

The **FACTS** Concerning our Indoor Air Environments

Are you aware:

its **PROBLEMS**

the **REASONS**

our **SOLUTIONS**

The average person spends

90% of their time indoors.

- During the energy crises in the 1970's building construction practices changed – Homes, offices, schools and all types of buildings are insulated and sealed more tightly. This saves energy, but also traps pollution indoors.
- “Indoor air pollution is America's Number One Environmental Health Concern. Fifty percent (50%) of all illness is caused by indoor air pollution.”

Environmental Protection Agency

Government Agencies rate

- **INDOOR AIR POLLUTION**

as the Nation's biggest pollution problem.

World Health Organization, asthma affected 300 million people worldwide in 2005, killing 255,000 of them. The death figure is expected to increase by 20 percent in 10 years' time if urgent action is not taken.

Tightly Constructed Buildings

Do Not Breathe!

Little or No AIR EXCHANGE

Indoor Air is RE-CIRCULATED

INDOOR AIR POLLUTION is trapped indoors.

- **CLOTHING:** Pollens, oil (from smoke), gases other allergens and odors attach themselves to the fabric. Once indoors, fabrics releases allergens, gases and odors in the air.....
- **FURNISHINGS:** New carpeting, drapes, furniture and upholstery emit chemical fumes, noxious gases and odors.....
- **CONSTRUCTION MATERIALS:** Paint, plywood, particle board (from cabinets, furniture, and paneling) emit chemical vapors, noxious gases and fumes.....
- **HOME CLEANING PRODUCTS:** Furniture polish, ammonia and other cleaning products emit chemical vapors, noxious gases and fumes.....
- **HEATING/COOLING SYSTEMS:** Ductwork gathers dust and moisture, creating mold and mold spores, and hosting bacteria and dust mites, and circulates dust, mold spores, bacteria and dust mites through out the building.....

Indoor Air Pollutants

- **DUST:** Did you know? 42,000 dust mites can live in only one ounce of dust? Forty pounds of dust generated per year per 1500 square feet of space, hosting 15 species of dust mites!
Airborne fragments cause eye irritation, allergies, eye-ears-nose-throat infections, asthma attacks, fatigue and depression.
- **BACTERIA:** Did you know? Bacteria is found in your heating and cooling system, house pets, garbage, bathrooms – everywhere in your home!
Causes colds, flu, respiratory infections, eye infections...
- **MOLD SPORES:** Did you know? Mold spores are found in you heating and cooling system, in damp clothing, cleaning materials and the moisture in your ceilings, walls, carpets, drapes....
Causes allergies, sinus headaches, risibility, fatigue, and depression.



Some Pollutants,

their Sources & Symptoms

- BENZINE
- AMONIA
- CLOROFORM
- FORMALDEHYDE
- BENZOPYRENE
- HYDROCARBONS
- TRICHLORETHYLENE
- XYLENE

Paint, new carpet, new drapes, upholstery	Headaches, eye/skin irritation, fatigue, cancer
Tobacco Smoke Cleaning Supplies	Eye/skin irritation, headaches, nose bleeds, sinus problems
Paint, new drapes, upholstery, New carpeting	Headaches, asthma attacks, dizziness, eye irritation, skin irritations
Tobacco smoke, plywood, cabinets, furniture, particle board, office dividers, new carpets, new drapes, wallpaper, paneling.	Headaches, eye/skin irritation, drowsiness, fatigue, respiratory problems, memory loss, depression, neurological problems, cancer
Tobacco smoke	Asthma attacks, eye/skin irritation, Sinus problems and lung cancer
Tobacco smoke, gas burners, furnaces,	Headaches, fatigue, nausea, dizziness, breathing difficulties
Paint, glues, furniture, wall paper	Headaches, eye/skin irritation, Respiratory irritation.
Paint, new drapes, new carpet, cleaning supplies	Headaches, dizziness, fatigue

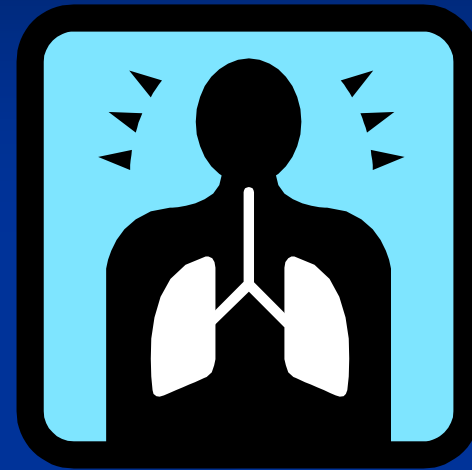
How does indoor air Effect your body?

