MARKETING STRATEGIES FOR WINNING WHOLE HOUSE VENTILATION JOBS

Peter Troast, Founder & CEO

Energy Circle Webinar Series

October 21, 2020

Our Search for ACH: Determining Infiltration with a Blower Door Test

By Jake VP | October 7, 2020

Whether you've followed parts one, two, and three of our ventilation series, or attended our recent webinar where Energy Circle CEO Peter Troast got into the specifics about the ventilation equipment that Kevin Brenner utilizes for his New York-based home performance business, Healthy Home Energy & Consulting, there is a lot of information to absorb. But we still wanted to know more about our workspace as we look toward a new normal, and a future where we can work in our own office again.

In our three-part series on ventilation, we started on a journey to find our total air changes per hour (ACH), which is an accumulation of our **active ventilation + natural + infiltration + filtration**. So far, our ventilation stat lines are as follows:

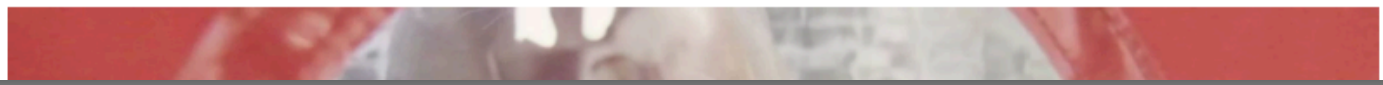
Ventilation: .3 ACH from our mechanical ventilation

Natural: 0 (In our everyday office habits, we keep all windows closed)

Infiltration: ?

Filtration: 1.56 (more on this later)

The only way to find the missing puzzle piece, our infiltration from air leakage, was to schedule a blower door test. We contacted a local, independent energy auditor and rater here in Maine, Bill Winkel, and scheduled a blower door test for our office.



Oct. 2020 Update: What's New with Google Local Services Ads? (A Lot.)

By Shawn Cohen | October 21, 2020

Google's Local Service Ads allow businesses, like HVAC and better building contractors, to run prominently displayed ads, geo-targeted at their service area, and pay for leads directly. As Google expands the LSA product, adding features like bidding options (yes, you read that correctly! Bidding has come to LSA's), and new service categories, we've got the latest on what's new with LSAs and how best to leverage them.

A Little Local Service Ads History

Google launched Local Service Ads (LSAs) in 2015 with fixed per lead pricing (set by Google) and limited eligibility to certain geographies and service categories. Over the next few years, they slowly and quietly tested the product in specific markets, and by 2018, had begun a more comprehensive rollout—expanding availability to include nearly fifty service verticals, and widespread geographical availability across the country and beyond. Of course, at Energy Circle we've been keeping a close eye on LSAs since the comprehensive roll out began, and tracking their impact on other digital marketing tactics and channels—including SEO and Local SEO, as well as traditional PPC through Google Ads.

In April 2019, we published an update to our original LSA overview which included details about what had changed since the broader rollout began, and what had remained the same. We also shared our analysis and recommendations about how marketers in the home performance, solar, and HVAC industries could best leverage LSAs and incorporate the new ad product into their greater digital marketing mix.

LSAs are still a prominent and influential feature in SERP, and as Google continues to expand the product, it's important for marketers to understand the capabilities and the implications of running Local Service Ads. Today, we'll outline some of those most recent changes, and update our recommendations and predictions around how best to incorporate LSAs into your marketing strategy.

What We'll Discuss

1. **Has COVID Changed Consumer Understanding and Demand for Improved Ventilation?**
2. **Is Now the Time to Offer a Ventilation Assessment?**
3. **Initial Steps Towards Seizing the Opportunity**

