple ways to design houses that require very little energy to keep them comfortable. Getting your New Home Construction designated as a Certified Sustainable Home and earning the Seal of Sustainability from the International Sustainability Council is a tremendous recognition of your commitment as a homebuilder to build with the environment in mind.

The ways in which we choose to live is a big part of the problem, but can also be a big part of the solution if we choose to adopt more environmentally sustainable lifestyles. That means exercising more care, or stewardship, in our use of the Earth's finite resources (trees, water, energy, minerals, land) to ensure that there will be enough left for our children and their children.

The Sustainable Homes Program helps individuals lower their environmental impact through adopting more resource efficient lifestyle practices and living in homes that are energy and cost efficient.







## PLATINUM MEMBER

### Take the first Step!

Only Platinum Members can participate in the Sustainable Landscapes Programs.

As a non-profit, public interest organization, we rely exclusively on private donations, philanthropic grants, and membership dues. Your membership is put to work immediately to advance the tenets of sustainability and environmental protection, and we are deeply grateful for your support.

In addition, Platinum Membership provides a number of online resources to assist with sustainable living, and was created to help foster sustainability by working with, and providing educational resources to individuals, businesses, organizations, universities, government entities, municipalities, communities, neighborhoods, and virtually anyone seeking assistance in balancing the triple bottom line of people, profit, and planet.

Our ability to reach our organization's mission and vision depends on your participation.

#### **Platinum Membership Benefits**

- Listed on the Audubon Network for Sustainability as a Platinum Member with business logo, reciprocated link, contact information, map and address information, and business description.
- Ability to use the Platinum Member Logo on all marketing, sales and promotional, and educational materials
- New Members Packet include: ISC-Audubon Platinum Member vehicle and front door stickers and decals, computer mouse pad, co-written thank you letter from ISC-Audubon and Platinum Member Certificate for framing and display.
- Coauthored Press Release Announcing Platinum Membership distributed worldwide
- Multiple Subscriptions to SustainAbility Newsletter
- Platinum Membership is the first step in gaining Chartered ISC Member Designation and earning additional recognition by the International Sustainability Council.
- The knowledge that you are contributing to helping ISC-Audubon to continue in our mission, and receive the recognition that you are doing just a little bit more!

Please join with us today and make a positive contribution toward being socially, environmentally and economically responsible where you live, work and recreate.

Learn more about the benefits of membership by visiting:  
[www.isc-audubon.org/join.html](http://www.isc-audubon.org/join.html)

## TEN Requirements for a Sustainable Single Family Home

1. Heating and Air Conditioning
2. The Hot Water Heater
3. Water Conservation
4. Lighting
5. Windows and Exterior Doors
6. Energy Efficient Appliances
7. Air Treatment and Purification
8. Waste Prevention and Recycling
9. Insulation
10. Appropriate Air Sealing Detail

We believe that every person plays important roles in regard to the future of our planet. This includes roles at home, at work and in society at large. It is incumbent on each of us to make positive contributions toward the common good by being socially, environmentally and economically responsible where we live, work and recreate.

Sustainable living is an approach to social, economic decisions and activities, for all society, rich and poor, which is compatible with the preservation of the environment upon which we all depend for life. It is based on a philosophy of interdependence and respect for all life, as well as non-living parts of nature, as well as taking responsibility now for generations yet to come.

The Sustainable Home Program —for Single Family Homes is only available to homeowners who have joined ISC/Audubon as a Member.

Striving for and ultimately achieving the Seal of Sustainability from the International Sustainability Council (ISC), and becoming Certified by Audubon Lifestyles means that the home has set the new standard for excellence. Certification coupled with the Seal of Sustainability indicates that the homeowner has adopted and put into place recognized Best Management Practices that equal environmental superiority, social responsibility, and economically vitality.

Homeowners that complete the requirements of the Sustainable Homes Program become global examples of excellence by promoting sustainable living and lifestyles where they live.



# Heating and Air Conditioning

*Offers: Durability, Energy Efficiency, Comfort, Financial Savings*

There are four factors that affect heating and cooling costs: the outdoor temperature; the thermal efficiency of your home (insulation); the efficiency of your heating and cooling system; and the temperature you want to maintain inside the home (thermostat setting).