POLLEN, MOLD SPORES, BACTERIA, TOBACCO SMOKE

FORMELDAHYDE

METHELYNE CHLORIDE, HYDROGEN CYNIDE,
AMMONIA, TOBACCO SMOKE, SMALL PARTICLES

NITORGEN DIOXIDE, TOBACCO SMOKE,
HYDROCARBONS, CARBON, TETRACHLORIDE
(from ALVEOLI into the BLOODSTREAM)



EYE AND NASIL IRRITANTS:

Sulfur dioxide (lethal poison), acrolein, (in tobacco smoke, a carcinogen), benzene, (carcinogen), formaldehyde, pollen, mold spores, dust, dust mites, bacteria.....

POISENS:

Cyanide, (from tobacco smoke) hydrocarbons, (tobacco smoke and other combustion),

BRONCHIAL CONSTRICTORS:

Sulpher dioxide, (lethal poisons), ammonia, allergens, bacteria...

CARSINOGENS:

Acrolein, benzene, benzopyrene, percholethylene*,

PULMINARY IRRITANTS: Chloroform (lethal poison, suspected carcinogen), nitrogen dioxide, (lethal poison), styrene, formaldehyde, small particles, bacteria....

ASPHYXIANT:

Hydrocarbons

.* Suspected

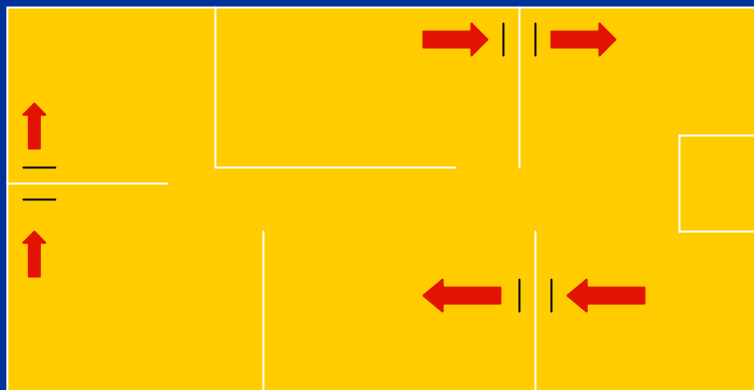
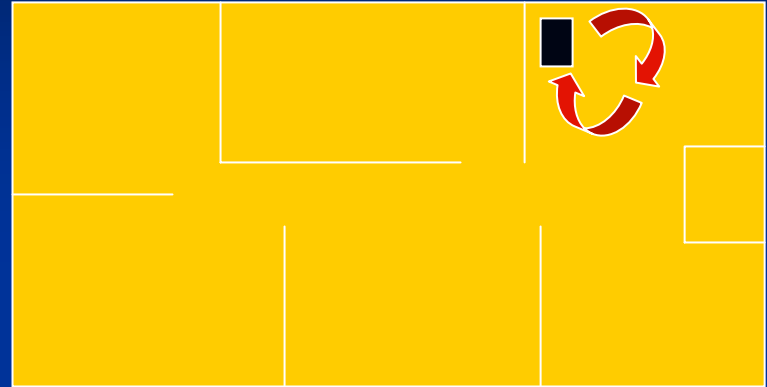
Inefficient air filter systems

LOCALIZED AREA UNITS

(Media Filters)

Only the air caught in the air stream goes through the filter.

Air trapped behind drapes, under furniture, in fabric (upholstery, clothing, carpeting, drapes etc.) does not get filtered nearly as often, and sometimes not at all.



WHOLE BUILDING UNITS

(Media Filters, or Electronic Air Cleaners)

The only air that gets “filtered” is the air which is actually drawn through the unit. “DIRTY” air constantly invades the space.

Recirculates the same air—does not get behind drapes or under furniture.

