

Greening Your Home: Rehab Maintaining A Green Home

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Presented by
the **Nature Center
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and
**Environmental Health
Watch**



Greening Your Home: Rehab

- Green or sustainable building means construction or rehab of our living spaces so there is little or no harm done
 - to the natural environment,
 - to the workers who extract the raw materials and manufacture the product,
 - to the health of the residents.

Buildings that Connect People to Nature

- Biophilia which means “love for nature”; human beings have an innate and evolutionarily based affinity for nature.
- It is the connections that human beings subconsciously seek with the rest of life.
- We connect to nature via our windows, our landscape, our gardens, our buildings.
- **The Biophilia Hypothesis - Designing and Understanding the Human-Nature Connection**, Island Press, 2005

Resident Impact on Living Space

- In a Canadian study of six newly constructed homes, it took only six months for 80% of the pollutants in the home to be produced by the residents.
 - ventilation systems in these homes did not remove VOC's.
 - conclusion: source control is most effective way to maintain IAQ.

Resident Impact on Living Space

- VOCs in indoor can x10 to x100 greater than outdoor air.
- Indoor air can be contaminated by 20 to 150 pollutants, most of which come from consumer products.

Resident Impact on Living Space

- Three routes of exposure for toxic materials:
 - ingestion
 - inhalation
 - absorption through the skin

Resident Impact on Living Space

- Most persons are not likely to experience acute exposures (e.g., CO poisoning) in their living spaces.
- More likely to experience chronic exposures over time (e.g., cigarette smoke, formaldehyde, etc).

Seven steps to a healthier habitat

Keep your home:

- Dry
- Clean
- Pest free
- Ventilated
- Uncontaminated
- Safe
- Well-maintained

Keep it dry



- Keeping moisture out of house and away from cellulose products if it gets in can reduce chance of mold.

Keep it clean

- keep hard surfaces clean
- avoid carpeting which is a sink for lots of stuff
- use walk-off mats at all entries



Keep it pest-free



- pests and their parts are asthma triggers
- use Integrated Pest Management procedures (IPM)

Keep it well-ventilated

- controlled ventilation avoids unnecessary heat loss
- bring in fresh air without backdrafting gas appliances



Avoid contaminants



- avoid bringing things into house that outgas VOC's
- e.g., fire retardants, bonding agents, adhesives, coatings, personal care products, etc.

Keep it safe

- avoid potentially hazardous conditions
- e.g., extension cords under rugs, slippery rugs, children access to drugs, chemicals, no railings, etc.



Keep it well maintained



- use fans appropriately
- effective food waste handling
- properly groom pets

Healthy Housing Information



- Environmental Health Watch:
www.ehw.org.
- National Center for Healthy Housing
www.centerforhealthyhousing.org

A “do you??” list:

- This series on “Greening Your Home: Rehab” has focused on the primary improvements you can make to increase the sustainability of your living space.
- But once these products/systems are in place, it is the simple things we can do which may make the most difference: So.....

(power) Do you??

- turn off lights when not using them
- make the best of natural lighting (e.g., open curtains during day)
- leave TV on unnecessarily
- leave the computer on when not in use

(power) Do you??

- plug phantom power draws into turn-off power strips.
- turn the water heater temperature below 120 degrees
- hang laundry outside to dry in summer
- wash only full loads of clothes

(power) Do you??

- wash the dishes by hand
- weather-strip and caulk
- replace all incandescent bulbs with CFL's
- insulate hot and cold water pipes
- use a setback thermostat

(power) Do you??

- keep thermostat no higher than 76 degrees in summer
- turn down thermostat to at least 68 degrees in winter
- dress warmly rather than turn up the heat in winter

(power) Do you??

- do you close blinds and curtains in unused rooms
- leave fans on when nobody is using a room
- let sunlight enter house wherever it can in wintertime.
- shade east, south, west windows in summer

(power) Do you??

- prepare cold lunches/dinners in summer
- minimize indoor baking/cooking in summer
- close blinds where sun comes in during the summer

(power) Do you??

- clean coils on back of refrigerator
- annually have furnace/boiler and air conditioners checked
- plant deciduous trees on south side of house
- plant trees on east and west side of house

(water) Do you??

- let the water run while brushing your teeth.
- water plants when dawn or dusk and not during sunny hours.
- plant native, low-water-use plants
- not water lawn during dry periods; let lawn recover on its own

(water) Do you??

- reuse water from your shower, bathroom sink and/or washing machine for the lawn and garden
- collect roof water in rain barrels and use it for your garden

Surface maintenance:
Do you??

- not drag appliances or heavy furniture on hard floor surfaces
- apply appropriate coatings to surfaces where required
- vacuum regularly to remove tracked in lead, pesticides, herbicides

(surface maintenance)
Do you??

- never place very hot pans, etc on surface
- never use countertops as cutting board
- always use non-toxic cleansers
- clean sills of lead dust in city and pesticide/herbicide dust in suburbs

(equipment use/maintenance)
Do you??

- change furnace filter regularly; use a pleated filter.
- check boiler for leaks
- use bath fan each time shower/tub is used; clean fan outlets and screen
- use kitchen fan each time stove top or oven is used

(equipment maintenance/use)
Do you??

- keep clothes dryer fan connected and vented directly to exterior
- replace filters of input fans
- replace filters in heat recovery ventilators
- have ventilation equipment checked regularly

(equipment maintenance/use)
Do you??

- keep sump pump hole sealed and cleaned regularly
- make sure all equipment connected to water is fully functioning: washer hoses, dishwasher hoses, faucets, humidifiers, dehumidifiers, etc.

(equipment maintenance/use)
Do you??

- regularly test smoke and CO alarms; change batteries twice a year.
- use plastic or metal shelving in basements so there is no need to store anything on the basement floor (especially cardboard, wood, and paper)

(equipment maintenance and use) Do you??

- keep all fuels in detached garage or exterior storage shed.
- avoid furniture with sharp corners

(recycling, hazardous waste disposal) Do you??

- recycle plastic, glass, cans and paper
- look for places to take old electronic equipment and appliances
- find places where you can legally leave paint, oil and fuels.
(www.cuyahogaswd.org)

(plants and compost)
Do you??

- control the number of plants to avoid moisture issues
- compost your non-animal fat waste
- use organic fertilizers; use deicers that will not affect plants

(combustion equipment)
Do you??

- avoid gas powered mowers
- avoid gas powered weed wackers
- use an electric chain saw

Motivation for Sustainable Lifestyle

While there are clearly some economic benefits to attempting to live sustainably, the principle driving motivation must be because it is the right thing to do at this time to improve the chance of our having a sustainable planet.

Motivation for Sustainable Lifestyle

- “I think our descendants will look back on us as people who had the power to devastate ecosystems but not the wisdom to avoid doing so. We are unraveling the very networks that gave rise to life. As we undermine those networks, we

Motivation for Sustainable Lifestyle

are harming our descendant’s future and maybe imperiling our own survival. It’s estimated that 50 percent of the known species on this planet will become extinct in the next hundred years.

Motivation for Sustainable Lifestyle

That means we are at the start of the planet’s sixth great extinction, and the first one caused by humans!!”

Paul Stamets, author of [Mycelium Running: How Mushrooms Can Help Save the World](#)

Motivation for Sustainable Lifestyle

If our living spaces as humans are not in sync with the natural order, all our effort to create them will be in vain. But if we choose to do so, this can be one of the most exciting times ever to create “habitat for humanity”!!