Future Ventilation Topics

Keyword Strategies for Ventilation
Building Awareness with Facebook
Paid Search Marketing for Ventilation

energy circle

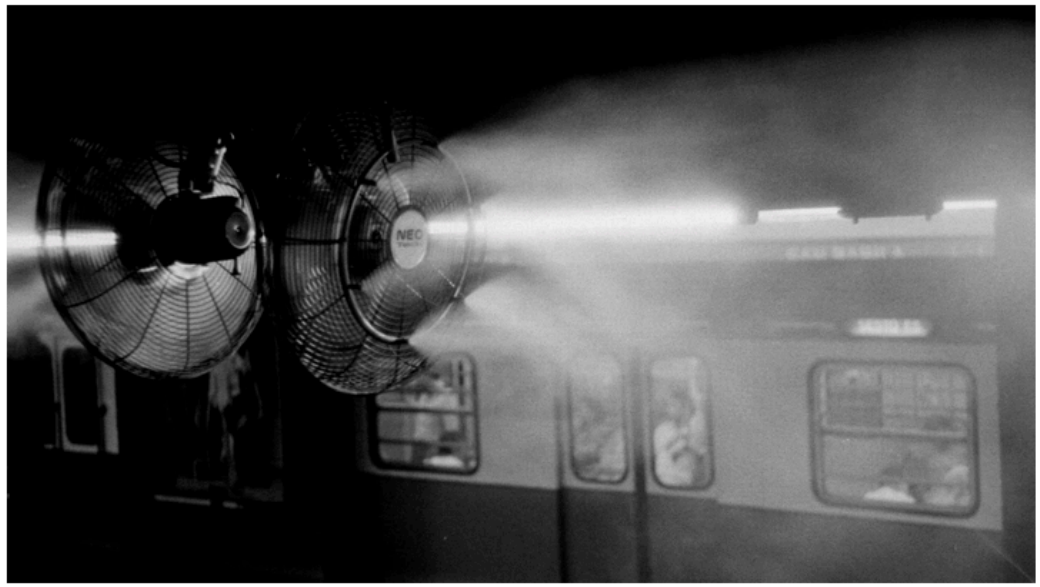
EVERYONE'S TALKING VENTILATION. ARE WE MOVING THE NEEDLE?

HEALTH

We Need to Talk About Ventilation

How is it that six months into a respiratory pandemic, we are still doing so little to mitigate airborne transmission?

ZEYNEP TUFEKCI JULY 30, 2020



MILLENNIUM IMAGES / GALLERY STOCK

I recently took a drive-through COVID-19 test at the University of North Carolina. Everything was well organized and efficient: I was swabbed for 15 uncomfortable seconds and sent home with two pages of instructions on what to do if I were to test positive, and what precautions people living with or tending to COVID-19 patients should take. The instructions included many detailed sections devoted to preventing transmission via surfaces, and also went into great detail about laundry, disinfectants,

MORE STORIES

Hygiene Theater Is a Huge Waste of Time

DEREK THOMPSON

Deep Clean, Then Clean Again

SARAH ZHANG

Social Distancing Is Not

Ventilation and air filtration play a key role in preventing the spread of COVID-19 indoors

As schools and offices open up, here's what building managers should do to reduce SARS-CoV-2 particles in the air we breathe

