



The choices we make about the products we use to build, furnish, clean and maintain our homes have a profound effect on resource and energy consumption, pollution levels and indoor air quality. Our health might be suffering; we may be paying higher utility bills than we need to; and we are most probably using more than our fair share of global resources such as water, land and materials—which affects us all. Being sustainable in our homes does not require sacrifice; it is about doing more with less and making wiser choices.

On average we spend 90% of our lives indoors. The quality of air in our homes can be five to twenty times more toxic than outdoor air. Building materials and home furnishings can be made from toxic and/or resource-intensive materials. Toxic materials emit toxic fumes; these emissions are compounded in hot, humid climates and in tightly sealed homes, but decrease with time so newer products are of greater concern.

There are two primary ways to tackle poor indoor air quality: ventilation (including humidity) and material selection. Maintain indoor humidity between 30% and 40%, change filters and clean exhaust fans regularly, and replace the air in your home every three hours through a mechanical ventilation system, breathable walls (such as Insulated Concrete Forms with natural plasters), or by simply opening windows.

Evaluate materials in much the same way as you evaluate nutrition labels on foods: consider the ingredients. Making smart product choices is getting easier as the range of 'green' product options is growing by leaps and bounds. The goal is not to make perfect choices—this is impossible; simply make better choices. Here are some tips:

Avoid PVC and use products with no or low levels of Volatile Organic Compounds (VOC's) such as formaldehyde. Does your shower curtain have a strong vinyl smell? If so, it may be made from polyvinylchloride (PVC), which is considered to be the worst plastic from an environmental health perspective. There are major hazards in its manufacture, product life and disposal. It is a hormone disrupter and has been banned by a number of countries and companies around the world (for more information, refer to www.greenpeace.org and search for PVC). There are numerous alternatives including hemp or PEVA, a chlorine free plastic material.

VOC's are not necessarily hazardous, but many are highly toxic. Wood composite materials (such as particle board, plywood or fibreboard) can contain formaldehyde, exposure to which can cause respiratory irritation, asthma, neurological symptoms and, at worst, studies have shown it to be mutagenic and likely to be carcinogenic. Creative new alternatives include Kirei Board, Oriented-Strand Board (OSB), and composites made from wheat, sunflower, bamboo or corn.

VOC's can also be found in paints, adhesives, furniture finishes and caulk. Look for no or low-VOC options through manufacturers such as Tried & True, Safecoat and BioShield. Also, strive for water-based and solvent-free compounds.

Use cleaning products that are biodegradable and non-harmful to ecosystems. Seventh Generation products are based on the principle that 'In our every deliberation, we must consider the impact of our decisions on the next seven generations.' In general, avoid chlorine bleach and products that are antibacterial.

Avoid wall-to-wall carpeting as this harbours dust mites, mildew, allergens etc. Avoid vinyl flooring, which contains PVCs. Healthier options are bamboo, linoleum, Marmoleum, concrete, cork, carpet tiles and ceramic tiles. If you long for something soft and fuzzy under your feet use an area rug that is easier to clean than wall-to-wall carpeting. Consider jute or wool as healthy and sustainable options.

Choose sustainably harvested wood. Considering that two-thirds of the Earth's original forests have been felled, we need to be cautious about where we source our wood (especially due to the role forests play in sequestering CO₂). Look for FSC-certified wood (Forest Stewardship Council, <http://www.fsc.org/en/>). Companies like Collins Pine have set admirable examples for sustainable forestry. Practice Integrated Pest Management. This involves a combination of tactics including sanitation, pest monitoring, habitat modification (such as sealing cracks) and judicious use of pesticides. If pesticides are deemed necessary they should be species-specific, applied in target locations and involve minimum treatment of exposed surfaces. Chronic exposure to certain pesticides, herbicides and insecticides is a major public health concern and has been shown to cause cancer and be neurotoxic in animal studies. For more detailed information on health effects, consult <http://www.epa.gov/ttnatw01/hlthef/hapindex.html>.

If you are thinking of new construction, strive to minimise construction waste and reuse or recycle materials because building waste accounts for 44% of landfill and 50% of packaging waste in industrialised nations. Although specific percentages are not available for Cayman, there seems to be significant opportunity to recycle more and reduce what goes to landfill, if for no other reason than to reduce the height and smell of the landfill!

With regards to conserving resources and saving money on your utility bills, focus your efforts on the following changes:

- **Use compact fluorescent light bulbs.** Assuming 6 bulbs are left on for 5 hours per day, 60-watt incandescent bulbs will use 1,800 watt hours per day, while 13-watt compact fluorescent bulbs will use only 390 watt hours.
- **Invest in a new refrigerator or freezer.** A typical new fridge uses 80% less energy than models from the late 1980s and early 1990s. The general rule of thumb is that the appliance is worth replacing if it is older than a 1999 model.
- **A front-loading washing machine is a must.** A gas clothes dryer is more efficient than electric, but a clothes line or drying rack is even better!
- **Replace toilets and faucets with low-flow or dual-flush models.**
- **Opt for an instant or tankless water heater rather than a tank.** Instant water heaters use 20-40% less energy, plus they last 30-40 years, reducing landfill and resource waste. Or, take it a step further and combine a solar hot water system with an instant water heater, and you have the lowest-cost and most ecologically-responsible way to heat domestic hot water.

In evaluating all products and materials, consider what it is made from, where it came from, how it was transported, whether it was made from a renewable or recyclable material, how durable it is and if it is potentially harmful.

We each have an Ecological Footprint; a measure of how much land and water area a human population requires to produce the resources it consumes and to absorb its wastes under prevailing technology. Humanity's current Ecological Footprint is over 23% larger than what the planet can regenerate (www.footprintnetwork.org). This is unsustainable. Low income countries have a footprint of only 0.8 while high income countries have a footprint of 6.4! By calculating our own Footprint (go to <http://ecofoot.org/>), we can better manage our impact on global resources.

The more we conserve resources and energy in our homes and make smart choices about the products we use to build, furnish, clean and maintain our homes, the better our quality of life and the life of generations to come. ☺

Sharon Patterson founded Om Your Home™, which focuses on creating healthy, sustainable, energy-efficient, comfortable and beautifully designed environments for homes, offices, schools and communities.