

# **HIGH-PERFORMANCE HVAC TODAY™**

*If You Don't Measure, You're Just Guessing!™*

## **2023 RESIDENTIAL HVAC Market Outlook**

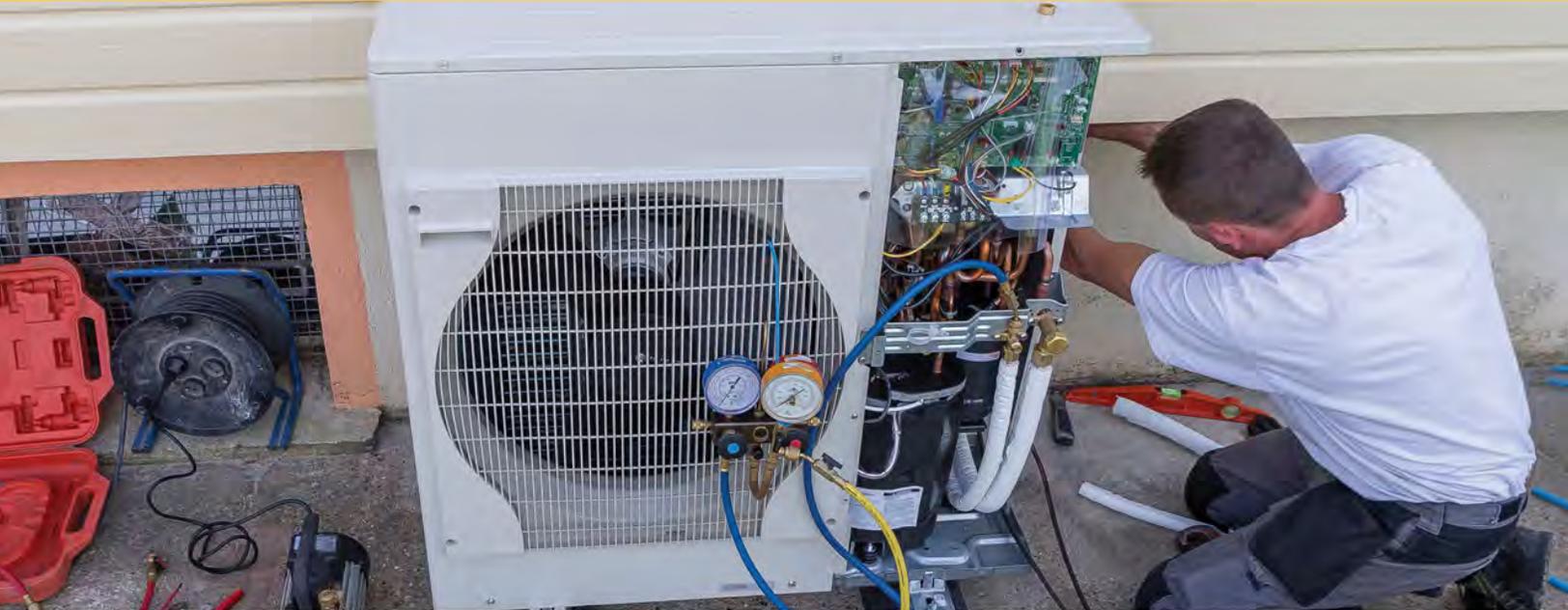


### **ALSO IN THIS ISSUE:**

- **5 Marketing Plan Considerations**
- **System Upgrades Via Service Calls**
- **The Impact of Duct Airflow Adjustments**

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# HIGH-PERFORMANCE HVAC TODAY™



**TECHNICAL:**

## The Impact of Duct and Airflow Adjustments

Tom Turner of Austin Energy explores the power of utility/contractor teamwork through partnership and training.



**TECHNICAL:**

## System Upgrades Via Service Calls

NCI Trainer Al D'Ambola shows how testing, measuring, and proper diagnostics can lead to more system upgrades.



**MANAGEMENT:**

## 2023 Residential Market Outlook

This year can be a great year, according to economists. But there are a lot of landmines to watch out for.



**MARKETING:**

## 5 Key Considerations for Building Your Marketing Plan

Colleen Keyworth of Online Access provides tips to help you successfully market your High-Performance HVAC business.

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# Facing the Music: Challenges and Changes



**Mike Weil** is editor-in-chief and director of communications and publications at National Comfort Institute, Inc. Contact him at [ncilink.com/ContactMe](mailto:ncilink.com/ContactMe).

In the cult classic movie, *Bill and Ted Face the Music*, the comedic main characters seek the path to excellence in their mission to save the world by writing the one song that unites us all.

When it comes to the High-Performance HVAC Contracting Industry, we are all on a most excellent adventure to unite the HVAC universe. Our mission is to teach technicians to test, measure, and diagnose invisible problems that can totally solve customer comfort and energy issues.

We face many challenges and opportunities in this endeavor. So as we move forward, let's face the music and make the most of what is happening in the world today.

In order to put together a most extraordinary band of comfort heroes, we need to stay alert and put customers first. One way is by attending trade events like the [AHR Expo](#) in February in Atlanta, and National Comfort Institute's [2023 High-Performance Summit](#) in April in Branson, MO.

In an effort to help contractors face the music, a group of NCI experts are conducting educational sessions at the AHR Expo. If you plan to attend, be sure to participate in the free sessions where David Richardson, Ben Lipscomb, P.E., and David Holt are addressing:

- How to cure the HVAC Equipment Failure Epidemic with Simple Air Upgrades
- Face New Market Challenges in Light Commercial Testing, Adjusting, and Balancing
- Sell High-Performance HVAC Through Homeowner Education
- Real World Application of ANSI/ASHRAE Standard 221
- Choose The Right Tools to Redesign HVAC Systems for Electrification.

And NCI CEO, Dominick Guarino will be on the **HVACR State of the Industry Leadership Panel Discussion: Today's Market, Challenges, Opportunities and What's Ahead.**

In April, **NCI Summit** shows High-Performance HVAC Contractors how to be more excellent to customers by teaching service as the foundation of performance. This event focuses on getting back to high-performance basics, and assisting your customers with issues like energy efficiency, IAQ, comfort, and more.

Learn more and sign up for Summit today at [gotosummit.com](https://gotosummit.com).

Do you want some other ways to face the music in 2023? Reading this magazine each month is one way. Check out the residential market outlook on **page 19** and Colleen Keyworth's tips on creating strong marketing plans on **page 23**.

Yes, there are challenges to overcome and changes to deal with. But success in 2023 is yours for the taking. To quote Bill and Ted, "Have a most extraordinary year and party on, dudes!" 

WHEN IT COMES TO HIGH-PERFORMANCE HVAC, WE ARE ALL ON A MOST EXCELLENT ADVENTURE TOGETHER!

At the Expo, experts from across the industry will share the latest information on hot ticket items including:

- The new SEER2 Efficiency Regulations
- Challenges with adopting the A2L refrigerants that impact the entire HVAC value chain
- The electrification movement
- Technical advances that impact manufacturing, distribution, and contracting
- Technician shortages and workforce development issues.

Written by HVAC Professionals for HVAC Professionals

**Fieldpiece Wireless Refrigerant Scale**

I believe every business plans to make money and not give refrigerant away for free. With the constant increase in refrigerant costs, the question is are you charging your customers appropriately? If your technicians are not monitoring how much refrigerant they introduce into a system, how do you know if you made or lost money?

The **Fieldpiece SRS3 Wireless Refrigerant Scale** will enable you to charge customers the right price and track refrigerant usage correctly. Plus, it's water-resistant, provides 200 hours of battery life, and is A2L compatible. It combines wireless electronics with a rugged design that is perfect for field work.

The SRS3 consists of a scale and a handheld meter that wirelessly communicates with the scale. The latter allows



technicians to watch and document how much refrigerant they put into the system.

With a rugged and durable exterior, the SRS3 displays various measurements, including pounds, ounces, kilograms, and grams. The handheld meter is magnetized for hands-free operation. I love that once you no longer need the scale, you can tuck handheld into it, and everything goes back into its carrying case for easy transportation.