Ramon Padilla, USA TODAY

Updated 7:38 p.m. EDT Oct. 19, 2020

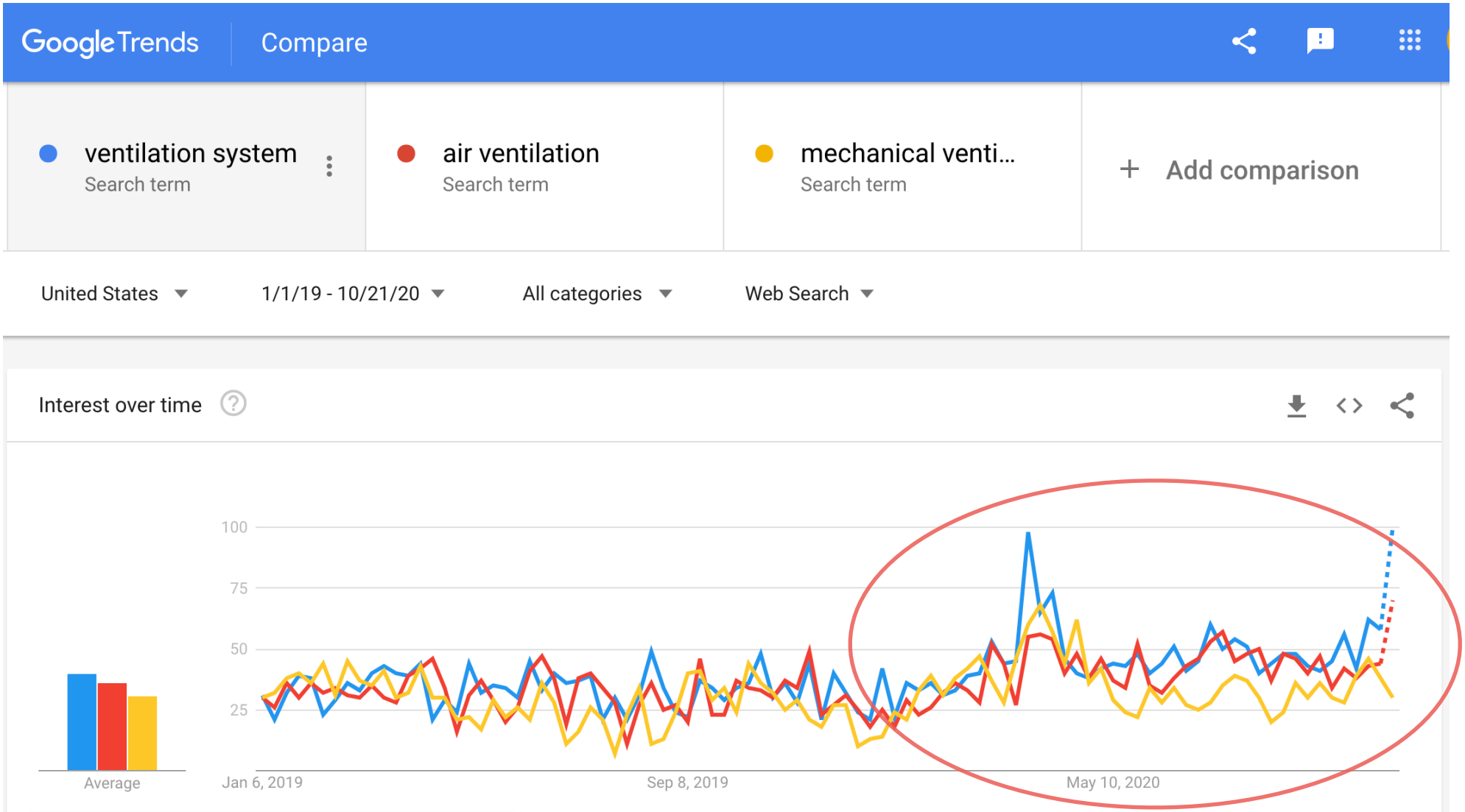
As the nation reopens after COVID-19 restrictions, people across the country are making decisions about going back to the office or putting their children back in classrooms. But how can you make the right call? We asked the experts how to improve indoor air quality, and what questions to ask your boss or school administrator.

"Often indoors, people are the source of contaminants," says Dr. Shelly Miller, a professor of mechanical engineering at the University of Colorado Boulder.

Your chances of being infected depend on the size of the room and the number of people infected with COVID-19 inside.

"When they talk, talk loudly, when they breathe, small respiratory aerosols are released," Miller said.

