

Cottage Model Green Ideas

1. **Silestone Quartz Countertops-** This is a great alternative to granite, that is a non-renewable resource mined from the environment. Silestone contains microban, so does not hold bacteria and does not need to be sealed like granite. Silestone is eligible for LEED points for using at least 10% post-consumer recycled content and up to 70%, being processed and manufactured locally, and using DAP caulk which is low in VOC's. The company is committed to sustainability and is continually improving their processes and products with this goal in mind. For more information visit www.silestoneusa.com
2. **Windows-** Low-E energy efficient windows reduce the amount of glare and heat gain through high performance glass. They are also well built to limit the amount of air leakage and use an Intercept spacer system to minimize conduction.
3. **Applegate Cellulose Insulation-** Applegate Insulation is environmentally friendly, made of 80-85% recycled newsprint. The manufacturing process of the cellulose uses one-fifth the energy of fiberglass and generates virtually zero emissions. It does not contain any hazardous fiberglass, rockwool, or formaldehyde. The cellulose fibers have a higher density and R-value than many other insulation types, providing exceptional blockage against air infiltration. Superior thermal qualities save you energy and provide you excellent long-term value.
4. **In-line water heater by Rinnai-** Heats water on demand, so saves energy. It is not continually heating large volumes of water like a conventional water heater. Tankless water heaters have much more effective heat exchanger and burner systems than conventional tanks. This allows you to utilize a much higher percentage of your energy dollar rather than wasting it up the vent stack of a conventional tank water heater.
5. **Landscaping-** We use native plants that remove metals and impurities from groundwater. They are also drought-resistant, so require less water. Stones create a pervious hardscape that doesn't require watering to keep alive like grass.
6. **Rain Garden and Gutters-** A depressed area that allows groundwater to percolate, absorbing impurities and metals before it reaches bays and oceans and downspouts engineered to direct water so it does not affect grading and swales.
7. **Vapor Barrier-** We use a 6 mil vapor barrier. This decreases incidence of mold and improves air quality.
8. **Energy Star Appliances-** Frigidaire appliances are all energy star certified. By purchasing Energy Star Certified Appliances, the house uses 10-50% less energy and water than standard models.
9. **Energy Star light fixtures and Compact Fluorescent light bulbs-** If every American home replaced just one incandescent light bulb with a compact fluorescent light bulb (aka CFLs): we'd save enough energy to light more than 3 million homes for a year; we'd save more than \$600 million in annual energy

costs; we'd prevent greenhouse gases equivalent to the emissions of more than 800,000 cars. According to the Federal Trade Commission, incandescent bulbs lose 90 percent of the electricity consumed as heat and only last 750-1000 hours, whereas CFLs use 75 percent less energy for the same amount of light (producing no heat) and last 10,000 hours. For the homeowner this means a savings of \$30 or more over each bulb's lifetime, not to mention the significant decrease of millions of tons of global warming pollution. Just make sure to recycle them properly, because they contain mercury.

10. **VOC-free paint**- As paint is applied to a surface and begins to dry, the VOCs or Volatile organic compounds, in the paint are escaping into the air and may continue to off-gas at low levels for years after application. According to the U.S. Environmental Protection Agency, some VOCs used in paints are known human carcinogens and VOCs emissions can also contribute to ozone depletion. This paint is VOC-free.
11. **Pergo Laminate flooring**- Laminate flooring is a synthetic wood flooring with a paper skin overlaid with a wood grain and sealed with a translucent coating, low in VOC's. Using a synthetic wood flooring reduces the number of trees cut down for floor planks. It has a floating floor so does not require the use of glues containing VOC's or polyurethanes. It is also free from solvents and wood preservatives.
12. **Trane HVAC**- Trane is the largest supplier of HVAC systems in the world and has the largest number of LEED certified installers, the Trane corporation has made a commitment to the environment. Certified Trane Professionals engineer units for optimum Energy efficiency (i.e. location of vents, returns, length of ductwork, tonnage of units)
13. **410A refrigerant ILO R22**- An HCFC known as R-22 has been the refrigerant of choice for residential heat pump and air-conditioning systems for more than four decades. HCFCs are less damaging to the ozone layer than CFCs, but still contain ozone-destroying chlorine. Unfortunately for the environment, releases of R-22, such as those from leaks, contribute to ozone depletion. In addition, R-22 is a greenhouse gas and the manufacture of R-22 results in a by-product (HFC-23) that contributes significantly to global warming. The Montreal Protocol through the Clean Air is working on phasing out R-22 completely. It is however still used. 410A refrigerant is a replacement that is a blend of hydrofluorocarbons (HFCs), substances that do not contribute to depletion of the ozone layer.
14. **Sealed Metal Ductwork ILO ductboard**- All ducts are sized to deliver correct airflow to each room and sealed with mastic to prevent leaks. The ducts are tested by a third party to make sure they work as planned. Ductboard is made of fiberglass and is porous, trapping mold spores and decreasing air quality. Under the house, it is also more susceptible to mold and animal damage.
15. **Controlled Air exchange**- With the increased insulation making the house tighter, fresh air exchange is important to increasing the indoor air quality. These exhaust fans are on timers, to make sure that they don't constantly run, wasting energy.