It is advisable to have your system routinely serviced by a qualified HVAC mechanic once a year, but that doesn't mean there's nothing you can do to help keep the system in proper working order. Start by making sure none of the registers are blocked or restricted. Then, proceed to the unit itself and check its filter. Estimates show that up to 90% of all HVAC systems have dirty filters, and that could be costing you as much as 20% more than normal to keep your home comfortable. All duct work, whether in attic space or underneath the house, should be well insulated.

Turn down the heat while you're sleeping at night or away during the day, and keep temperatures moderate at all times. Setting your thermostat just 2 degrees lower in winter and higher in summer could save about 2,000 pounds of carbon dioxide each year.



## **Audubon Lifestyle Home Recommendations:**

- When buying a new heating or air conditioning system, choose one that is highly efficient and properly sized for your home.
- Lower thermostat settings in the winter and raise them in the summer.
- Clean HVAC registers to ensure unrestricted air flow.
- An installed and programmable digital thermostat

## **Additional Web Resources:**

[www.lennox.com](http://www.lennox.com)

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## **Verification Requirements:**

*please provide the following*

- One photograph of your digital thermostat
- One photograph of your HVAC system  
*(or comparable heating/cooling system)*



## The Hot Water Heater

*Offers: Durability, Energy Efficiency, Financial Savings*

Heating water for a family of four can easily cost \$30 per month. To keep these costs under control maintenance is, again, very important. A common cause of excessive water heating cost is a water leak at the water heater, which could force the water heater to run almost constantly.

As in the HVAC system, the thermostat setting of a water heater is an important factor to consider. Lowering the thermostat to between 130° and 140° can not only save you money, it can also reduce the scalding dangers associated with very high temperatures.

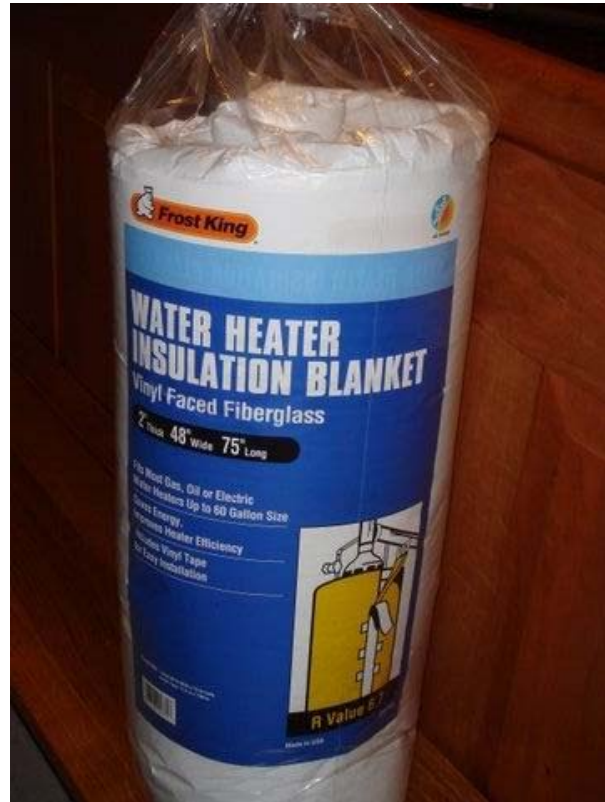
To insulate water heaters there are relatively inexpensive water heater insulation blankets at home improvement stores. Newer water heaters (less than seven years old) don't need a tank wrap, but can benefit from pipe insulation, which can be purchased separately. Insulate the water lines leading from the tank for the first 3 feet with pipe wrap or tubular foam insulation. One last way to save on the cost of heating water is to simply use less of it. Install low-flow shower heads, take shorter showers, and wash clothes in cold water when possible.

### Audubon Lifestyle Home Recommendations:

- Install an insulating blanket on water heaters older than 7 years
- Insulate the first three feet of pipe leading from water heater
- Set your water heater thermostat to between 130° and 140°

### Additional Web Resources:

[www.waterheaterrescue.com](http://www.waterheaterrescue.com)



### Verification Requirements:

*please provide the following*

- One photograph of your water heater

## Water Conservation

*Offers: Water Conservation, Energy Savings, Financial Savings*

Many commonly used appliances can be modified to conserve water or bought specifically for their water conserving qualities. Installing Low-Flow shower heads and faucet aerators is the single most effective water conservation savings you can do for your home.

Inexpensive and simple to install, low-flow shower heads and faucet aerators can reduce your home water consumption as much as 50%, and reduce your energy cost of heating the water also by as much as 50%.