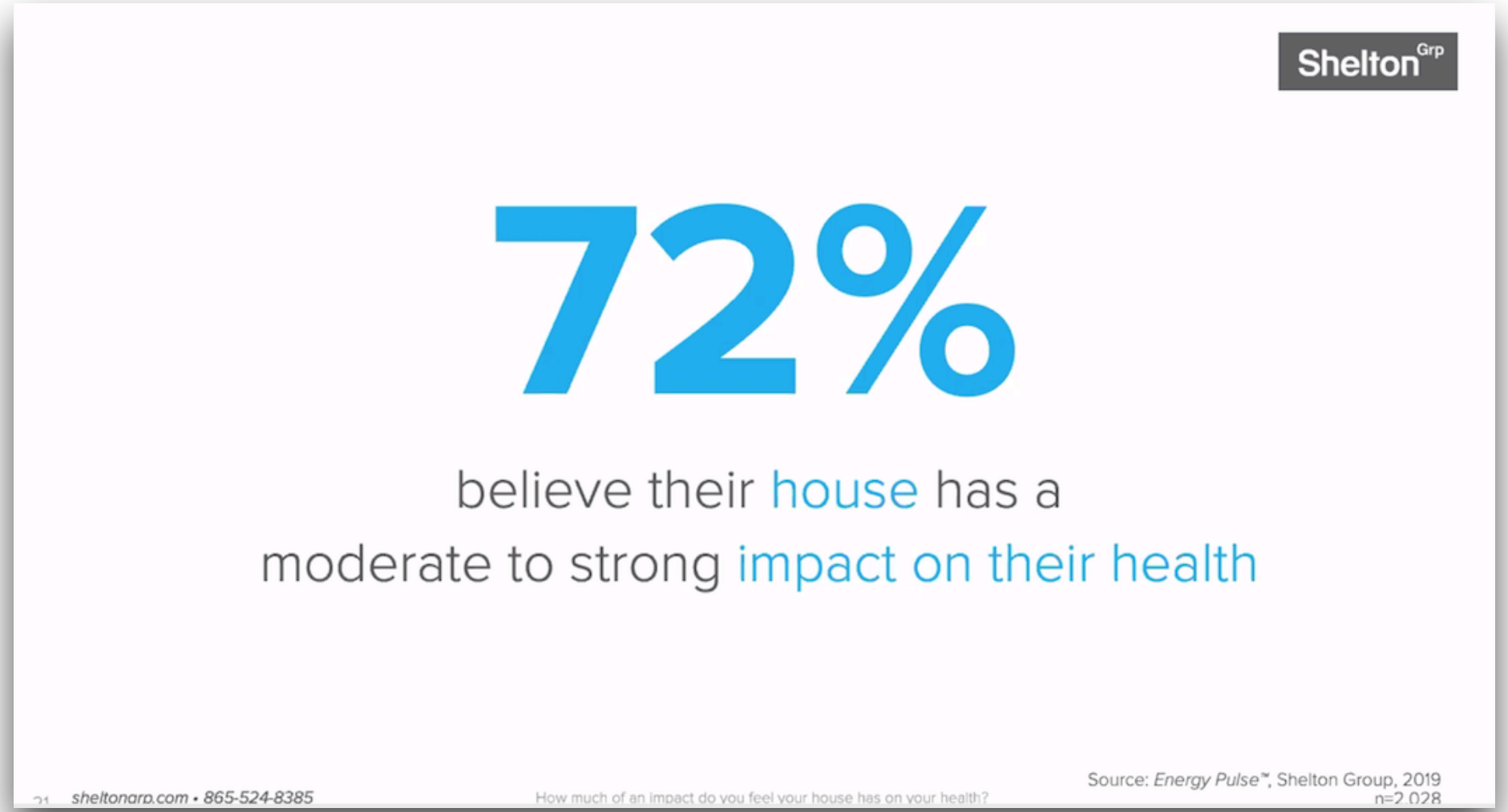
If you're in a classroom, office or other enclosed space, these aerosols can build up over time.



RISING	
covid ventilation system	Breakout
garage ventilation system	250%
whole house ventilation system	130%
fresh air ventilation system	100%
air ventilation system	100%
heat recovery ventilation system	90%
diy ventilation system	90%

Google Trends, 1/1/19 to present

Taken October 20, 2020



Suzanne Shelton, EEBA Webinar
April 14, 2020

Shelton Grp

Which has often led to considering upgrades to ventilation systems

51%

of consumers say it is important to upgrade the air ventilation system in their homes

Source: *Energy Pulse*™, Shelton Group, 2019

Suzanne Shelton, EEBA Webinar
April 14, 2020

Air Purification Explodes (Feb to ____)

RISING	
air purifier for viruses	Breakout
best air purifier for viruses	Breakout
medify air purifier	Breakout
rainbow vacuum	Breakout
air purifier mask	650%
ultraviolet air purifier	450%
air purifier necklace	350%
air doctor purifier	350%
winix true hepa air purifier	300%
personal air purifier	250%
air genie air purifier	250%
reme halo air purifier	200%
levoit air purifier filter	200%
ion air purifier	190%
honeywell true hepa air purifier	180%
smart air purifier	170%
hepa filter air purifier	140%
air purifier costco	140%
uv air purifier	140%
levoit air purifier reviews	140%
whole home air purifier	140%
uv light air purifier	140%
iwave air purifier	130%
true hepa air purifier	120%
homedics air purifier	120%

