Triangle

HOME

DESIGN & DECOR®

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Contributing Editor

BUILDING A BETTER HOME

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WINDS OF CHANGE

A frequently circulated statistic in the healthy home industry states that the average American spends ninety percent of their life indoors. This originates from a study conducted by the EPA in the early '90s, revealing that respondents spent eighty-seven percent of their time inside buildings, mostly in their homes. This is troubling, not just because it highlights our lack of outdoor recreation, but because indoor air can contain five to ten times higher concentration of pollutants than outdoor air, even in industrialized cities. In addition, our homes have been built increasingly airtight, which only exacerbates the problem. Tight homes are great for cozy comfort and energy efficiency, but they also have the adverse effect of trapping pollutants and carbon dioxide in the home.

So how do we mitigate this growing issue? There are two strategies to ensure healthy indoor air: eliminate pollution sources and promote ventilation.

The most ominous polluters in the home are combustion appliances like natural gas water heaters, furnaces, ovens, and fireplaces because they release carbon monoxide. Naturally drafted appliances exhibit an increased risk for exhaust spillage into the house. Gas appliances can be tested by a BPI or HERS inspector to ensure proper drafting, and carbon monoxide detectors should be utilized on all floors and outside of each bedroom. Other pollution sources are less conspicuous and often result from being brought into the home.

You're likely familiar with VOCs – malicious fumes that emanate from carpets, paints, and adhesives, contributing to asthma, allergies, and according to laboratory testing, long-term health problems like cancer. Specifically, VOCs are carbon-based molecules that easily evaporate at room temperature from liquid

Similar to air purifying plants, Sherwin Williams Harmony interior paint includes odor and formaldehyde absorbing technology to actively clean your air.

Up-to-date carbon monoxide detectors placed near appliances and outside of bedrooms monitor indoor air pollution and ensure gas appliances are drafting properly.

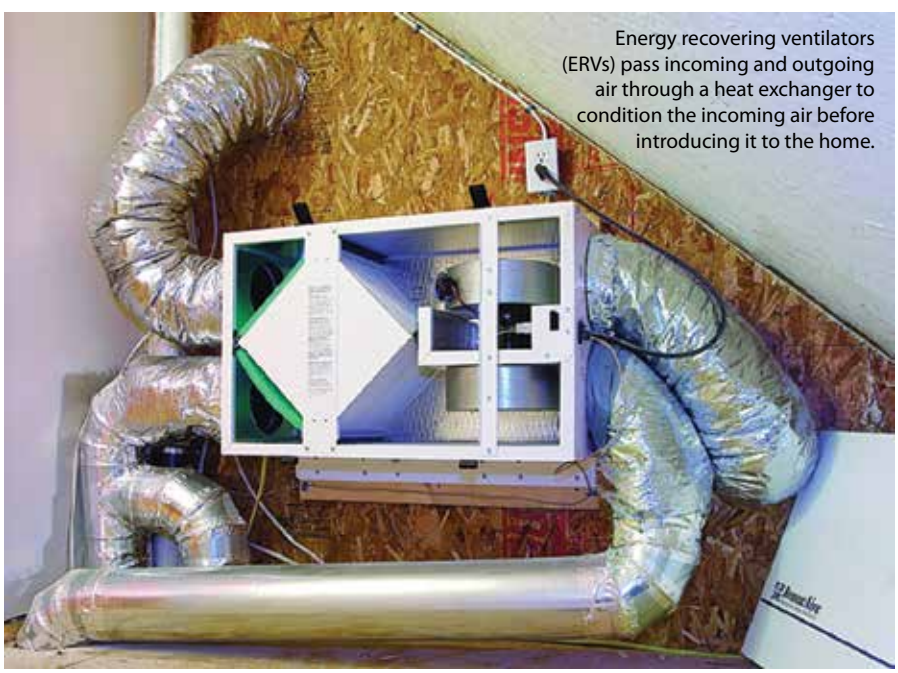
or solid state, can combine with other vapors to produce ozone, and can take years to fully evaporate from the source substance. Fortunately, awareness and research of these chemicals have come a long way recently, and there are many zero-VOC options when choosing paints, stains, primers, household cleaners, and glues. Opt for water-based paints and stains when possible, and look for GREENGUARD Certified products, which have been third party verified to have zero or low VOC content.

Fungi and mold can also affect our health, from moderate irritation to severe reactions and illness. To combat mold, be mindful of moist or humid locations in the home with limited airflow, and consider installing a whole-house dehumidifier to consistently reduce humidity throughout your home. At a minimum, upgrade to antimicrobial/anti-allergen air filters and remember to change them regularly.

After eliminating sources of pollution, we must abate stale air with ventilation. The simplest way to ventilate is to open a few windows; however, we probably don't want to do that during the peak of summer or winter, or while we're not home. Mechanical ventilation systems are the recommended choice for airtight, energy efficient homes because they control when, where, and how we bring fresh air into the home. A balanced system exhausts stale air while introducing fresh air, eliminating the possibility of a depressurized home. House depressurization, which is the result of exhaust-only ventilation, can lead to improper drafting of combustion appliances and infiltration of dirty air from crawlspaces, garages, and attics. The best option is an ERV, or Energy Recovering Ventilator, which ties to the HVAC system and uses the heating/cooling capacity to pre-heat or pre-cool incoming air from the outside to be more similar to indoor air temperature. This lowers utility bills and increases comfort.

To avoid sounding like a total alarmist, let's talk about a very simple way to clean and improve indoor air: house plants. Common house plants like the Money Tree (Pachira aquatica) and the Snake Plant (Sansevieria) produce oxygen, consume carbon dioxide, and even sequester some VOCs like formaldehyde. However, no number of house plants are going to fix severe air quality problems in a home, so do the research and consider indoor air quality when making home improvement or home purchasing decisions. ◆

Evan Bost is director of marketing and Green Initiatives at Bost Custom Homes, an award-winning custom building firm serving the Triangle. With thirty years of proven expertise, Bost Homes designs and constructs truly-custom residences with superior craftsmanship, a focus on health and sustainability, architectural authenticity, and structural integrity. To begin the conversation of your forever home, call 919-460-1983 or email info@bosthomes.com. Learn more at www.BostHomes.com or www.facebook.com/bostcustomhomes.



Energy recovering ventilators (ERVs) pass incoming and outgoing air through a heat exchanger to condition the incoming air before introducing it to the home.