This instrument requires six AA batteries to power the scale and a nine-volt battery for the handheld device.

Start using the SRS3 to obtain instant savings for your company and customers.

If you are interested in learning more about the Fieldpiece SRS3 Wireless Refrigerant Scale, just point your browser to [ncilink.com/FPrefScale](http://ncilink.com/FPrefScale).

— by Casey Contreras, instructor, National Comfort Institute

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# The Impact of Duct and Air Flow Adjustments

Less than a decade ago, [Austin Energy](#) explored the savings that could be harvested by adjusting only airflow in residential homes.

At the time, the utility had spent just over 30 years providing rebates to homeowners, looking to upgrade energy efficiency in existing homes by replacing HVAC equipment, sealing leaky ductwork, adding insulation, installing solar screens, and providing minor envelope air sealing.

Austin Energy contracted with **Paul Wieboldt** of [Tradewinds Appropriate Technologies](#) to provide third-party testing and data validation.

The idea was to separate the HVAC duct system from the entire package of upgrades mentioned above, as typically offered by utilities across the country. Tradewinds uncovered the following information:

accepted nationwide with great success.

## COPYING PAST MISTAKES

The path the industry took in past years is understandable. We must remember that our industry, in hot, humid climates, began only in the mid-1960s. While meeting housing demand for the sheer number of baby boomers who demanded a higher standard of living, engineering values were sidestepped with shortcuts.

With cheap energy prices, no one was the wiser. As energy prices began to rise, and with the oil embargo of the late 1970s, the need for more-efficient housing stock became apparent. Once we established a path to improved construction methods, the emphasis shifted to higher-performing HVAC equipment. In the wake of this rapid demand, equipment developers and installers began seeking shortcuts in materials and installation methodology. As a result, everyone started asking questions.

**Manufacturers** questioned warranty returns on parts that seemed to fail prematurely with little reasoning. **Green-energy gurus** scratched their heads when efficiently built homes failed to perform at acceptable comfort levels. And **contractors** pondered why some systems operated poorly, for no apparent reason.

## EFFICIENCY EXAMINATION

As far back as 2005, the Austin Energy team has advocated for studying delivered interior home efficiency.

In 2011, they began a systematic search for homes where the staff and a group of contractors might be able to impact air-delivery systems with minimal expense and improved performance.

The staff at Austin Energy is comfortable



For decades, the residential-environmental air conditioning community delivered substandard installation performance. The industry suffers the stigma, not from intentional wrongdoing, but rather from adopting rules of thumb that have little basis in fact. I humbly believe that if we can prove to the industry that they are on the wrong path, they will adopt the right thinking. Today, when marketed correctly, the home-performance, house-as-a-system model is being



recommending changes in day-to-day installations. They see improvement by following a few rules. These are not actually rules, but a rediscovery of what the HVAC industry practiced in its infancy. While what they discovered is highly encouraging, more work is necessary.

### DEFAULT SETTINGS

More than half the systems tested in Austin Energy's system-performance pilot were set up improperly. We found incorrect fan speeds selected on standard blower motors; factory defaults on timed on-and-off fan operation (for harvesting evaporator energy); incorrect fan settings on variable-capacity equipment; and default settings in selectable fields on thermostats for high-end equipment.

### SIZING UP SYSTEMS

Several studies across our country have proven more than 80% of installed HVAC systems are oversized and deliver only 60% of rated capacity. The good news is that there are methods to identify these issues quickly. The homes Austin Energy surveyed proved this study accurate in their market area. These improvement

opportunities should be presented to homeowners. By not informing homeowners, we only perpetuate problems in the HVAC industry.

### TOTAL EXTERNAL STATIC PRESSURE

HVAC contractors should measure total external static pressure (TESP) as soon as they arrive at a residence. This practice should take precedence over hooking up refrigerant gauges. In almost every home Austin Energy tested during the pilot program, static pressure was a persistent issue.

Most importantly, technicians should avoid using the rule of thumb. Industry engineers who design the equipment know what system output is required. Refer to manufacturer specifications and compare them to measured TESP. We can forget static pressure altogether if we shortcut static pressure requirements with rule-of-thumb information.

### ΔTS AND INTERPRETATION

Temperatures can identify issues early on; however, don't be fooled. Like superheat and subcooling, without verified airflow present, readings are bogus. A  $\Delta T$  (Delta T) without

validated airflow requirements, can lead us down a meaningless path.

**Superheat and subcooling** tell us only that the refrigerant charge is matched with the airflow. When the next contractor arrives to fix the issue, they'll encourage the customer to buy a larger system, thus oversizing occurs. We can be leaving thousands of Btus in equipment capacity unharvested.

Furthermore, many technicians use infrared technology to measure temperature. We should never count on infrared measurements to tune a refrigerant system. Due to emissivity (reflectivity of energy), infrared gives wide variations in temperature readings. It's better to use an electronic thermometer for all testing and tuning of refrigerant systems.

But don't throw away the infrared gun. These are very helpful in finding air leakage on the return side of the duct system. Because of the wide diffusion of the infrared beam, small temperature changes show up in a big way.

### RETURN AIR

Return air measurements continue to challenge our industry. We continue to follow a trend of increased return air size to provide adequate flow

for systems. This includes the practice of increasing the filter area. Seldom will systems of three tons (nominal size) or larger perform with only one high-efficiency air filter. Some systems require commercial grade returns to obtain flows, while others (platform return) may need extensive alteration.

**AIR FLOW DESIGN**

We can gain substantial airflow performance and comfort with simple changes in plenum design. These include increased plenum length to accommodate air stabilization off the blower, a pressure-rebound zone, and an adequate take-off surface. We must also include more-efficient transitions when installing evaporators or adapting existing plenums and ductwork. Austin Energy’s pilot found unexpected gains by avoiding taps at specific areas of the plenum formerly used without hesitation.

**DESIGN AND INSTALL**

The HVAC Industry has ignored proper airflow in individual duct runs for quite some time. Using duct triangles has gained traction while ignoring the costs associated with pressure and velocity. This approach might deliver airflow but miss the required velocity to make the terminal device work as designed.

Duct performance flow criteria are available through a few sources. Among them are ACCA Manual D and Manual T, and these calculations are required in some jurisdictions. You should take the time to understand both ACCA Manuals before attempting to design a duct system.

National Comfort Institute’s duct chart is available in their course

material and on the internet. The chart is easy to use in general duct installations and is intended to back up Manual D and T calculations with real-world performance data. By the way, duct installation quality is even more important than equipment selection: duct installation quality will determine performance outcomes. In other words, we must pay attention to air duct installation as an industry.

**DROP THROW AND SPREAD**

Unfortunately, as an industry, we pay very little attention to grille location and the type of grille used.

**Austin Energy wants to provide a program that FIXES air-delivery systems, then seals the envelope and adds insulation.**

In Austin Energy’s pilot, we found same-size grilles from differing manufacturers flowing nearly 20% more air. Some homes could be fixed with grille replacement. It is imperative to avoid air delivery to exterior walls at velocities above 50 feet per minute (fpm) for homes in hot-and-humid climates. That practice can cause condensation and deterioration of construction material during mild weather.

In the U.S., the overarching goal has been to weatherize structures by sealing envelopes and adding insulation. With less than 15% of Austin, Texas homes without a central air conditioning system, the need to adopt a change becomes more apparent. Austin Energy wants to provide a program that

considers sustainability by fixing the air-delivery system, then sealing the envelope and adding insulation.

Fixing the air-delivery system later only calls for weatherization measures to be repeated. Consumers may be slow to accept the idea. Making a real effort to advance a system-performance approach enables contractors to provide homeowners with real options to make intelligent decisions regarding their most valuable home investment.