16. **Programmable thermostat-** The thermostats are programmable and can be set to automatically adjust temperature settings during the day, evening and weekends to save energy.
17. **High SEER rating-** This system has a 16 SEER rating. The SEER, or Seasonal Energy Efficiency Ratio, is the amount of BTU's you remove for every watt you input. A 16 SEER system will remove 16 BTU's of heat per one watt of energy input. Efficiency increases with SEER rating. This surpasses code requirements of 13 SEER's.
18. **Variable Speed Air Handler-** A variable speed air handler is more efficient because it has multiple speeds. It can vary its speed based on the heating and cooling requirements of the home, running at the lowest effective speed much of the time. This gives you more constant temperatures, better humidity control, and better air heating, all while saving energy and money.
19. **Conditioned Attic-** Insulation from the floor of the attic is substituted with spray insulation applied to the underside of the roof deck to seal all the vents and making it a conditioned space. This prevents moist outside air from entering the home. A closed attic is more cost-effective and energy efficient than a vented one. To help improve building performances during hurricanes, the Florida Hurricane Advisory Committee has changed building codes to support the use of unvented attics. Why? Because during Hurricane Charlie, wind-driven rain through soffits and gable vents was the second highest cause of property damage in the area (FEMA Research Study 490).
20. **Certainteed Certaspray-** Open Cell Spray Foam Insulation- Spray insulation we used to seal the attic. It eliminates air infiltration: preventing 90% of moisture intrusion, 40% of energy loss and mold growth. It also reduces energy demand through effective air sealing and thermal efficiency, and minimizes hot and cold spots in a home. Certainteed is also a member of the US Green Building Council.
21. **Tyvek tape-** For maximum reduction of air infiltration through wall systems, Tyvek tape is used to help create a seamless, protective envelope. This tape is waterproof, adaptable to temperatures, and conformable unlike traditional tapes.
22. **House wrap-** A non-woven, nonperforated sheet made by spinning extremely fine continuous high-density polyethylene (HDPE) fibers that are fused together to form a strong uniform web, designed to create millions of extremely small pores that resist bulk water and air penetration while allowing moisture vapor to pass through. It has a high level of air resistance- to help prevent drafts, reduce energy bills and resist the flow of moisture laden air through wall cavities. It has a high level of water resistance - to help protect the wall cavity from water that gets behind the cladding. It has a moderate to high vapor permeability - to promote drying in wall systems. It is durable- to withstand the rigors of the construction site and continue to perform once construction is completed.
23. **AdvanTech Sub-Floor-** Sub-floor that is moisture-resistant, unlike standard plywood or OSB, so won't facilitate mold growth. AdvanTech® Flooring is manufactured to be environmentally friendly. They utilize

small, fast-growing tree species and use the process waste to fuel their facilities. In addition, they have implemented the Sustainable Forestry Initiative Program throughout all their wood procurement operations. The program incorporates company-wide procedures and policies that meet or exceed SFI performance measures for wood procurement and timber harvesting activities.

24. **Cement Board-** This product is used to reduce the possibility of mold in wet areas. It does not contain asbestos, gypsum fiberglass or formaldehyde and made from raw materials low in toxicity; wood pulp, cement, sand, and water (recycled up to 4 times). James Hardie Building Products also uses manufacturing processes that focus on quality, first run materials, participating in the zero to landfill project aimed at reducing amount of raw materials waste sent to landfills by half.
25. **Certainteed siding-** Certainteed is working to help the environment through the development of sustainable building materials and products. Their vinyl siding is made from 80% recycled content, does not emit harmful chemicals, plant has an Environmental Management System, reduces the carbon footprint of the building, and is eligible for LEED credits.
26. **Kemper Cabinets-** The cabinets are certified by the Environmental Stewardship Program (ESP). This is a voluntary program that recognizes manufacturers that use environmentally responsible materials and manufacturing processes, along with recycling waste and using low emission coatings.
27. **High efficiency air filters-** Removes air borne allergens from the air and allows your HVAC system to run more efficiently, contributing to indoor air quality and energy savings.
28. **Front load washer-** Front load washers use about half as much water as top loading washers because of the tumbling action used to clean clothes opposed to the central agitator system of top loads.
29. **Skylights-** The use of skylights throughout the house in locations with little natural light, allow natural light to be used instead of light fixtures.
30. **Adv. Termite Bait System-** Decreases the amount of chemicals sprayed for pest control