Taken April 20, 2020

RISING	
jade air purifier	Breakout
air purifier for covid	1400%
air purifier covid	550%
oxypure air purifier	500%
trusens air purifier	400%
iwave air purifier	350%
medical grade air purifier	350%
air conditioner	250%
air purifier covid 19	250%
best air purifier 2020	250%
nuwave air purifier	200%
fan and air purifier	200%
silent air purifier	200%
iqair	170%
vollara air purifier	170%
dyson pure cool link, air purifi	160%
air pump	160%
i wave air purifier	150%
iwave-r air purifier	140%
medify air purifier	140%
best bedroom air purifier	130%
holmes air purifier walmart	130%
dyson air purifier costco	130%
desktop air purifier	120%
honeywell air purifier filters	120%

Taken July 14, 2020

RISING	
air purifier covid	Breakout
best air purifier 2020	Breakout
air purifier coronavirus	Breakout
hepa air purifier covid	Breakout
air purifier covid 19	Breakout
best air purifier for covid	Breakout
clarifion air purifier	Breakout
wearable air purifier	Breakout
best air purifier for viruses	Breakout
aurabeat air purifier	Breakout
best hepa air purifier 2020	Breakout
honeywell uv air purifier	Breakout
vremi air purifier	Breakout
best home air purifier 2020	Breakout
mahli air purifier	Breakout
iwave-r air purifier	4400%
azeus air purifier	4250%
colzer air purifier	2900%
oxypure smart air purifier	2900%
lg air purifier mask	2850%
nuwave oxypure smart air purifie	2800%
dyson bp01 pure cool me air purif	1350%
medi air purifier	1350%
air purifier for viruses	1250%
air purifier with uv light	1200%

Taken Oct 20, 2020

My Premise

Most retrofit ventilation is sold as a requirement of a home tightening project

Who the Heck Knows?

WILL HOMEOWNERS RESPOND TO A VENTILATION ASSESSMENT?

The Chasm

Pathway to Meaningful Business

1 DIAGNOSTIC PROCESS

2 MEASURES WITH BUSINESS VALUE

Pathway to Meaningful Business

1 DIAGNOSTIC PROCESS

- Onsite Visual Assessment
- Pressure Test
- CAZ
- IAQ Logging
- *Ventilation Assessment?*

2 MEASURES WITH BUSINESS VALUE

Pathway to Meaningful Business

1 DIAGNOSTIC PROCESS

- Onsite Visual Assessment
- Pressure Test
- CAZ
- IAQ Logging
- *Ventilation Assessment?*

2 MEASURES WITH BUSINESS VALUE

- Whole House Ventilation
- Envelope Control (air leakage)
- Crawlspace Encapsulation
- Duct Cleaning and Sealing
- Moisture Control
- Equipment Replacement

DOE Assessment Guidance

ENERGY.GOV
Office of ENERGY EFFICIENCY & RENEWABLE ENERGY

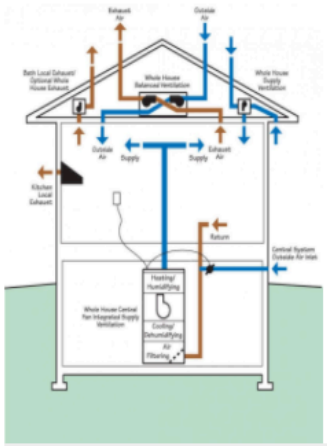
Building America Solution Center

Help User Enter keywords

PROGRAMS & GUIDES RESOURCES PUBLICATIONS & RESEARCH

EERE » BTO » Building America » Solution Center Home » Guides A-Z » Pre Retrofit Assessment of Ventilation Systems

Pre-Retrofit Assessment of Ventilation Systems



Example whole-house and local ventilation systems.

The first step in developing a plan for upgrading ventilation systems in existing homes is to perform a thorough evaluation of existing systems and how well they are functioning. Existing systems may form the basis for meeting ventilation standards. But they may also need upgrades or replacement to meet modern requirements. This assessment should be conducted by an energy auditor or HVAC contractor. The assessment provides an approach to evaluating existing ventilation systems. It does not provide design guidance or recommendations for which new systems to install.