**POOR PERFORMANCE COSTS EVERYONE**

In conclusion, when poor system performance in the retrofit market is left unaltered, it costs everyone. It costs the consumer higher utility bills, poor comfort, and premature replacement. It costs manufacturers through increased warranty and lost wholesale revenue. It costs the contracting community poor customer retention and lost income when managing service and retail sales callbacks.

Most importantly, system performance answers how we get the installation right.

Almost a decade later, Austin Energy continues to provide enhanced rebates on properly installed duct systems that deliver quiet and affordable comfort. 



**Tom Turner** is an Environmental Program Coordinator for [Austin Energy](#), Austin, Texas. A lifelong resident of Texas, Turner has worked in construction and the HVAC residential-light commercial industry for more than 40 years. He is an advocate for the “High-Performance HVAC Contracting” business model. You can reach him at [ncilink.com/ContactMe](https://ncilink.com/ContactMe).

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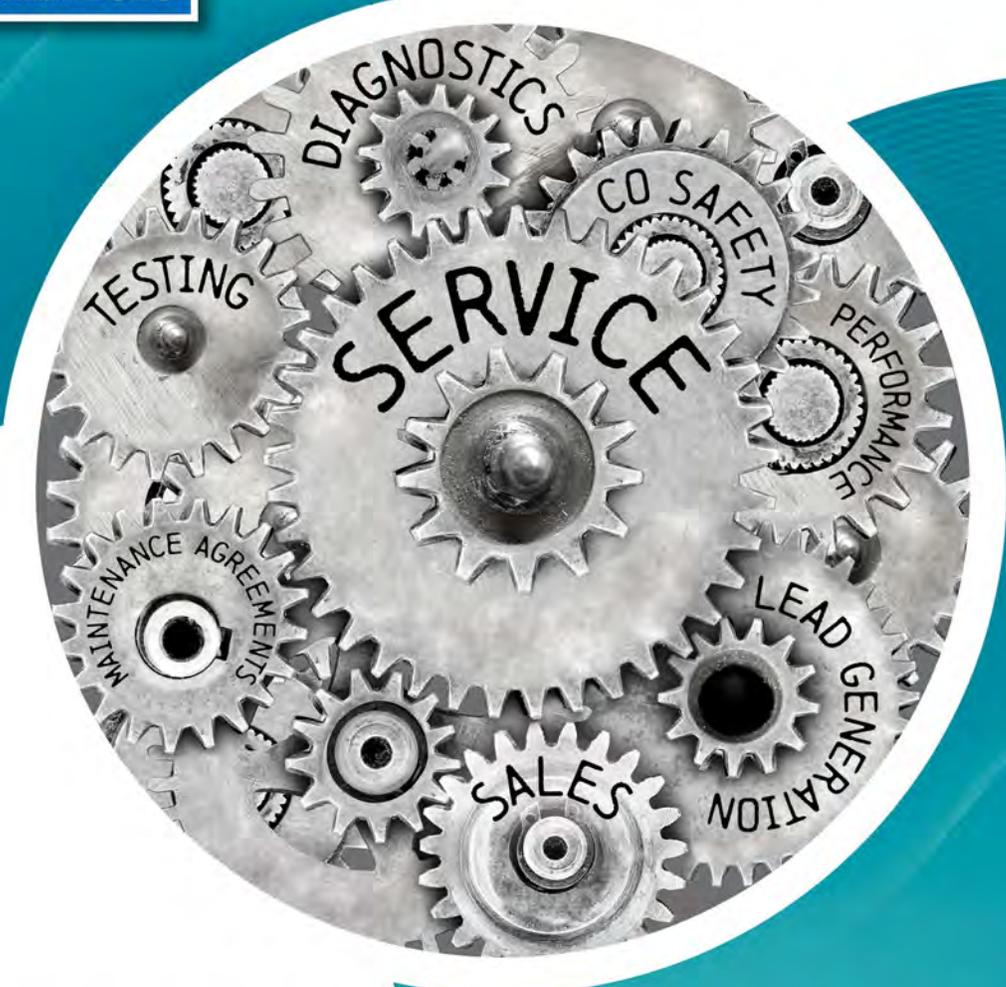
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# SERVICE: High Performance Starts Here!



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APRIL 16 - 20, 2023  
BRANSON, MO





This year's conference focuses on the critical steps to building a solid high performance maintenance program, fixing systems right the first time, and generating leads for profitable equipment replacement and Air Upgrades.

## HIGH PERFORMANCE Starts with Service

NCI's Summit has become the gathering place for High-Performance Contractors across North America. It's the only event of its kind completely focused on servicing, selling, and delivering high-performance HVAC systems.

This conference is open to the entire industry. Summit is a welcoming gathering of like-minded people who are open and willing to share with their fellow high performance professionals.

The most successful high-performance HVAC contractors understand that testing and diagnostics by their service and maintenance teams provides huge returns, both in terms of fixing "system" issues on the spot, and generating leads for equipment replacement with add-on Air Upgrades and duct system renovations.

At Summit this year NCI's instructors and coaches will facilitate discussions on several key implementation areas to help you build a solid roadmap to take you to the next level.

## BREAKOUT SESSIONS:

- Profitable System Upgrade Leads through Testing and Diagnostics on Service Calls
- Keep Customers Safe and Generate Leads with CO Safety and Combustion Testing
- Increase Sales Success by Properly Managing Service-Generated Leads
- Build Lifetime Customers with High-Performance Maintenance Agreements
- Deliver High Performance with Hands-on Diagnostics in Low-Performance Town.



## BE SURE TO BRING TECHNICAL, OFFICE, AND SALES STAFF

This year all sessions all repeat! You will have the opportunity to attend each one. To get the most from these sessions we recommend you bring at least 3 people. Be sure to ask about our special 3-Pack offer!

Visit the Summit Week website at [GoToSummit.com](http://GoToSummit.com) to reserve your seat for what will be another top notch, educational Summit experience. Seats are limited this year and going fast, so don't delay, register for Summit 2023 in Branson, MO today - and take your High-Performance HVAC business to the next level!

## SPECIAL EVENTS

**WELCOME RECEPTION & CELEBRATION:** Meet up with old friends and make new ones at this Welcome Extravaganza. Join your fellow contractors from across North America to celebrate our industry's resilience during the tough times of the past year.

**NCI PARTNERS RECEPTION AND TRADESHOW:** Our partners help make this conference possible. Show your appreciation by attending the trade show events. Who knows? You might find that next great product or idea!

**IDEA MEETING:** All attendees are invited to this 2-part event where each participant can propose one or more ideas in the areas of lead generation and sales. Don't forget to bring your ideas and \$20 entrance fee. The best ideas split the pot for great cash prizes!

**NCI PARTNERS EDUCATIONAL SESSIONS:** Pick from several special sessions hosted by NCI Member Rewards Partners. Topics will range from new HVAC technologies, to software, to business improvement seminars.

**AWARDS BANQUET:** This long-standing tradition is one of the highlights of every Summit. Join us in honoring the best of the best high-performance HVAC contractors. You may be one of them!



## BREAKOUT SESSIONS



### **Profitable System Upgrade Leads through Testing and Diagnostics on Service Calls -**

*Facilitated by Al D'Ambola*

This highly interactive session focuses on generating unlimited system upgrade leads by simply performing and recording static pressure measurements on every repair and maintenance call. This session will help you gain new ideas to get your whole team focused on the importance of executing basic diagnostic procedures on every repair, maintenance, and installation opportunity. Learn from your peers as they share their insights about what they have learned, what works, and what doesn't work.



### **Keep Customers Safe and Generate Leads with CO Safety and Combustion Testing -**

*Facilitated by Jim Davis*

In this interactive session, you will have an opportunity to exchange thoughts on how to keep your customers safe while generating leads with carbon monoxide (CO) and combustion testing. The discussion will focus on the importance of why and what to test on every call including ambient CO testing and what to do in various situations.