This conservation of water and energy is not only good for the environment, but the savings in your utility bills will pay for the cost of the aerators within a few months. From then on, you enjoy continued savings.

### **Audubon Lifestyle Home Recommendations:**

- Install low-flow shower heads and faucet aerators to conserve hot water
- In the toilet: if appropriate try adding a plastic bottle filled with water, and sealed, inside your toilet cistern or by adjusting your ballcock, the amount of water used per flush can be reduced to a minimum.
- Check and repair leaking faucets, pipes and toilets

### **Additional Web Resources:**

[www.earth911.org/water/water-conservation](http://www.earth911.org/water/water-conservation)



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### **Verification Requirements:**

*please provide the following*

- One photograph of bathroom sink or kitchen sink faucets
- One photograph of inside toilet tank *(or outside low flow toilet)*
- One photograph of showerhead

## Lighting

*Offers: Durability, Energy Efficiency, Less Waste, Financial Savings*

Where practical, replace regular light bulbs with compact fluorescent light (CFL) bulbs. Replacing just one 60-watt incandescent light bulb with a CFL will save you \$30 over the life of the bulb. CFLs also last 10 times longer than incandescent bulbs, use two-thirds less energy, and give off 70 percent less heat.

If every U.S. family replaced one regular light bulb with a CFL, it would eliminate 90 billion pounds of greenhouse gases, the same as taking 7.5 million cars off the road.

At a minimum install CFLs in fixtures that are used at least 15 minutes at a time or several hours per day. The best fixtures to use qualified CFLs in are usually found in the family and living rooms, kitchen, dining room and in bedrooms.



### **Audubon Lifestyle Home Recommendations:**

- Where practical, replace regular light bulbs with compact fluorescent light (CFL) bulbs.
- Use light bulbs best suited to their tasks, avoiding large bulbs where they are not needed.
- Install CFLs in hard-to-reach areas, such as hallways, closets, vaulted ceilings, etc. You won't have to climb a ladder again for years!

### **Additional Web Resources:**

[www.americanlightingassoc.com/info\\_energywise.php](http://www.americanlightingassoc.com/info_energywise.php)

### **Verification Requirements:**

*please provide the following*

- One photograph of CFL's in use at your home

# Windows & Exterior Doors

*Offers: Durability, Energy Efficiency, Lower Equipment Costs*

Qualified windows, doors, and skylights save you energy and money, increase the comfort of your home, and protect your valuable possessions from sun damage. Windows with a U-Value below 0.35 are your best choice. Exterior doors with improved core materials and double or triple pane glass can greatly reduce heat flow. A tight and sealed fit likewise is equally important. Failure to flash correctly is a leading cause of roof and window leaks--and callbacks--so be sure to give windows the time they're due. The improved comfort they deliver will surprise you. Be sure to select windows and doors appropriate for your climate.

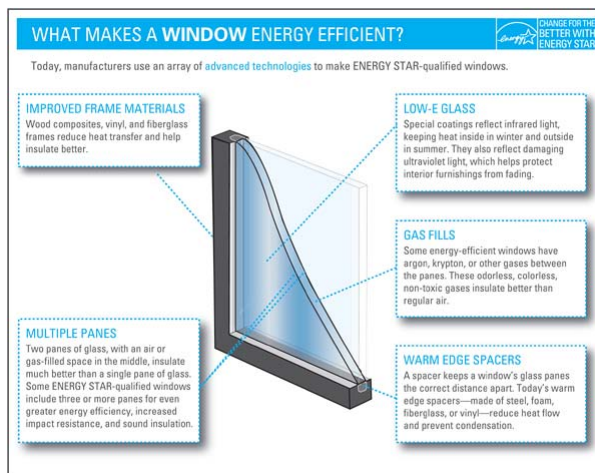
Saving energy can be a beautiful thing! With insulated and lined curtains, rooms stay warmer in winter and cooler in summer.



## Audubon Lifestyle Home Recommendations:

- Exterior Windows and Doors that meet Rating
- Install thermally insulated window when appropriate

**Additional Web Resources:**  
[www.energystar.gov](http://www.energystar.gov)



Energy Star treatments

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## Verification Requirements:

*please provide the following*

- One photograph of Low-E window installed in home or thermally insulated window treatments



## Energy-Efficient Appliances

*Offers: Energy Efficiency, Less Waste, Financial Savings*

Home appliances now come in a range of energy-efficient models. These appliances meet strict energy efficiency guidelines set by the EPA and US Department of Energy. An ENERGY STAR qualified dishwasher, for example, will only cost about \$20 more than a comparable model, but because it is 25% more efficient than federal requirements, it can save you between \$15 and \$25 or more a year on your water heating bill.

