
INDOOR
INVIRONMENTAL
QUALITY

Improving indoor air quality by utilizing alternative air impurities with lower volatile organic compounds (VOC)

- **There are three basic strategies to improve indoor air quality**

- **Source Control**
- **Ventilation Improvements**
- **Air Cleaners**

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Source Control

- painting, paint stripping, heating with kerosene heaters, cooking, or engaging in maintenance and hobby activities such as welding, soldering, or sanding. You might also choose to do some of these activities outdoors, if you can and if weather permits.
- the most effective way to improve indoor air quality is eliminate individual sources of pollution or to reduce their emissions.
- Source control is also a more cost-efficient approach to protecting indoor air quality than increasing ventilation because increasing ventilation can increase energy costs.

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Ventilation Improvements

- lowering the concentrations of indoor air pollutants in your home is to increase the amount of outdoor air coming indoors by Opening windows and doors.

- Advanced designs of new homes are starting to feature mechanical systems that bring outdoor air into the home. Some of these designs include energy-efficient heat recovery ventilators (also known as air-to-air heat exchangers).

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- **Air Cleaners**
- **Particle Removal**

  Two types of air cleaning devices can remove particles from the air—mechanical air filters and electronic air cleaners.

- **Gaseous Pollutant Removal**

  Gas-phase air filters remove gases and odors by using a material called a sorbent, such as activated carbon, which adsorbs the pollutants.

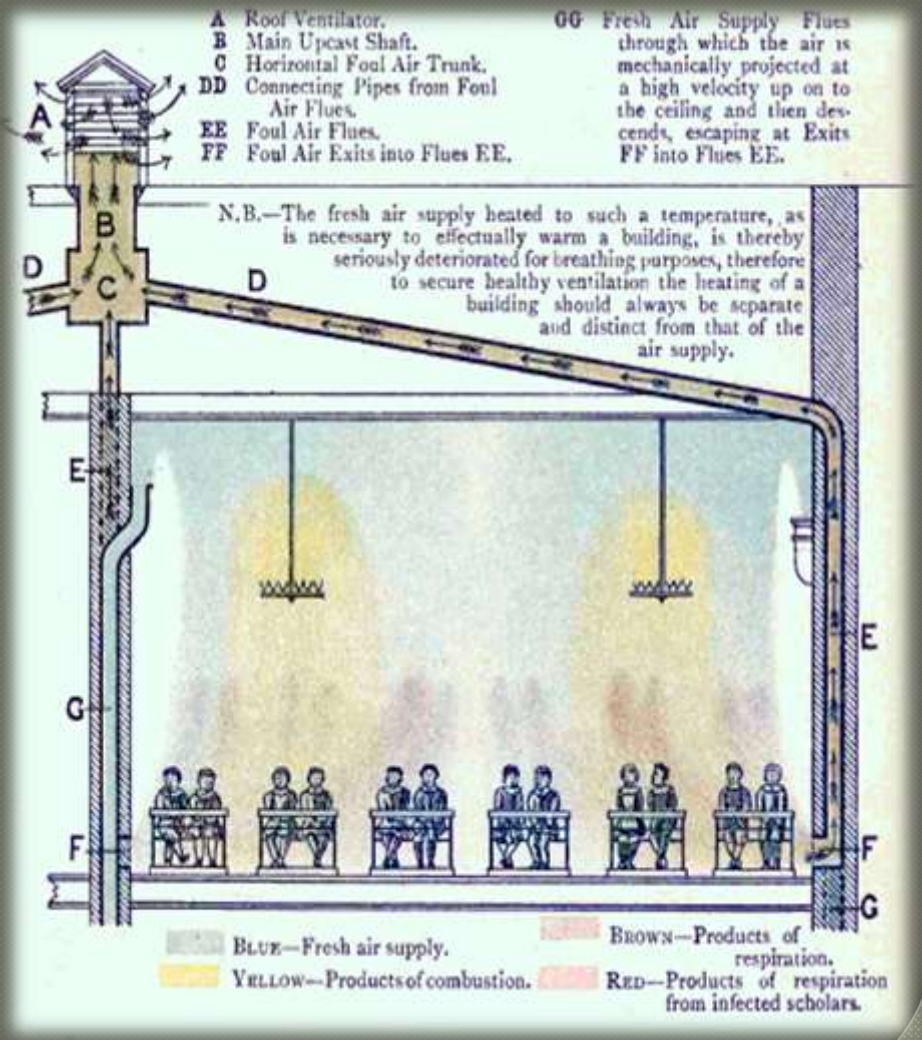
- **Pollutant Destruction**

Some air cleaners use ultraviolet (UV) light technology intended to destroy pollutants in indoor air. These air cleaners are called ultraviolet germicidal irradiation (UVGI) cleaners and photo catalytic oxidation (PCO) cleaners.

Ozone generators that are sold as air cleaners intentionally produce ozone gas, a lung irritant, to destroy pollutants

Heating, Ventilation and Air-Conditioning (HVAC) Systems

- The main purposes of a Heating, Ventilation, and Air-Conditioning (HVAC) system are to help maintain good indoor air quality through adequate ventilation with filtration and provide thermal comfort.
- HVAC systems are among the largest energy consumers in buildings. The choice and design of the HVAC system can also affect many other high performance goals,



Heating, Ventilation and Air-Conditioning (HVAC) Systems

HVAC systems design is *based on*

- cost-competitive with traditional ventilation,
- successfully providing an appropriate quantity and quality of outdoor air
- lower energy costs.
- easier maintenance.

Preventing usage of cleaning products which emit toxic gases to increase building's indoor air quality

- The air in our homes accumulates pollutants from a variety of sources that contain or emit toxic substances. Indoor air pollutants include building materials, furniture, paint, propane gas, carpet and household cleaning products.
- Luckily, poor indoor air quality is something that can be easily remedied with a few simple steps.

Preventing usage of cleaning products which emit toxic gases to increase building's indoor air quality

- GET HOUSE PLANTS
- INCREASE VENTILATION
- USE NATURAL CLEANING PRODUCTS

Vinegar naturally cleans like an all-purpose cleaner
and
Lemon Juice

- VACUUM AND DUST REGULARLY
- CLEAN OR REPLACE AIR FILTERS
- CONTROL HUMIDITY

30 % to 50 % is generally recommended for homes

Performing a routine air quality monitoring plan to improve eco-building indoor environment

- **Surface Microbial Monitoring**
  Routine environmental monitoring of the microbiological quality of critical clean room surfaces.

- **Viable Air Monitoring**
  Routine environmental monitoring of the microbiological quality of clean room air indicating the adequacy of cleaning and sanitizing procedures, as well as detecting contamination caused by personnel.

- **Nonviable Air Particulate Monitoring**
  Per ISO 14644-2, in addition to the formal certification process, there is an on-going program of monitoring the air quality.

- **Wash Water Monitoring**
  To ensure that all elements of the water system are performing at the levels required to consistently produce ASTM F51 "Class A" garments with acceptable chemical and biological residuals, particulate counts, total dissolved solids, total chlorine, hardness, resistivity, pH, water temperature, and bioburden are monitored.