### **Increase Sales Success by Properly Managing Service-Generated Leads -**

*Facilitated by David Holt*

Unfortunately, many proactive sales opportunities generated by repair and maintenance technicians that perform routine static pressure measurements are handled very poorly, if at all. Without a solid plan, these golden opportunities get stacked up in a desk drawer or simply fall through the cracks. This results in frustrated customers, unhappy service techs, unemployed comfort advisors, underemployed installers, and reduced company profits. In this session, we will discuss a simple step-by-step process for effectively managing and responding to these great sales opportunities.



### **Build Lifetime Customers with High Performance Maintenance Agreements -**

*Facilitated by Jim Ball*

Wouldn't it be nice to have an expanding group of 'raving fans' for your business? A high-performance maintenance agreement program will help your team take better care of customers, transforming them from "occasional buyers" into "lifetime partners". When you attend this workshop, Jim Ball will help you discover how to build a strong maintenance agreement program based on NCI's high performance processes.



### **Deliver High Performance with Hands-on Diagnostics in Low-Performance Town -**

*Facilitated by David Richardson and John Puryear*

There are hidden defects plaguing the residents of low-performance town. Can you diagnose and provide solutions to their problems and bring them back to their high performance days? Learn to walk the "PATH to Performance" as you measure and diagnose, static pressure, airflow, temperature, and delivered Btus. Once you test and diagnose the problem(s), you'll make adjustments and assemble a scope of work to improve system performance. Don't miss this interactive session where we will introduce new test instruments to NCI's training offerings.



# SUMMIT WEEK 2023

## SCHEDULE OF EVENTS

### SUNDAY, APRIL 16

#### Pre-Summit Events

8:00 am - 3:00 pm High-Efficiency Sales Workshop - by *Daikin*

### MONDAY, APRIL 17

#### Pre-Summit Events

8:00 am - 3:00 pm High-Efficiency Sales Workshop - by *Daikin*

8:00 am - 5:00 pm Advanced Airflow Diagnostics with Hands-on - Recertification Class

5:15 pm - 5:45 pm Summit Orientation Meeting - All Welcome!

6:00 pm - 8:00 pm Welcome Reception Sponsored by *Daikin Comfort Systems*

### TUESDAY, APRIL 18

7:00 am - 9:00 am Breakfast and Interactive Opening Session

9:15 am - 10:45 am Breakout Sessions 1 - Workshops

11:00 am - 12:30 pm Breakout Sessions 2 - Workshops

12:30 pm - 1:30 pm Luncheon and General Session

1:30 pm - 3:00 pm General Session - TBA

3:00 pm - 5:00 pm Idea Exchange Meeting - Optional

6:00 pm - 8:00 pm NCI Partner Trade Show Reception

### WEDNESDAY, APRIL 19

7:00 am - 8:30 am Breakfast & General Session

8:30 am - 9:00 am State of High-Performance HVAC -  
NCI President & CEO, Dominick Guarino

9:15 am - 11 am Breakout Sessions 3 - Workshops

11:15 am to 1:15 pm NCI Partners Tradeshow and Luncheon

1:30 pm - 3:00 pm Breakout Sessions 4 - Workshops

3:15 pm - 4:00 pm NCI Partners Educational Sessions

4:15 pm - 5:00 pm General Session: Idea Session Winners and Partner Prize Drawing

6:00 pm - 7:00 pm Sponsor Appreciation Cocktail Reception

7:00 pm - 9:00 pm Awards Banquet and Presentation Ceremony

### THURSDAY, APRIL 20

7:00 am - 9:30 am Breakfast & General Session

9:45am - 10:30 am NCI Partners Educational Sessions

10:45 am - 12:15 pm Breakout Sessions 5 - Workshops

12:15 pm - 1:30 pm Closing Luncheon - NCI President & CEO,  
Dominick Guarino



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# System Upgrades via Service Calls

**W**hen is the best time to offer system upgrades? Is it when the opportunity presents itself during a service call, preventative maintenance (PM) call, or sales call? The opportunities will always present themselves through diagnostic testing and educating the consumer about what you discover.

Once you uncover an issue through diagnostics, document whether the service, installation, or sales departments performed those issues. Now is the time to become a teacher. This means finding ways to explain your results to the customer in ways that they'll understand. That is the subject of other articles. Learn more here: [ncil-ink.com/CustEd](https://ncil-ink.com/CustEd).



## THE DIFFERENCE BETWEEN YOU AND COMPETITORS

A question to ask yourself is, what types of diagnostic testing could you perform that gives you degrees of separation from your competitors?

Let's start with the most basic air diagnostic

test: Total External Static Pressure (TESP). Measuring TESP is the same as having a doctor hook you up to a **sphygmomanometer** to record your blood pressure. Measuring TESP means hooking up a **manometer** instead. This measurement may uncover hidden opportunities that have gone unnoticed for years.

Besides testing TESP, other measurements will help you find and diagnose issues. Measuring pressure drops ( $\Delta P$ ) across system components is one. Another is measuring temperature loss/gain through the duct system. You can also measure airflow across coils and heat exchangers.

Combustion testing and analysis are also important. These tests can show potentially dangerous situations for occupants because of duct leakage or positive/negative pressures that can create carbon monoxide (CO).

Based on the above, what potential opportunities could you be missing? Here are a few to think about:

### MEASURED TESP MAY REVEAL THE FOLLOWING UPGRADE OPPORTUNITIES:

- Add more return air ducts using the NCI Duct Sizing Chart
- Add more supply air runs or, as I say during my seminars, sometimes a duct system needs pressure relief valves
- Change the constant speed fan motor for an OEM variable speed motor
- New redesigned and balanced duct system.

### MEASURED COMPONENT PRESSURE DROPS CAN SHOW:

- Restrictive air filters – The solution is to change the filter to a “V” configuration. This increase's surface area by using two filters instead of one

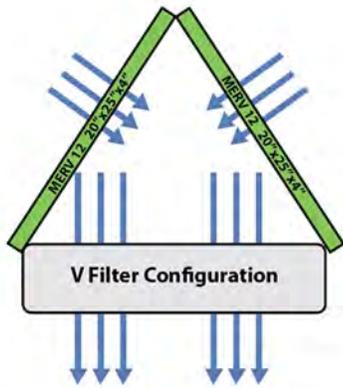


Illustration from the Shop Hacks website, [shophacks.com](http://shophacks.com).

- Less restrictive coils
- Performance grade registers and grilles.

### COMBUSTION APPLIANCE ZONE (CAZ)

In every home or building where gas-fired appliances are used, there is a flue pipe venting outside. Several issues can cause combustion issues leading to CO production in those spaces. We call those spaces the combustion appliance zone or CAZ.

It is imperative to measure the pressure of the CAZ with reference to an adjoining room to see if the CAZ pressure is operating at a safe level. Be sure there is no interference from exhaust fans and return duct leakage. Some solutions to potential issues include:

- Duct Sealing
- Pressurize CAZ.

### AIRFLOW TEMPERATURE DIAGNOSTICS

Every HVAC company should measure equipment temperature change ( $\Delta T$ ). How many companies require technicians to measure **system  $\Delta T$** ?

**System  $\Delta T$**  is not the same as **equipment  $\Delta T$** . For example, let's say you have an HVAC system in the attic, and it's a hot summer day with 87° ambient and 120° attic air. The



Photo of the [AirScape SFB-V Series](#) MERV-13 V-Bank Inline Filter Box.

system is pulling 15% of the return air from the attic. This situation is likely one reason the equipment's  $\Delta T$  is only in the mid-teen range. It will take longer for the system to satisfy the thermostat.

Two repair opportunities include:

- **Duct sealing.** *Always verify static pressure whenever sealing ducts. You may solve one issue and cause a more severe one*
- Add **duct insulation.**

### BTU MEASUREMENTS:

Verify airflow by any of the following methods:

- **Duct traverse.** *Add airflow from all supply air registers using a high-quality air-balancing hood*
- Use **manufacturer fan charts**
- Measure and record **dry bulb and wet bulb temperatures.** Then you can determine BTU per hour (BTUH).

