

# Ventilating Your Home

We know there are things in our homes that can make us sick. From radon gas coming up through the ground to mold, dampness, dust, allergens, pests, and chemical contaminants—many things in your home are simply not healthy for you and your family.

According to the World Health Organization (WHO) and the National Cancer Institute, 80% of our cancers have an environmental cause. And, the U.S. Environmental Protection Agency says that our #1 environmental threat is indoor air pollution. Think about it...how much time do *you* spend indoors? If you are like most Americans, the answer is, **A LOT**. On average, Americans spend 90% of their time indoors.

What can you do to prevent exposure to things in your home that might make you sick? There are two strategies to effectively deal with indoor air pollutants:

- **Strategy #1** - Don't bring pollutants in. This is called source control. Preventing pollutants from entering your home in the first place is a key strategy for healthier indoor air quality.
- **Strategy #2** - For pollutants that do get inside your home, give them a reliable way to get out to minimize exposure to you and your family. The primary strategy to remove pollutants from your home is **ventilation**.

## How should you best ventilate your home?

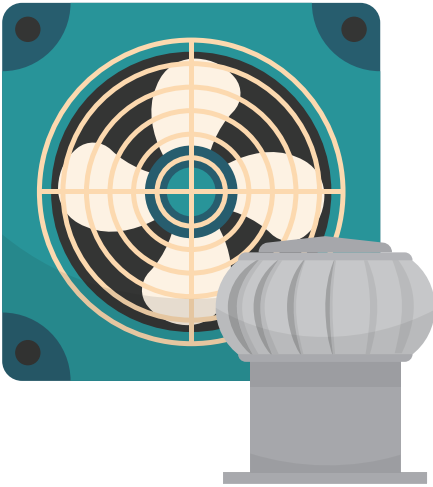
There are several ways to ventilate your home. Options include:

### Natural Ventilation:

Natural ventilation relies on air moving in and out of a home without the assistance of a mechanical fan. Natural ventilation includes air that may come in through open windows as well as holes in the foundation, walls, or attic. There are two big problems with naturally ventilating homes in Maine. First, natural ventilation is inconsistent. Sometimes the natural forces will move enough air in and out of a home to ventilate it and sometimes they won't. Wind and temperature are the driving natural ventilation forces and both of these can change on a daily if not hourly basis. Second, natural ventilation provides unpredictable distribution of fresh air throughout the home. Unless the fresh air pathways are uniform throughout the home, some rooms will get air exchange and some won't. And, the tighter and more energy efficient a home is, the more likely it is that pollutants will get trapped indoors, making you and your family sick.



# Ventilating Your Home (p. 2)



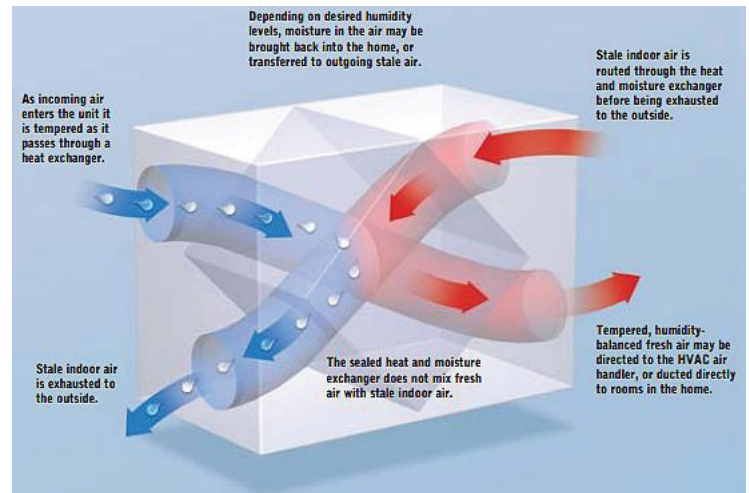
## Mechanical Exhaust Ventilation:

Using exhaust fans to remove pollutants as they are generated can reduce your exposure to them. Kitchen range hoods, bath fans, clothes dryer exhausts, and combustion appliance vents (all of which should be ducted directly to the outdoors) can capture pollutants at their source and remove them immediately. While you can get reliable movement of air out of a home by running exhaust fans, exhaust ventilation doesn't guarantee delivery of fresh air to you and your family, nor can it remove pollutants from the entire home.

**Energy Efficiency Note:** Natural ventilation and mechanical exhaust ventilation are NOT energy-efficient. 100% of the energy used to warm indoor air is wasted when that air leaks out or is mechanically exhausted from your home, and 100% of the incoming fresh air requires extra energy to heat it to comfortable levels.

## Balanced Ventilation with Heat or Energy Recovery:

Balanced ventilation with heat or energy recovery is the most reliable and energy-efficient solution for providing whole house ventilation. A balanced ventilation system with heat/energy recovery is a simple network of ducts with a central ventilation unit. Balanced ventilation delivers fresh air to all areas of your home as well as removes stale air and pollutants out of all areas your home. The system is extremely energy-efficient, because outgoing warm air passes next to incoming fresh air within the central ventilation unit itself, thus pre-warming that air without added energy cost. As much as 60-95% of the energy needed to heat air to comfortable indoor temperatures is recaptured and transferred during this process.



## Build Tight, Ventilate Right

Modern construction trends call for very tight, energy-efficient homes. Without adequate ventilation, pollutants can get trapped indoors, making you and your family sick. You can improve your home environment by making responsible choices about what you bring into your home. Adequate ventilation, however, is needed to remove pollutants that do get in. Ventilation is a critical component of an energy-efficient, sustainable, healthy home. Select a ventilation strategy that provides you with the best control of your indoor environment, and that delivers fresh air to you and your family.