AIR FILTRATION UNITS ARE NOT THAT EFFICIENT

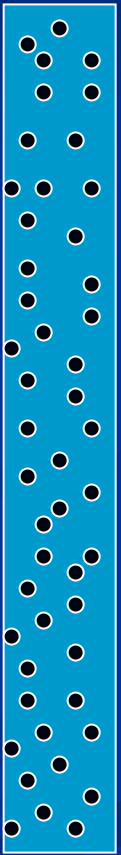
Much of the air is unaffected, and remains polluted!

Media filters and Electronic air cleaners

- Typical Glass Fiber Filter
- Traps smaller particles with better efficiency than small matter. To permit airflow it must permit some pollutants to pass through. Fiber filter typically only stop about HALF the smoke, dust, and bacteria in the air. (HEPA filters boast over 90% efficiency, and still leave about a 1/3 of the smoke and dust particles in the air that go through it.



- Activated Carbon Filter
- Designed to trap small particles and some gasses—the higher the density filter, the slower the air-flow, manufactures compromise on filtering efficiency. Many gases and odors, and 1/3 to 1/2 of the smoke and dust particles still get through.





RCI Technology

■ Radiant Catalytic Ionization

Combining high intensity UVX light with a specially developed rare metal hydrophilic coating on an engineered matrix, **Radiant Catalytic Ionization (RCI)** reduces airborne contaminants, and odors while creating super oxide ions and hydro-peroxides. These products of our Advanced Oxidation Process continue working to reduce more odors and VOC's, and to attack micro-organisms.

With our new RCI technology, significant improvements are being made to EcoQuest's already proven SynAirG process. As the world leader in indoor air purification products, EcoQuest has once again introduced cutting edge healthy living technologies.

By engineering the proper light wavelengths into the RCI cell, EcoQuest has developed a highly effective system designed to utilize 254 nm hv germicidal UV light. Falling between visible UV light and invisible X-Rays in the light spectrum, UVX makes use of the same oxidation and ionizing properties of light as naturally occurring sunlight. Fresh Air takes advantage of these ionizing properties and combines them with the photo catalytic reactions of specific rare and noble metals to create Radiant Catalytic Ionization (RCI). This innovative use of light is what makes RCI so effective.

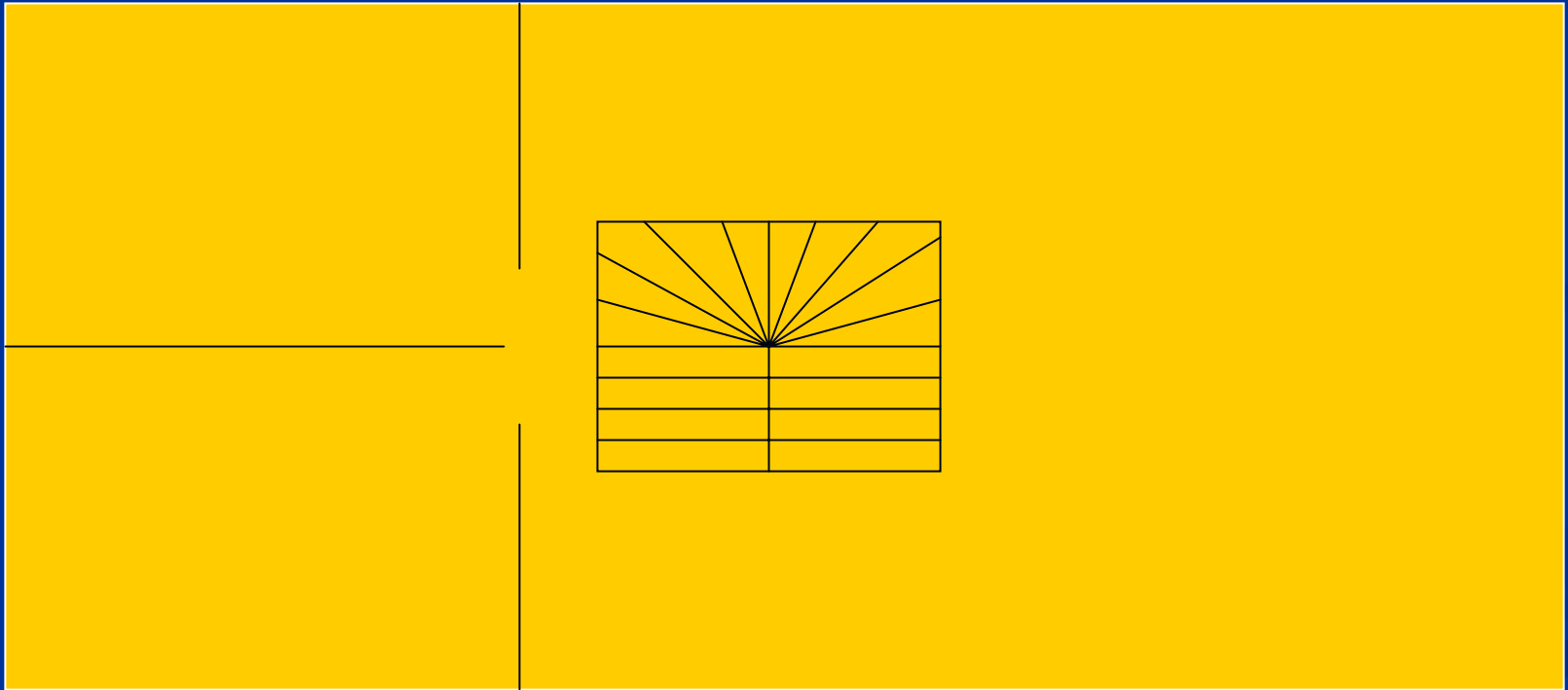
The Reality is:

