Residential HVAC Contractors: Sell "Total Cost Of Ownership" And Win

By Dominick Guarino, Chairman & CEO, National Comfort Institute

Talking to consumers about the total cost of owning and operating their mechanical systems is a different approach to residential HVAC sales.

A residential HVAC system's **total cost of ownership includes:**

- Cost of new equipment or the cost of renovation
- Ongoing operating (gas/electric costs)
- Equipment reliability and longevity
- Good lungs (non-leaky duct systems)

These things can be combined into a sales package that will differentiate the performance-based contracting firm from all others.

For many years my organization has focused on teaching contractors how to sell safety, health, comfort, and energy efficiency. Here's a brief breakdown as to why:

SAFETY — Not all contractors are the same when it comes to safety. Typically, a performance-based contractor's field people are carbon monoxide safety and combustion certified. If a competitor's field people aren't so certified, it's unlikely they sell the safest possible system.

HEALTH — A good system can improve the healthiness of a home by reducing dust, biological growth, and allergens. A performance-based contractor can solve the root causes of these issues through proper testing and diagnostics.

COMFORT — It's the reason our industry exists. Besides equipment performance, a total home comfort approach focuses on balanced air flows and temperatures. A performance-based contractor identifies the causes of comfort issues, provides real solutions, and "tests-out" to prove he or she fixed them.

ENERGY EFFICIENCY — In most cases, when the first three elements of performance are properly addressed, energy efficiency is achieved. There are other factors, including equipment efficiency and how a home gains or loses BTUs.

The problem with energy efficiency as a primary sales approach is this term is so misrepresented and overused. Sellers of HVAC, windows, doors, insulation, siding, roofing, house sealing, appliances, and so on, all promise to reduce customers' bills by 20% to 40% or more.

When it comes to home and HVAC system performance, maybe it's time we stop using energy efficiency as our main sales pitch. Efficiency is just one component of operating costs. What if we began talking in terms of "total cost of ownership," where efficiency is a key component, but nowhere near the whole story?

What is Total Cost of Ownership (TCO)?

TCO includes the initial cost of the equipment and/or system renovation — plus ongoing operating costs. It drops greatly when you correct the performance problems equipment replacement alone cannot address. One important aspect of TCO is the reliability and the longevity of the equipment itself. If system issues aren't addressed, the results often are equipment components that wear out prematurely, which leads to unplanned service and maintenance.

If a unit is replaced without addressing an undersized and/or leaky duct system, performance suffers. Restricted airflow causes premature compressor and

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heat exchanger failures, and excessive mechanical component wear. The leaks can also introduce unwanted dust and other particles, as well as moisture and loss of BTUs.

TCO is simple: Show the difference between replacing equipment and providing a total solution.

Let's use an example to illustrate how Total Cost Of Ownership works:

The Jones family calls us out for an estimate to replace their 15 year old Furnace and Air – they are getting 3 quotes, and we are the second company in the door.

The existing system includes an 80% Furnace, and a 10 SEER (9 EER) AC Unit. Because we are a Performance-Based Contractor, we measured delivered system efficiency and found that only 58% of the BTUs are delivered into and removed from the home. We get this from the home's HSER calculations in Heating Mode, and/or CSER in Cooling Mode.

Based on a combination of air distribution issues, duct leakage and high statics, delivered airflow is very poor, delivering only 58% of the equipment's output capacity into the space. We're going to use the same 58% to evaluate the heating side as well – most of the time these two are very close.

In this first example, we propose an equipment replacement with a 16 SEER unit, 90% furnace package with a selling price $13,000. This is likely what the competition proposed as well.

Since the existing 80% furnace and 10 SEER air conditioner are delivering 58% of capacity, the new equipment would do the same, even though it has higher SEER and AFUE ratings. (usually worse, because newer equipment can be even more adversely affected by duct system deficiencies through longer run times).

We then calculate that by just replacing equipment they will get an 11.1% reduction in heating costs, and a 31% reduction in cooling costs. At face value, that doesn't sound too bad, right?