Here's what you need to do when using a manufacturer fan chart:

1. Inspect the blower wheel for cleanliness (clean if dirty)
2. Measure TESP
3. Verify fan speed on direct drive motors, and measure RPM belt/pulley fan
4. Plot fan CFM from the manufacturer's fan charts
5. Measure dry-bulb temperature

6. Measure wet-bulb temperature
7. Convert wet-bulb readings into enthalpy, subtract supply air enthalpy from return air enthalpy to determine enthalpy change ( $\Delta H$ )

#### Formula:

■  $CFM \times \Delta T \times 1.08 = SBTU/Hour$  (sensible BTUH)

■  $CFM \times \Delta H \times 4.5 = TBTU/Hour$  (Total BTUH)

TBTU/Hour minus SBTU/Hour equals Latent BTU/Hour (LBTUH).

### WHAT IF YOUR SYSTEM ONLY MOVES 280 CFM PER TON?

#### Cooling Example:

- Three-ton condensing unit, indoor fan moving 840 cfm x 16°  $\Delta T$  x 1.08=14,515 SBTUH
- 840 CFM x 5.36  $\Delta H$  x 4.5= 20,260 TBTUH
- 20,260 TBTUH - 14,515 SBTUH = 5,745 Latent BTU removal per hour.

#### Heating Example:

60,000 BTU Output. 660 CFM x 44°  $\Delta T$  x 1.08= 31,363 BTUH.



**Cooling Example:**

Three-ton unit: 36,000 TBTUH.  
 $20,260 \div 36,000 = 56\%$ .

**Heating Example:**

$31,363 \div 60,000 = 52\%$ .

**SCORING YOUR HVAC SYSTEM**

The calculations above show the HVAC system score. In these two scenarios, the scores are as follows:

- Cooling System Performance Score (CSPS) = 59%
- Heating System Performance Score (HSPS) = 52%.

In today's market, do you think your clients would like to improve the performance of their system and upgrade? What if this is how some of your systems function? If you don't measure, how would you know your systems have a degree of separation?

Would your refrigerant charge correct at 280 CFM per ton?

**Don't assume** what most contractors assume: 400 CFM per ton is a rule of thumb. Before deciding you need to adjust the refrigerant, you must verify airflow! It is paramount to charge the system based on manufacturer requirements accurately.

**GOING UP AGAINST WELL-TRAINED COMPETITORS**

What if your competition is trained/certified and better at diagnosing these problems? What do you do if that is true?

My uncle **Charlie Fusari**, a professional prizefighter, faced Sugar Ray Robinson for the Welterweight Championship in August 1950. He lost a decision. When I was 15, I saw a video of the fight and had one question: *Uncle*

*Charlie, how come you didn't block Ray Robinson's punches?*

My uncle's response was difficult to swallow. "*Alfonse, I blocked the punches that I could see,*" he explained.

I laugh at that now, but it's the same in our industry.

How do you identify HVAC system issues if you can't see them? How can you fight the HVAC System Performance battle if you have not trained to do that?

for will uplift your staff and company. Your customer will be thrilled with their investment.

**THE GOOD NEWS**

Diagnostic testing offers endless opportunities to capitalize on your field findings.

Take advantage of every opportunity when you're on a service call. Service is where we balance the fact that mother nature does not always cooperate with HVAC businesses.

The good news is NCI can help you with the entire process, from learning how and what to test, to finding solutions based on your clients' test results. Then you can provide recommendations and implement what they choose.

The last may be the most challenging part for an HVAC company.

There's even more good news in that there is an endless potential of great qualified leads waiting to be uncovered through your service department.

During the craziness of summer heat or winter's bitter cold, you can always plant the seeds based on diagnostic test results and harvest the project when things calm down. 



Image from the [Graphic Conservation Website](#).

Fortunately, when appropriately trained, we do not have to rely on athletic ability to perform at a world-class level. In the HVAC world, we need test instruments and training on how to use them, interpret our findings, then prescribe solutions to the problems we uncover.

The satisfaction comes from identifying system problems and offering the correct solutions! It also comes from seeing the difference compared to initial testing.

The absolute joy comes when testing out and seeing real documentable results. Knowing that you just gave your customer the COMFORT they paid



**AID'Ambola** is an instructor for [National Comfort Institute \(NCI\)](#). He has conducted more than 500 seminars across the USA. He has been in the HVAC industry since 1976. He has done everything from

new construction installations, oil burner "soot sucker" tune-ups, servicing residential HVAC systems, and selling residential-commercial HVAC systems. He is also well-versed in balancing residential/commercial/industrial systems. Al can be reached at [ncilink.com/ContactMe](mailto:ncilink.com/ContactMe).

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##### Residential HVAC System Performance and Air Balancing Certification Bundle

February 7-9: Chesapeake, VA  
 February 14-16: Las Vegas, NV  
 February 21-23: Plymouth, MN  
 February 21-23: Wheeling, IL  
 February 28 - March 2: Austin, TX  
 February 28 - March 2: Milwaukee, WI  
 March 7-9: Grand Rapids, MI

##### Commercial Air Balancing Training Program

February 28 - March 2: Sheffield Lake, OH

##### Duct System Optimization and Air Balancing Certification Program

March 14-16: Charlottesville, VA  
 March 28-30: Lansing, MI  
 March 28-30: Sacramento, CA

#### PUBLIC LIVETRAINING (cont.)

##### Refrigerant-Side Performance Training Program

March 21-22: Austin, TX

#### PUBLIC ONLINE LIVETRAINING

##### Duct System Optimization Certification Program - ONLINE LIVE

February 14-15 (Part 1)  
 February 21-22 (Part 2)

#### \*SCE SPONSORED LIVETRAINING

##### Commercial Air Balancing Certification Program

February 14-16: Anaheim, CA

##### Combustion Performance & Carbon Monoxide Safety Certification Program

February 21-23: Anaheim, CA

#### \*SCE SPONSORED LIVETRAINING (cont.)

##### Hydronic Testing, Adjusting, & Balancing

March 7-8: Anaheim, CA

##### Duct System Optimization and Air Balancing Certification Program

March 14-16: Anaheim, CA

##### Test and Certify Ventilation Systems and Economizers Certification Program

March 28-29: Tulare, CA

#### \*\*TECH CLEAN CALIFORNIA TRAINING

[ncilink.com/TECHCleanCA](http://ncilink.com/TECHCleanCA)

##### Airflow Testing & Diagnostics

February 9: Anaheim, CA

##### Refrigerant-Side Performance Training Program

March 21-22: Anaheim, CA

March 21-22: Sacramento, CA

\* NCI training sponsored/subsidized by Southern California Edison (SCE) for qualified local contractors.

\*\* NCI training sponsored by TECH Clean California for qualified local contractors.



Visit [NCIlink.com/ClassSchedule](http://NCIlink.com/ClassSchedule) to view the latest schedule.

# Despite an Economic Slowdown, *HVAC Residential Markets Heat Up*

**A**s a High-Performance HVAC contractor, it's essential to know where the industry is headed. This can help you plan for and address customer's needs, especially during these weakening economic times. From where I sit, three major trends will continue impacting and changing the residential HVAC market in 2023 and beyond.

First, let's talk about the economy. Media pundits and marketers have been working double overtime to redefine what a recession is, but the truth is, the numbers don't lie. The U.S. economy is slowing down. Inflation is high, and the cost of doing business is rising.

Not all is doom and gloom. The HVAC Industry is positioned to have an overall great year in 2023 based on three trends: Growth, New Technology, and Sustainability.

Sure, many other trends are happening simultaneously, but I think these three encapsulate all of them. Here's why:

## HVAC INDUSTRY GROWTH

The [AHR Expo](#) and [ASHRAE Journal](#) 2023 Survey reports that 88% of HVAC business owners reported a good or excellent business year in 2022. In that survey, 43% of respondents said they expect between five to 10% growth in 2023,



and another 25% expect growth to exceed 10%.

Furthermore, according to projections by the U.S. Bureau of Labor Statistics, the 1.2 million people in the U.S. currently employed by HVAC companies should increase by 5% through 2028!