- “Indoor air pollution is wide spread. You are more likely to get sick from pollution in your home and office than from pollution in the air outside.”

American Lung Association

Let us tailor an Air Purifier for your home

- Describe or Draw your homes lay out:



The Future of WATER

- Is there a Problem with our WATER?
- If the Earth is 70% water, how can there be a problem with pollution or a water shortage?

Well, although the earth is mostly water, only 1% would be considered usable, fresh water. That changes things doesn't it?

The Environmental Protection Agency (EPA) has set allowable levels of contaminants in you water. Each year, your water supplier is required to report on the levels found in their testing. There are arguments on what "allowable" levels are safe for human consumption. Arsenic levels, have been raised to help cities comply with standards. How much arsenic is OK for your family to drink?

Consider the following:

■ Microbiological Contaminants:

While most microbes in the water are harmless, some are very dangerous. In 1993, more than 100 people died and tens of thousands became ill in Milwaukee, WI because the parasite *Cryptosporidium* invaded the water supply. Health officials initially thought it was an outbreak of influenza. The CDC (Center for Disease Control) found that almost 1 million people are sick each year with microbiological contaminants.

Chlorine

- While chlorine is good for solving one water quality problem, it causes another. For years, especially in the US, chlorine has been used to kill contaminants such as typhoid and cholera. Unfortunately chlorine is not 100% effective, as some microbes are resistant to its effect, increasing the risk of heart disease, and kills the friendly bacteria found in the intestines, that are critical for digestion.

Fluoride:

- Another chemical that is added to most municipal drinking water supplies is fluoride. Though added because of the belief that it deters tooth decay, some studies have shown that fluoride may NOT be effective for tooth protection and actually may be HAARMFUL to the human body. It has also been found to have carcinogenic properties.

Lead

- Lead, one of the most harmful contaminants in water, is exposed in dangerous levels to 20% of the population of the United States.
- Lead (total) is a metal that enters water by corrosion of household plumbing systems; industrial pollutant; erosion of natural deposits. Potential health impacts associated with Lead (total) include cancer, cardiovascular or blood toxicity, developmental toxicity, endocrine toxicity, gastrointestinal or liver toxicity, immunotoxicity, kidney toxicity, neurotoxicity, reproductive toxicity, respiratory toxicity, and skin sensitivity

Radon

- Another extremely powerful carcinogen. The EPA estimates that up to 8 million people in the US have harmful levels of radon in their drinking water. Health effects from exposure to Radon include: Cancer, and Respiratory Toxicity

MTBE

- An incredibly toxic chemical added to gasoline to cut down on emissions. Found in water supplies across the US.

Arsenic

- Arsenic (total) is a metal that enters water by erosion of natural deposits, runoff from glass and electronics processing. Potential health impacts associated with Arsenic (total) include cancer, cardiovascular or blood toxicity, developmental toxicity, endocrine toxicity, gastrointestinal or liver toxicity, kidney toxicity, neurotoxicity, reproductive toxicity, respiratory toxicity, and skin sensitivity.