Here are the calculations to come up with these percentages:

- Old Furnace 80% AFUE X 58% HSER = 46.4% Effective Delivered Efficiency
- New Furnace 90% AFUE X 58% HSER = 52.2% Effective Delivered Efficiency.
- Savings in gas usage = 1- 46.4/52.2 = 11.1% Savings

The next step is to determine how much of the home's annual gas bill was from the heating system.

This is a simple process. The key is to get the customer to share the last 12 month's gas bills, so you can "Disaggregate" heating costs from other gas appliances like water heating, cooking, etc.

It's 4 simple steps:

1. Add together 12 months gas bills = $1,700
2. Find 3-4 months with lowest bills (typically summer) and average = $33.33
3. Establish Annual Baseline - Multiply by 12: $33.33 X 12 = $400
4. Subtract Baseline from total $1,700 - $400 = $1,300 (Heating Portion of the Bill)

If Annual Heating Usage for last 12 months was $1,300, with the new equipment savings of 11.1% it would have been $145 less for a new cost of $1,155/year.

Notice I said "would have been." It's important to never promise savings – all we can do is estimate potential savings based on all things staying the same, weather, utility rates, and most important, "Occupant Behavior."

Next we calculate cooling savings:

- Old AC 10 SEER, 9 EER @ 58% HSER = 5.22 Effective Efficiency
- New AC 16 SEER, 13 EER @ 58% HSER = 7.54 Effective Efficiency
- 1- 5.22/7.54 = 30.8% Savings

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Next we disaggregate the cooling costs as follows:

1. Add together 12 months electric bills = $1,350
2. Find months with lowest bills (typical winter) and average = $82
3. Establish Annual Baseline –by multiplying by 12: $82 X 12 = $984
4. Subtract Baseline from total $2,334 - $984 = $1,350 (Cooling Portion of the Bill)

If Annual Usage for Cooling last year **was** $1,350, with the new equipment savings of 30.8% **it would have been** $415 less for a new cost of $935/year.

The final step is to calculate the combined TCO:

1. $145 Heating Savings + $415 Cooling Savings = $560
2. 10-year potential savings = $560 X 10 = $5,600
3. Initial System Cost: $13,000

TCO = $13,000 (Initial Cost) - $5,600 (potential savings) = $7,400

Annual TCO = $7,400 / 10 years = $740/year

Plus we haven't even talked about the fact that we didn't address Comfort and Health issues, and could have potential safety issues from not fixing air distribution deficiencies, but let's leave that alone for now.

TCO With Replacement and Renovation

Now let's look at the same customer's home, but this time we perform a $5,000 system renovation which brings the Delivered Efficiency from 58% to 90% – a good renovation should yield high 80s to low 90s.

In this second example we replace the furnace with a 100,000 BTUH 80% induced draft instead of a 90%, and install a 3-ton 14 SEER (12 EER) AC system instead of a 16 SEER. The equipment price drops from $13,000 to $10,000, so when you add in the renovation the total price is $15,000 (with a much higher net profit margin as well).

Our Total Price: $15,000 ($10,000 for Furnace & Air, $5,000 for Renovation)

With 90% delivered performance we calculate that the new system will reduce heating costs by approximately 36% and cooling costs by about 52%

Once we perform similar calculations to those in the first example, we find the TCO for the replacement with system renovation is just $340/year. That's $400 per year less cost than the higher efficiency replacement, for a 10-year savings of $4,000. And that's after the system is fully paid for at the higher initial cost.

Think about how the TCO approach can differentiate your company, especially if you are a performance-based contractor who has the training, tools, and systems to deliver total home performance — because it's a known fact HVAC system performance is the heart of a home's performance!

As Chairman and CEO, Dominick Guarino has grown the company from the ground up along side President Rob Falke, into the HVAC industry's largest independent training and certification organization. He co-founded NCI in 1994 with Rob (originally National Balancing Institute). NCI has also grown into a premier membership organization focused on every aspect of helping HVAC contractors. Dominick oversees all aspects of operations, new product introductions, and sales and marketing for the company. He also manages NCI's business management, sales and soft skills training team. He presides over NCI conferences and participates in HVAC industry conferences and meetings.

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