The U.S. Environmental Protection Agency has published a protocol for assessing indoor air quality and ventilation systems (the *Healthy Indoor Environment Protocols for Home Energy Upgrades*). This protocol directs users to "determine whether the home complies with either the local exhaust requirements or the whole-house ventilation requirements of ANSI/ASHRAE Standard 62.2-2010. The EPA protocol was published in 2011. Building America recommends using the latest version of American National Standards Institute (ANSI)/American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Standard 62.2 (2016, as of the date of publication of this guide in 2017). In 2011, a Building America team noted that ANSI/ASHRAE Standard 62.2 is, or is becoming, the most common standard referenced for ventilation requirements in homes (Evaluating Ventilation Systems for Existing Homes).

The performance of a fan—especially the delivered flow rate—is typically tested and verified using the Home Ventilating Institute (HVI) Airflow Test Procedure Publication 916. These test procedures—and the associated Product Performance Certification Procedure Publication 920—provide standardized ratings for most mechanical ventilation fan products used in homes.

HVI also publishes guidelines on recommended ventilation rates in homes (How Much Ventilation Do I Need?). HVI's recommended ventilation levels are typically higher than those recommended by ASHRAE 62.2. With kitchen ranges, for example, HVI recommends 100 CFM per linear foot of range width (e.g., 250 CFM for a standard 30-in. range). This is considerably higher than the 100 CFM minimum specified in ASHRAE 62.2.

Two documents prepared by the Consortium for Advanced Residential Buildings (CARB), led by Steven Winters Associates, formed the basis for the assessment approach described here. The reports are Evaluating Ventilation Systems for Existing Homes and Measure Guideline: Selecting Ventilation Systems for Existing Homes.

In All Ventilation Systems

- Examine name plates for all ventilation equipment and determine ratings for sones, wattages, and flow rates.
- Ensure that all electrical connections are secure, insulated, and do not involve knob-and-tube wiring. If knob-and-tube wiring is connected to the

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STEPS TOWARD VENTILATION AS A STANDALONE SERVICE

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SOBIESKI

BENEFITS OF WHOLE-HOUSE VENTILATION

One good thing could be said about the drafty, inefficient houses of yesteryear: they got a lot of ventilation to eliminate stagnation and dilute contaminants. Unfortunately, ventilation was completely uncontrolled and heating and cooling loss—as well as energy costs—were high. Today, mechanical ventilation is often limited to single-room fans installed in a bathroom or kitchen. Whole-house systems offer several alternatives that improve indoor air quality throughout all living spaces.

Exhaust Ventilation

Exhaust-only systems utilize a single, powerful fan located in the attic. The fan induces a strong negative pressure, pulling a high volume of fresh outdoor air in through open windows and doors, replacing the home's entire air volume up to 60 times per hour. Exhaust-only systems are most useful in climates where temperatures at night and early morning are comfortably cool.

Supply Ventilation

By pulling in fresh air through a single roof inlet and adding it to existing HVAC ductwork, supply-vent systems provide better control over air intake and can coexist with an operating central A/C and furnace. Supply-only systems tend to pressurize the home, however, forcing humid indoor air to

Shifting the Narrative (and the Keywords)

HRV/ERV

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Building America Building Science Translator

Building Science Measure	New Building Science Terminology
Indoor Environment System (cont.)	
Dilution - Whole-House Ventilation	Fresh Air System
Supply-Only Ventilation	Fresh Air Supply System
Exhaust-Only Ventilation	Fresh Air Exhaust System
Balanced Ventilation	Fresh Air Balanced System
Properly Installed Whole-House Ventilation	Professionally-Installed Fresh Air System

February 2015

DOE Home Improvement Expert Program

U.S. DEPARTMENT OF ENERGY | Office of ENERGY EFFICIENCY & RENEWABLE ENERGY

Home Improvement Expert™ Checklist
Balanced HRV/ERV

This U.S. Department of Energy checklist includes important s… and quality installation. All work shall comply with these specifi… manufacturer installation instructions. The contractor shall chec… at the bottom to certify the work is completed.