Hydrogen Sulfide

- Hydrogen sulfide is a constituent of crude petroleum, natural gas, volcanic gas, and hot springs. It is produced by the decomposition of human waste and animal waste, including from landfills and sewers; and is a pollutant from various industries including food processing, coke ovens, kraft paper mills, tanneries, and petroleum refineries. Potential health impacts associated with Hydrogen sulfide include cardiovascular or blood toxicity, neurotoxicity, reproductive toxicity, and respiratory toxicity.

Water Quality in Summary

Of the 141 unregulated contaminants detected in public water supplies from 1998 to 2003, 52 are linked to cancer, 41 to reproductive toxicity, 36 to "developmental toxicity," and 16 to immune system damage, according to government and industry toxicity references. Despite the potential risks, any concentration of these chemicals in tap water is legal, no matter how high.

Water Quality Concerns

- Cities may also be concerned about nitrates and nitrites, too much fluoride, pesticides and a vast number of other organic chemicals. "There are so many that it is ludicrous to list what the consumer should avoid, since the consumer can't actually identify any of them," said Tim Ford, a professor of microbiology at Montana State University.

Northfield, MN

“National Tap Water Data Base”

Health Effect

- Cardiovascular or Blood suspected Toxicity (known or suspected)
- 4Cancer (known)
- 1Cancer (suspected)
- 2Developmental Toxicity (suspected)

Contaminants

- Nitrate Chloroform
Bromodichloromethane
Dibromochloromethane
- Radium-226
- Total trihalomethanes (TTHMs)
Radon
- Barium (total)

The State of Minnesota

- Tap Water Quality 1,010 Water Systems
- Serving 4,086,464 People
- An Environmental Working Group analysis of tap water tests from 1998 through 2003 for 1,010 communities across Minnesota shows 86 pollutants were found in drinking water across the state.

How EcoQuest “Living Water” systems compares

- **Activated Carbon Filters:** May trap some microorganisms, but neither technology destroys them. Waterborne viruses pass completely unhindered through these devices.
- **EcoQuest “Living Water” Solution:** Our patented photo-oxidation process has been proven effective in the destruction of bacteria and viruses. No waterborne organisms ever get to the filter using ozone residual as a safeguard.

Reverse Osmosis

- RO can be thought of a filtration on a molecular level. RO membranes are so fine that **only lightweight molecules can pass through them**. RO systems also reject a large percentage of salt and dissolved mineral, the result is RO produces water that is **largely devoid of mineral content**, much like distilled water. Most RO systems require chlorine free water. **Chlorine attacks the synthetic RO membrane** and can deteriorate it.
- RO requires many gallons of water to produce one purified gallon of water. RO systems generally **flush three to four gallons down the drain for every gallon of treated water produced**. Because there is no germicidal agent in RO water, like chlorine, there is nothing to inhibit bacteria from growing in the holding tank. The cost per year just for the membrane is \$145.00-175.00. Additional filter costs

Living Water

- Living Water: Chlorine does not adversely affect the system's patented photo-oxidation process. There is no waste stream. One gallon of incoming water produces one gallon of treated water. The flow rate is $\frac{1}{2}$ gallon per minute. The LW system only takes up about $\frac{1}{5}$ th the amount of space that even a small RO unit requires.
- Annual maintenance are \$65.00 a year.
- Rule is you want to see the water as it is being cleaned. With Living water you see it working when the light is on and the bubbles rise in a swirling pattern around the bulb.
- Result of Living Water is purified, clean, drinkable water every time.

DISTILLATION

- **Distillation:** totally demineralizes water, giving it a flat taste.
- **LIVING WATER SOLUTION:** Living Water does not completely demineralize water. The taste is much the same as natural spring water.
- **Distillation:** is extremely energy intensive. One gallon of distilled water requires more than 2.5 Kilowatt hours per gallon. If you pay 14 cents per Kwhr for your electricity, your processed water will cost 31 cents per gallon.
- **LIVING WATER:** Consumes approximately .0006 kwhr of electricity per gallon. This is less than 1/4000 of the amount required by distillation.

SIMPLE UV SYSTEMS



Living Water / Spring House