According to [Air-Conditioning, Heating, and Refrigeration Institute](#) (AHRI) statistics, as of October 2022, HVAC central air conditioners and air-source heat pump **combined shipments** (year-to-date) increased by 1.9% from the same period in 2021.

However, the trend slips downward when you examine individual equipment-type shipments. For example, air conditioner units alone dropped 3.8% year-over-year in October. Forced-air furnace shipments were off by 0.7%, oil-fired furnaces by 25%, and residential storage water heaters by 16.9%. Shipments of residential heat pumps alone were the only year-to-year equipment that saw a boost: they increased by 11.4%.

Isn't that interesting? Demand for heat pumps is increasing, despite rising costs. Some of that is because the energy efficiencies of heat pumps, especially in light of the green energy push in the U.S. today, are more attractive and valuable to consumers today. More on that in a bit.

Undoubtedly, costs for finished equipment (and just about everything else Americans consume) will continue to rise in 2023. The Federal Reserve's inflation fight may slow down runaway demand in many areas, but it impacts interest rates, which will negatively impact new construction.

The replacement market, however, will remain strong – but not in the way you usually would think. According to Matt Michel of Service Nation in an [ACHR News](#) article, the industry may see fewer replacements, yet **replacement revenue** will climb!



He writes, “Manufacturer price increases across 2022 resulted in price increases greater than the reduction of installations. Overall revenue jumped, labor fell (fewer jobs), and profit soared. The same thing that happened in 2022 will happen in 2023, thanks to price increases from SEER2. Fewer installations for more money will mean record profits.”

**Supply chain issues** will continue through this year, though many logistics experts say that this situation may substantially ease by the third quarter.

However, in an October 2022 Bloomberg Newsletter, author Brendan Murray warns that this might be overly optimistic. He quotes one Jason Miller – an associate professor of logistics at Michigan State University – who says that we should be wary of excessively confident predictions of a return to supply chain norms in 2023.

“Across all manufacturers, an insufficient supply of labor and raw materials has been effectively unchanged since the third quarter of 2021 in terms of severity,” says Miller.

HVAC manufacturers and distributors recognize that things remain tight and are taking steps to battle shortages. In the recently published [AHR Expo 2023 Trend Report](#), Steve Yurek, president and CEO of AHRI, says, “The current situation is unsustainable and is leading members to re-evaluate the sourcing of components to better ensure reliable availability in the future.” This, combined with the industry’s need to ensure that next-generation refrigerants can be used safely in residential applications across all 50 states by mid-decade, are the top priorities at AHRI right now, according to Yurek.

As a result of all this and more, we will continue seeing price increases throughout the HVAC value chain.

A byproduct of supply chain issues and price increases is that many HVAC contracting businesses serving the residential service and replacement markets are selling out to private equity firms. Private equity firms are creating bigger national companies that can more easily work through supply chain and other issues.

As a result, this may be the best time in HVAC Industry history for contractors to sell their businesses.

### THE CONTINUING IMPACT OF TECHNOLOGY

Because more people are working from home today, and with the continuing spread of respiratory illnesses, Indoor Air Quality (IAQ) is more important than ever before.

The good news, according to the [2022 American Home Comfort Survey](#), is that homeowners are willing to spend 65% more on IAQ than they were five years ago! Plus, they are willing to pay more for Smart Technology that allows them to squeeze more value from every energy dollar they spend.

In a recent [CMS NextTech](#) blog post, Matthew Jones says, “In the U.S., 24% of households already own a smart thermostat, and 80% of those people plan on buying another in the future, as the [Consumer Technology Association](#) reported.”

Furthermore, advancements in emerging technologies like artificial intelligence and virtual reality are changing everything in HVAC. Some other technologies to watch include:

- **Ice-Powered or Thermal Storage-based Air Conditioning.** Learn more about this in a [January 2023 article by Jeff Sturgeon](#) of National Comfort Institute
- **State-of-the-art High-Performance HVAC Testing and Diagnosis tools and training** – The technology behind these tools and instruments continues to evolve to help trained and certified HVAC professionals test and measure HVAC systems. This ensures those systems, including ductwork, operate at peak performance and deliver the highest energy and comfort value to homeowners
- **Smart Air Conditioning Systems** are part of what is known as “The Internet of Things.” HVAC equipment can connect, over the Internet, to other smart appliances in a home to allow homeowners AND contractors to monitor and control energy use and comfort
- Some manufacturers are starting to use **3D printers** to create parts and supplies that are in short supply because of supply chain issues. Some HVAC manufacturers are exploring this technology and more to help alleviate shortages
- **Digital Payment Technology.** I’m not talking about credit card swiping here. Technology from company and service management systems can enable digital invoicing and accepting payments from systems like PayPal, Apple Pay, and others
- **Digital Communications** with your field service, installation techs, and customers increase productivity and improve customer relationship building.

You can't talk about technology without addressing a growing problem that directly results from it: **Cybersecurity**. As more HVAC equipment and tools rely on Smart tech and the Internet of Things, the chances of breaches increase significantly.

Though the cybersecurity focus on commercial buildings is essential, the industry should also pay attention to residential homes. Look for more coverage of potential residential HVAC threat considerations and how to plan for the connected future throughout 2023 and beyond.

### SUSTAINABILITY AND THE GREENING OF AMERICA

The Green Wave continues washing over the U.S. with more efforts focused on energy and sustainability. This trend affects our industry in many ways. Again, several recent surveys find that more than 50% of HVAC customers will pay for more expensive, eco-friendly systems.

Look for energy prices to continue climbing throughout the year and as mentioned earlier, increasing prices for new HVAC equipment. Add to this the fact that with the newly implemented SEER2 energy efficiency standards, sustainable energy conservation becomes more important than ever. With that in mind, it may be worth looking into some eco-friendly offerings for your customers in the upcoming years.

Other trends include:

**Electrification** – In the AHR Expo 2023 Trend Report, Talbot Gee, CEO of HARDI, says, “The push to decarbonize the U.S. economy is inextricably tied to grid and building electrification, and as a consequence, we’ve



seen heat pump demand strengthen significantly in recent years. Since 2017, air-source heat pumps have grown from 21 to 25% of HARDI distributors’ annual unitary sales.”

He adds that demand for gas-fired furnaces could drop if electrification takes root. “We have already seen an annual rate of heat pump shipments exceed furnace shipments,” Gee says.

**Decarbonization** – Also in the AHR Trend Report, David Budzinski, VP and general manager of Johnson Controls’ residential and light commercial divisions, says, “The push toward decarbonization and electrification is accelerating, driven by climate change, the insecurity of world energy supplies and new legislation, like the Inflation Reduction Act.”

### ONE FINAL THOUGHT – WORKFORCE DEVELOPMENT

Workforce development remains a nagging issue for the overall HVAC Industry. While the Green Wave pushes America further toward sustainable net-zero energy use and environmental conservatism, the Grey Wave pushes Baby Boomer workers and managers into retirement, leaving great chasms in the HVAC workforce across all the value chains.

The industry must get better at attracting young people, veterans, women, and minorities into the HVAC trade. The collective mindset must move away from the current hit-or-miss recruitment tactics and rules-of-

thumb training approaches. As an industry, we must focus on field testing and measuring entire systems, including the ductwork, to ensure consumers achieve the efficiency and comfort they want and deserve. Every member of the HVAC supply chain must be responsible for improving training and using it to attract younger people who love it.

Measuring goes beyond the numbers. It also includes interpretation of those numbers and communicating them to customers in easy-to-understand language that helps them in their purchase decision-making. To quote the late Rob Falke of National Comfort Institute, “If you’re not measuring, you’re just guessing.”

Since more consumers are willing to pay higher prices for eco-friendly systems, this is a golden opportunity for High-Performance HVAC Contractors.

### 2023 LOOKING GOOD

Overall, 2023 is poised to be a huge year for the HVAC industry, with the central issue in meeting the increasing demand for products and services across the nation. Creativity, communication, and the willingness to test every service and installation project can help you set your business ahead of competitors and meet customers’ demands.