PREPARATION

- ☐ For continuous operation, the target ventilation rate for the home shall be b… 70 cfm for 1,501 to 2,500 ft², and 100 cfm over 2,500 ft². For intermittent op… target ventilation rate specified above (e.g., if the controller operates the air… three times the target ventilation air flow is needed).
- ☐ Appropriate ventilation equipment shall be selected based on the target ver…

INSTALLATION

- ☐ The ERV/HRV shall either be connected to the central air handler and use th… supply ducts. Return air intakes can either be individually ducted from severa… or the ERV/HRV can use the HVAC system returns. It is recommended that e… supply, or one ducted return, or both.
- ☐ An HRV/ERV that is connected to the central system supply side shall have a… unit when the ventilator is off. Each occupied room should have one ducted…
- ☐ Outdoor air shall be filtered with a MERV 11 filter or higher, and the pressure… The filter shall be installed to be easily accessible by occupants.
- ☐ The fan shall be oriented so the equivalent length of the duct run is as short… accordance with ANSI/ACCA Manual D Residential Duct Systems.
- ☐ The exhaust duct outlet vent shall be located on the exterior of the home wh… situated at least 10 feet from any air inlet.
- ☐ Outdoor air intakes shall be equipped with screens to keep out insects and c… prevent water intrusion, and sealed with caulk or spray foam where the edge… infiltration of exterior air into the home.
- ☐ All duct seams and connections shall be sealed with mastic or UL 181 tape.
- ☐ Ducts installed outside of the thermal envelope shall be insulated to a minim…

COMMISSIONING

- ☐ The ventilation rate shall be measured using a flow hood, flow grid, or anem… RESNET/ICC 380-2016, to ensure that the fan is providing the minimum ven…
- ☐ All operation and maintenance procedures shall be reviewed with the home…
- ☐ All operation and maintenance procedures shall be reviewed with the home…

I hereby certify that, to the best of my knowledge and ability, all checked i… accomplished as part of completion of this home upgrade.

Contractor Signature: _____

Contracting Organization: _____

THE U.S. DEPARTMENT OF ENERGY DOES NOT W…

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For more resources, visit
basc.pnnl.gov/home-improvement…

PNNL-SA-139926 • March 2019

HOME IMPROVEMENT EXPERT

ENCLOSURE UPGRADES

- Attic Air Sealing and Insulation
- Basement Wall Insulation
- Framed Wall Insulation
- Masonry Wall Insulation
- Home Air Sealing
- Vented to Unvented Attic
- Vented to Unvented Crawl Space
- Window Replacement

HEATING & COOLING

- Air Conditioner Replacement
- Gas Furnace Replacement
- Heat Pump Replacement
- Duct Sealing and Insulation
- Oil or Gas Boiler Replacement

HOT WATER HEATING

- Gas Tank Water Heater
- Gas Tankless Water Heater
- Heat Pump Water Heater

FRESH AIR SYSTEM

- Bathroom Exhaust Fan
- Kitchen Exhaust Fan
- Balanced HRV/ERV
- Balanced Supply plus Exhaust
- Supply Integrated with HVAC

PROPER SEQUENCI…

Through the U.S. Depart… research program, exper… optimizing whole-house … includes a recommende… (shown below) to help e… their upgrade investmen… safety, indoor air quality…

STEP 1: ENSURE SA…

Have experts assess o… efficiency and identify … health, and safety issu…

STEP 2: ENSURE FF…

Ensure effective ventil…

STEP 3: ENSURE M…

Ensure adequate wate… of walls to dry by addi…

STEP 4: ENSURE DI…

Capture air sealing opp… insulation is installed.

STEP 5: ENSURE TH…

Insulate at least to the … for your location after … quality, and moisture n…

ANYTIME: EQUIPM…

Replace heating and co… windows, appliances, li… they fail or become ou… qualified products or b… more efficiently.

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For more resources, visit
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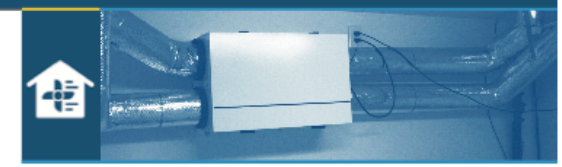
Home Improvement Expert™ Factsheet
Balanced HRV/ERV



WHY HOME IMPROVEMENT EXPERT?