When buying an appliance, remember that it has two price tags: what you pay to take it home and what you pay for the energy and water it uses. ENERGY STAR qualified appliances incorporate advanced technologies that use 10–50% less energy and water than standard models. The money you save on your utility bills can more than make up for the cost of a more expensive but more efficient ENERGY STAR model.



An ENERGY STAR refrigerator uses at least 15% less energy than federal allowances, and 40% less than conventional models sold in 2001. You can expect to pay about \$30 more up front; through energy savings, you'll be earning money back on your purchase within 5 years.

### **Audubon Lifestyle Home Recommendations:**

- All appliances should meet Energy Star standards

### **Additional Web Resources:**

[www.energystar.gov](http://www.energystar.gov)

### **Verification Requirements:**

*please provide the following*

- One photograph of appliances in home
- Make and model numbers for appliances



## Air Treatment and Purification

*Offers: Indoor Air Quality, Improved Human Health, Comfort*

Good ventilation is a prerequisite for healthy indoor air. Without proper ventilation everyday activities like cooking (especially with gas); showering; and even breathing often make your indoor air more polluted than the air outdoors. New carpeting and fresh paint can make it worse. Your house will always require a certain ventilation rate, but you can minimize the need for ventilation by controlling and reducing the contaminant generated within your home, and by installing some sort of an air treatment system.

Your HVAC inlet should always be properly filtered. A good filter will minimize the dust, pollen and other contaminants that are introduced into your home. Normal filters remove only dust and some pollens. HEPA filters do a much better job, and some are equipped with media that also filter selected chemicals.

Dehumidifiers are great for controlling humidity in closed spaces, and if you control humidity you are one step toward controlling mold. A ventilation control system can be installed to control the ventilation and to maximize the home's overall HVAC efficiency. More elaborate central air purification / ventilation / dehumidification system can do it all, but of course they cost more.



### **Audubon Lifestyle Home Recommendations:**

- Replace or clean the filters in your heating and air conditioning system on a regular basis.
- Have a qualified HVAC mechanic service the unit

### **Additional Web Resources:**

[www.pathnet.org/sp.asp?id=22049](http://www.pathnet.org/sp.asp?id=22049)

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### **Verification Requirements:**

*please provide the following*

- Most recent report from a qualified HVAC on your system

## Waste Prevention and Recycling

*Offers: Waste Reduction*

**Recycle**--Set up your household to make recycling easy. Keep recycling waste containers or baskets in strategic locations in your house along with ordinary waste baskets. It is easier to toss recyclables in a separate container than it is to rummage through the trash later to separate everything.

**Curbside Pickup**--If you have curbside recycling pickup, the following is a list of items commonly accepted: metal, steel and aluminum cans, paper, and plastic that bears the Society of the Plastics Industry (SPI) plastic resin codes 1 or 2.

**Reduce Junk Mail**-- Direct Marketing Association (DMA) Mail Preference Service (MPS)—MPS can be used to get off of some junk mailing lists. To have your name and address removed from the ADVO list, fill out its web form, or download the paper form (PDF, 25 KB), fill it out, and mail it to ADVO.

### **Audubon Lifestyle Home Recommendations:**

- Have your name added to both the DMA and the ADVO mailing lists
- Buy multiple recycle bins and place them in locations throughout your house. Specifically in the home office, kitchen, and garage.
- Participate in the curbside pickup program or take recyclables to a local recycler

### **Additional Web Resources:**

[earth911.org/recycling](http://earth911.org/recycling)



### **Verification Requirements:**

*please provide the following*

- One photograph of a recycle bin at your home

## Insulation

*Offers: Energy Efficiency, Comfort*

There is nothing you can do that more effectively controls the cost of keeping your home comfortable than insulating it properly. That includes sufficient R-values of insulation in the attic, walls and floor, as well as buttoning up air leaks throughout the house. Keep in mind that attic insulation should be at least R-30, wall insulation at least R-12, and floor insulation at least R-19.