And, oh yes, you must charge the correct prices to continue successfully serving your customers in 2023 and beyond. 



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# Five Key Considerations for Building Your Annual Marketing Plan



**E**very HVAC business must have a marketing strategy as a plan of action designed to promote and sell its products and services. The ultimate goal of a marketing strategy is to identify solutions by understanding the needs and wants of your customers. To do this effectively, you must create a budget and a plan for your business.

Generally, most business owners tend to be reactive rather than proactive. Many tend to take on the entire burden of marketing themselves rather than having another employee, part-time or full-time, take ownership of marketing tasks and vendor relationships. There should always be someone in the business who can fully take ownership of marketing so the owner can focus on the rest of the business demands.

Your marketing plan needs to lay out a blueprint for everyone to follow quarter by quarter. Having a predetermined plan for all your marketing campaigns laid out ahead of time allows your team to stay on top of opportunities and have “levers” ready to pull during slow and shoulder times throughout the year. This also reduces the last-minute stress of throwing something together and generally can save your company money by avoiding the extra costs of rush design jobs and services.

When creating your annual marketing plan, be sure to consider these five items:

## 1. KNOW YOUR NUMBERS TO DEFINE YOUR GOAL

Knowing your numbers is most important. Before you can create a budget for the upcoming year, you must first know your sales and revenue growth goals for the current year. Look at your historical data for the last three years in business

and identify total revenue, total percentage of growth, extreme weather patterns, and other outliers that could have affected business. The exact data that you should consider should be:

- Number of new customers year-to-year
- Average installation ticket
- Average overall closing rate percentage
- Average service ticket by season
- How much you previously spent on marketing overall and quarterly
- Overall average daily call count and seasonal call count
- Overall membership conversion rate (How often do you successfully convert customers to your maintenance plan?).

Once you review these numbers and identify trends, possible weaknesses to address, and your current call capacity, you can begin calculating your new marketing budget to accomplish this year’s growth goals.

## 2. COVER ALL YOUR BASES

Pay attention to all your products and services, not just equipment replacements. I understand that the big-ticket installations make the most money and demand the most attention, but don’t lose sight of your service offerings. New customers are the lifeblood needed to grow your business. Your service calls are the easiest and most cost-effective way to sell “**club**” agreements and new systems.

In addition to service, don’t forget the subsidiary products and services you offer, such as plumbing, IAQ (Indoor Air Quality), generators, fireplaces, water heaters, blower door testing, insulation, duct cleaning, and electrical. Spend time creating a schedule to highlight these additional services, especially to your existing customer

OFFERS	Q1	Q2	Q3	Q4
 SERVICE				
 REPLACEMENT				
 IAQ				
 MAINTENANCE CLUB				
 YEARLY BRAND FOCUS				

This is an example of what a quarterly marketing *special offers* planning chart looks like, courtesy of Crystal Williams of [LemonSeed Marketing](#).

base who already appreciate you and may not know you offer them.

Use special offers to generate more maintenance agreements every quarter but be careful not to undercut your current annual agreements.

Last but certainly not least, be sure not to forget existing VIPs. Your club/maintenance members are your devoted customers and should always have their own exclusive offers for their loyalty.

You should have special offers quarterly targeted to these five groups of customers: installation, service, other products and services, membership growth, and existing club members.

### 3. IDENTIFY ALL OF YOUR OPPORTUNITIES EARLY

In which annual local community events do you plan to become involved? Create a calendar of these events and identify them by quarter and potential cost.

Now is a great time to reference your historical marketing spending data. Do you want your business to participate in any new or additional events? Think about local marathons, firework displays, farmers' markets, festivals, parades, high school sports, and county fairs. By identifying these events and opportunities early, you can budget accordingly and be more creative and proactive with your participation and advertising.

Are you using any manufacturer

co-op or distributor loyalty programs/rewards? You would not believe how many panicked calls we get at year's end because contractors have thousands of dollars of co-op or rebate money left on the table to use before January 1st. Work with local distributors and manufacturer reps to find out what help they can offer.

Again, do not only focus on your main equipment line. Be sure to work with the manufacturers and distributors of your additional products and services to determine what resources are available to you for everything you sell. Most manufacturers will have specialized financing offers that change quarterly, along with the marketing materials you can use to help advertise these programs.

Does your local distributor offer equipment that you can use for contest giveaways or charitable giving? Find out at the beginning of the year if this is available. Distributors are a great resource if you plan a "gift of heat" campaign during the holidays.

Are there any local organizations or charities you already work with or want to work with? Again, identify these organizations ahead of time and have a budget set aside for them.

You should consider which local organizations align with your business and its values. For example, if animals are a big deal for your company brand, prioritize any causes that help animals. Focus on one cause you want people to associate with your brand. Then use this metric to help you decide which local events to get involved in.

### 4. EXPECT THE UNEXPECTED

Even your best-educated guesses

will not prepare you for every unknown obstacle this year. The good news is that if the last few years have taught us anything, it is that "stuff happens." We live in some exciting times: extreme weather, equipment shortages, drastic regulatory changes, labor shortages, and inflation. In addition to your primary marketing campaigns, have at least two to three other campaigns ready for emergencies. Examples of this may be an additional direct mail piece or a customer letter ready to drop when things look like they are slowing down.

By the way, you should always plan on using some of your marketing for hiring. If your goal is for growth, your labor force will also need to grow. One excellent option to increase the effectiveness of any [Indeed](#) ad or social media job posting is to ensure you have an actively updated career opportunities page on your website. This page should include video testimonials from current employees, an employee referral program, and branded business cards with a QR code linked to your career opportunities page.

### 5. COMMUNICATE WITH YOUR VENDORS!

Your vendors are vital to your marketing success. They are your partners in executing marketing plans. No marketing plan will work if you don't communicate with vendors what the plans are in advance. Evaluate your vendors and clearly understand what services they offer and what you signed up for.

Examples of such vendors include:

- Your website company and/or digital advertising company
- Local advertising agencies
- Local radio stations



- Your direct mail/social media marketing providers
- Full-service marketing management company.

Make sure you know what your costs are and budget accordingly.

By considering all five of the above points as you plan your marketing for the year, you will be well on your way. However, success only comes with implementation and consistency. The most significant difference I find between contractors who grow their businesses and those who stagnate are these two things:

**Implementation** is the key to any best practices or plans for your business; they only work if you activate them.

**Consistency** is the other most crucial piece. Far too often, we are expecting instant results from a long-term game. So many contractors try something once and drop it after two or three weeks because it didn't instantly produce. This is a huge mistake.

Marketing and branding are a series of touch points and impressions that build awareness and trust with your customers. Don't be afraid to stick to your plans. Switching campaigns constantly is drastic and often costly.

Being intentional about planning your marketing will pay off, especially if you stay focused and actively implement your strategies. 



**Colleen Keyworth** is the director of sales and marketing for [Online Access, Inc.](#), an HVAC web marketing company located in Michigan. She is also president of the Women in HVACR organization

and newly-elected president of the International Network for Women in Cooling. You can reach her at [ncilink.com/ContactMe](https://ncilink.com/ContactMe).

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**SUMMIT EARLY BIRD DEADLINE IS FAST APPROACHING**

Have you made plans to join the High-Performance HVAC family for National Comfort Institute’s (NCI) 21st Annual Summit? If not, now is the time to do so. **Our early bird registration discounts end on February 18th.**

Here is the breakdown for our early bird pricing:

NCI has special registration pricing. If you bring three or more people, you qualify for the biggest discounts available.

**NCI Premium members** get a free registration for the first attendee. A second registration saves you \$100 off the standard member \$645 price. If you bring three or more attendees, you qualify for our three-pack price which saves you an additional \$50 (\$495) per attendee.

Again the deadline for registering to get these discounts is Feb, 18, 2023.