An easy way to get a quality job.

Research findings reveal significantly reduced energy savings and potential performance risks where home improvements are not properly installed. To help homeowners address this challenge, the U.S. Department of Energy has compiled world-class expert guidance from industry leaders and national laboratories in factsheets and checklists under the name ***Home Improvement Expert***. Homeowners can leverage these expert recommendations to help ensure quality installation by attaching Home Improvement Expert checklists to vendor contracts and ensuring the vendor completes and signs the checklist before accepting the work.

READY TO DO MORE?

This factsheet and accompanying checklist cover one of more than 20 home improvements covered by the U.S. Department of Energy Home Improvement Expert. Use them to help optimize energy savings and improve performance related to comfort, health, safety, and durability.

To download other checklists: basc.pnnl.gov/home-improvement-expert

For more customized home improvement recommendations:

- Get your ***Home Energy Score*** from a qualified assessor (www.home-energy-score.gov)
- Schedule an expert assessment through **Home Performance with ENERGY STAR®** (www.energystar.gov/homeperformance).

BENEFITS

Installed correctly, a whole-house fresh air system with heat recovery can help ensure a healthier and more comfortable indoor environment with optimum efficiency.

Contaminants in homes can trigger asthma and allergy attacks as well as other health problems. Whole-house fresh air systems dilute, exhaust, and filter these contaminants. Balanced ventilation systems like heat recovery ventilators (HRVs) and energy recovery ventilators (ERVs) bring in fresh outside air and distribute it throughout the home using either their own dedicated ducts or the home's central heating and cooling system ducts. While bringing in this fresh air, the ERV/HRV exhausts an equal amount of stale air from the home, ensuring balanced pressures throughout the home. The incoming and outgoing air pass through a heat exchanger where heat is transferred from the warmer air stream to the cooler air stream, thus heating incoming air in the winter and cooling incoming air in the summer. An ERV also transfers moisture.

RELATED HOME IMPROVEMENT CONSIDERATIONS

Before purchasing a balanced whole-house fresh air system, consider working with a qualified home energy assessor to evaluate other related home performance needs and opportunities. This includes:

- duct sealing to ensure effective whole-house ventilation when existing heating and cooling ducts are used to distribute fresh air;
- bathroom and kitchen exhaust fans that remove contaminants, moisture, and odors;
- integration of high-capture filters in the heating and cooling system return duct to more effectively remove particulates from the air you breathe.

For more information on ventilation, please search the Building America Solution Center, basc.pnnl.gov.

TIPS FOR HIRING A CONTRACTOR

- Look for licensed, insured, and certified contractors.
- Check references and reviews on home improvement web sites.
- Get multiple bids in writing.
- Check with your utility and state, local, and federal weatherization programs for rebates and incentives.
- Include the Home Improvement Expert™ checklist in bids and contracts to ensure quality installation.
- Consider using a Residential Energy Services Network (RESNET) certified Home Energy Rating System (HERS) rater, Building Performance Institute (BPI) certified Building Analyst, or other qualified professional (e.g., licensed engineer or architect) to inspect the work.

BPI Keep It Principles

- Keep it Clean
- Keep it Dry
- Keep it Pest-free
- Keep it Contaminant-free
- Keep it Safe
- **Keep it Ventilated**
- Keep it Comfortable
- Keep it Maintained

Building Performance Institute Healthy Housing Principles Reference Guide

Blog Content on Ventilation

- The Benefits of a Fresh Air Ventilation System
- Ventilation's Role in COVID Safety
- Ventilation & Filtration—You Need Both
- The Air in Your House--Where's it Come From?
- Air Purifiers & COVID-19
- How to Make Your House More Like the Outside, and Not Freeze
- Could a New Fresh Air System Make Thanksgiving Safe?

Getting Found = Having Content

Interactive Graphics on Airflow

The New York Times

What Happens to Viral Particles on the Subway

By Mika Gröndahl, Christina Goldbaum and Jeremy White

Aug. 10, 2020

At the same time, outside air is pulled into the system, combined with the existing mix and released into the car through the duct panels, which span the ceiling.

QUESTIONS?

Peter Troast

peter@energycircle.com