Adding insulation to your walls and attic, and installing weather stripping or caulking around doors and windows can lower your heating costs more than 25 percent, by reducing the amount of energy you need to heat and cool your home. Insulate your homes to ENERGY STAR standards to increase occupant comfort, reduce indoor and outdoor noise, and lower your energy bills.



In houses with forced-air heating and cooling systems, ducts are used to distribute conditioned air throughout the house. In a typical house, however, about 20 percent of the air that moves through the duct system is lost due to leaks and poorly sealed connections. The result is higher utility bills and difficulty keeping the house comfortable, no matter how the thermostat is set.

### **Audubon Lifestyle Home Recommendations:**

- Add insulation to your attic of at least R-30.
- Insulate heating and air conditioning duct work with at least 2 inches of insulation.

### **Additional Web Resources:**

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

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### **Verification Requirements:**

*please provide the following*

- One photograph of insulated water pipes
- One photograph of attic insulation
- One photograph of heating and air-conditioning duct work

## Use Appropriate Air Sealing Details

*Offers: Energy Efficiency, Increased Comfort*

Air infiltration may contribute to as much as 30% of a building's heating and cooling costs, as well as draftiness, moisture, noise, and dust problems.

Significant leaks may occur near the attic, crawlspace, or basement, and around windows, doors, and chimneys. Plumbing chases, electrical outlets, attic accesses, ducts, and dropped ceilings are other likely suspects.

If possible, perform air sealing before adding new insulation. Use caulk for sealing gaps of less than ½ inch. Spray foam can fill small holes, as well as large cracks. Expanding foam also works well around windows. Use weatherstripping to seal areas with moveable components, such as windows and doors. For larger areas, use housewrap or 15# felt paper to form an airtight seal over the exterior sheathing, and polyethylene plastic to seal complicated leakage areas that may be of irregular shape.

### **Audubon Lifestyle Home Recommendations:**

- Caulk or seal around exterior windows and doors
- Caulk or seal gaps between wall/ceiling electrical boxes, plumbing pipes, HVAC registers and drywall

### **Additional Web Resources:**

[www.energystar.gov](http://www.energystar.gov)



### **Verification Requirements:**

*please provide the following*

- Two example photographs of Air Sealing techniques



**Please take a moment to write comments, or tell us more about the house including the innovation or technology project**

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We are proud of the participants that have gone through the Sustainable Home Program, and have found that the best way to encourage others to get involved is by talking about select homes that have gone through the program. We ask that the text above, information, and photos provided in this application be made available in order to featured this home on the ISC-Audubon website, and in the SustainAbility Newsletter. We recognize that privacy is very important to homeowners, and will not disclose any address information in any way.

- I agree, and allow ISC-Audubon to feature my home on the web and in print OR
- Please do not disclose any of the information to the public in any way



# Sustainable Homes Program Application—for Single Family Homes

Contact Name \_\_\_\_\_  
Company Name \_\_\_\_\_  
Company Address \_\_\_\_\_  
\_\_\_\_\_  
City, State, Zip \_\_\_\_\_  
Phone \_\_\_\_\_  
Fax \_\_\_\_\_  
Email address \_\_\_\_\_  
Company website \_\_\_\_\_  
Community Name \_\_\_\_\_  
Home Site Address \_\_\_\_\_  
\_\_\_\_\_  
City, State, Zip \_\_\_\_\_

## Documentation Requirements

- Make and model numbers of appliances
- Most recent report from a qualified HVAC on your system (*if applicable*)
- 15 project specific photographs

**The Sustainable Homes Program is free for ISC-Audubon Platinum Members.** Platinum Membership fees include a one-time registration fee of \$250 (first year membership included), and then only \$100 annually. Maintaining Platinum Membership is required in order to retain certification. To begin participation in the program mail, fax or email this application form with Platinum Membership (if applicable) registration fee (check or credit card). Membership applicable for one location only.

- We are already a Platinum Member and wish to submit this application for free
- I would like to become a Platinum Member. Please add the cost of membership (\$250) with this certification request and mail me a new Member packet today!

**Name on Card** \_\_\_\_\_  
**Credit Card Number** \_\_\_\_\_  
**Exp. Date** \_\_\_\_\_

By signing below you indicate that all photographs, and documentation submitted, and that all information submitted is accurate to the best of your knowledge.

**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_  
**Print Name** \_\_\_\_\_

Please mail this completed registration form, with required verification documentation and photographs to:  
**ISC-Audubon — 35246 US Hwy 19 #299, Palm Harbor, FL 34684**