**NCI Learning Excellence members** pay only \$595 for the first attendee. A second attendee will only cost \$545. If you bring three or more attendees you’ll pay only \$495 each. This offer ends on Feb. 18, 2023.

**Regular NCI Members** only pay \$695 for the first attendee, \$645 for the second attendee, and \$595 each for three or more attendees.

**Non-Members** only pay \$895 for the first attendee, \$745 for the second, and \$695 each for three or more attendees. This pricing ends on February 18, 2023.

**So don’t wait.** Time for discounts is running out. Join your fellow High-Perfor-

mance HVAC contractor peers in Branson, MO, from April 16th to 20th, 2023. Get all the details here: [gotosummit.com](https://gotosummit.com).

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The interactive Opening General Session that kicks off NCI’s High-Performance HVAC Summit 2023 will include a multimedia introduction, immediately followed by an interactive game show called **“Reach for the Summit.”**

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Then, everyone in the audience has the opportunity to vote via the **NCI Summit 2023 mobile app** for the answer they think is correct.

After the correct answer is announced and the point given, our ‘commentators’ David Richardson and David Holt (the “Davids”) will expand on why that answer is correct.

The contractor contestants earn points for correct answers as they climb the Summit scoreboard.

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**NCI ANNOUNCES TWO NEW PARTNERSHIPS**

In December, National Comfort Institute (NCI) announced a new partnership with [Tru Tech Tools, Ltd.](https://www.trutechtools.com) to provide tools and instruments to the HVAC and building performance industries. NCI CEO and President Dominick Guarino is pleased to announce two additional new tool and instrument partners: [The Energy Conservatory \(TEC\)](https://www.tecconservatory.com)



and the [Sauer-mann Group](https://www.sauer-mann.com).

As a result, TEC and Sauer-mann join Tru Tech Tools in the ranks of partners in the NCI Member Rewards Program and will join the NCI team in Branson, MO, as part of the [High-Performance HVAC Summit 2023](https://www.gotosummit.com).



As part of these partnerships, NCI no longer directly sells tools and instruments through its own website. Instead, they link to an NCI-branded page on the TruTech website at [nclink.com/trutech](https://nclink.com/trutech) and [ncilink.com/Sauer-mann](https://ncilink.com/Sauer-mann).

**TEC products will be sold directly from the TEC website, especially their Digital TrueFlow® Solution.**

Through its website, NCI will continue selling resale products and proprietary support materials, including CO monitors, duct saddles, clipboards, labels and tags, and brochures. They will also continue to sell hats, shirts, mugs, and other NCI-branded products through their [Swag Store](https://www.nci.com).

If you have any questions concerning this announcement or how the NCI Member Rewards Program works, be sure to call our Customer Care line at 800-633-7058. 

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Dominick Guarino

**Editor-in-Chief and Associate Publisher**  
Mike Weil

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Brian Roseman

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Andrea Begany-Garsed

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# High-Performance HVAC Summit 2023: The Wisdom of the Crowd



**Dominick Guarino**  
is publisher of  
*High-Performance  
HVAC Today* magazine  
and CEO of National  
Comfort Institute, Inc.  
He can be reached at  
[ncilink.com/  
ContactMe](http://ncilink.com/ContactMe)

**N**CI's 20th Annual High-Performance HVAC Summit is right around the corner. Are you wondering if you should go this year, or what will be so different than all the other conferences out there?

For starters, Summit is the only conference in our industry totally focused on helping contractors implement NCI's High-Performance approach to service, sales, installation, and system renovation.

Summit is **NOT** an industry group rah-rah meeting. It's a down-to-earth serious conference for HVAC professionals who choose to not be the typical HVAC company focused on just fixing and swapping boxes.

If your goal is to be the very best, deliver quality and highly-performing systems — and then be able to prove it to customers with real data — then Summit is the right conference for you.

We will feature many of the sessions participants look forward to each year, including our general sessions, great social events, and time with our industry partners.

We will also continue to feature mainstays like hands-on training in **Low-PerformanceTown**, and our traditional Awards Banquet honoring the best of the best High-Performance Contractors.

## A NEW APPROACH

What is truly different this year is our workshop format. We will take a brand-new approach that breaks the traditional “seminar” pattern. Here's how it will work:

Attendees will be divided into four teams. Each team will go through four discussion-style workshops over the course of the three-day event. Each workshop will be led by an NCI instructor who will moderate the session and keep it on track.

The goal is to draw from the “**Wisdom of the Crowd**” so attendees can share their successes and failures in each area of the agenda.

Participants will be able to learn from each other and the workshop leader to identify solid best practices. This knowledge is sure to help you make High-Performance an integral part of your company's culture and business model.

The bonus is **all sessions will be recorded** and available to every Summit Attendee so you can review not just your four sessions but the other three sets of sessions from the other teams.

In all, you'll be able to review 16 workshop recordings once Summit is over! This will allow you to extend learning far beyond Summit Week to help you and your entire team implement solid best practices year-round.

**Let's look at an example:** One of the four workshops is focused on generating profitable leads through testing on service calls. The session will focus on:

- Teaching techs why they should test, as well as when, what, and how to test
- Communicating findings to customers
- Seasonal prioritization of leads
- Hand-off to sales: Replacements vs Upgrades.

Remember, this isn't a typical seminar with a speaker sharing information. Instead it's a discussion on each of these key areas, so the team can distill it to best practices you can take back to your company.

So don't delay. Point your browser to [GoTo-Summit.com](http://GoTo-Summit.com) to learn more and register.

Be sure to bring at least two more from your team and get a 3-seat discount. Combine that with our [Early Bird Rates](#) and save even more!

Remember, NCI Members also get special pricing and can apply their [NCI Training Bucks!](#)

**See you in Branson!** **NCI**



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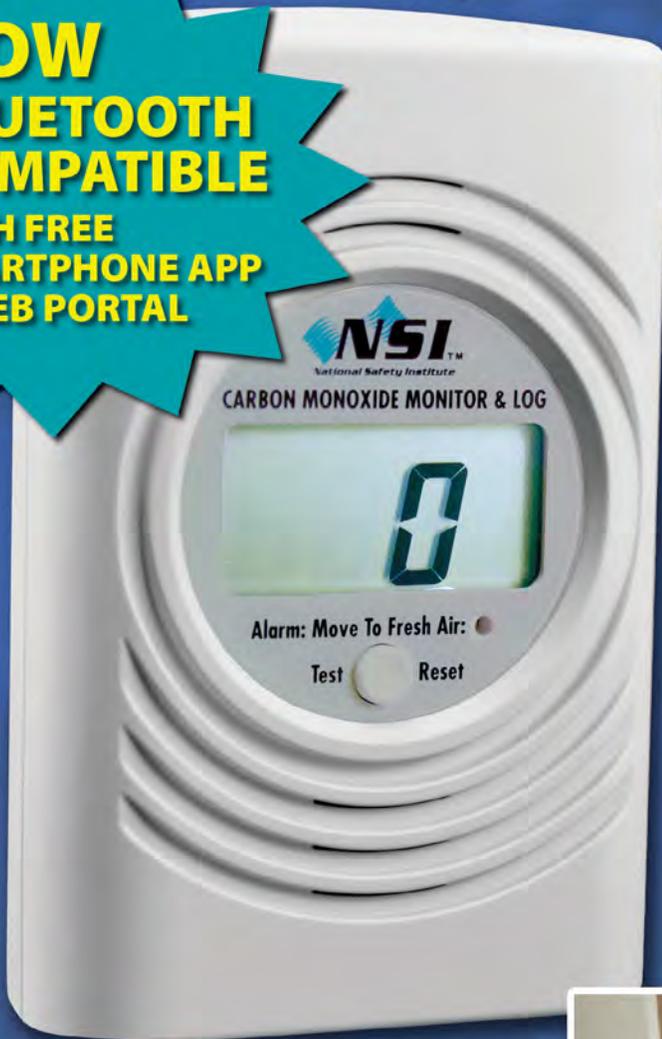


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