


# Utility Energy Efficiency Services

Performance-Based Solutions for rate-payer comfort and efficiency concerns



If You Don't Measure,  
You're Just Guessing!<sup>TM</sup>



The typical HVAC system delivers less than half of its design capacity to the occupied space that it serves. Few realize this stark reality, because until now, it hasn't been the industry's standard practice to measure installed system performance.

National Comfort Institute, Inc. (NCI) pioneered the concepts behind HVAC system performance measurement. We offer services to help utilities embed these concepts in energy efficiency programs, providing greater transparency and confidence in program success.



## Education & Training

The foundation of Performance is a technician and contractor base that knows how to measure and deliver it. NCI offers both technical and business training and certifications nationwide.

### Transform the contractor market to deliver Performance

For an immediate improvement in the quality of service delivered by HVAC contractors participating in utility programs, utilities can require and subsidize turnkey NCI training.

The benefits of workforce development are not limited to a single program. Contractors that embrace the principles taught by NCI transform their businesses to deliver superior service to customers.



## Demostration Projects

NCI offers small scale demonstration projects to exhibit the performance measurement and improvement process in action. We can work with utilities to select one or more buildings or homes and implementation contractors in your area. Utility and program managers can directly observe, or even participate in, field measurements and data entry into ComfortMaxx. NCI will then work directly with the selected contractor(s) to craft a proposed scope of work. If desired, the scope can be implemented and a second performance test can be conducted on each system that was improved.

This service provides you as the utility a real example of performance improvement in your service territory. Where interval meter data is available, we can also perform a meter-based savings analysis after 6 to 12 months of post-improvement operation. This analysis links the measured system performance improvements to savings at the meter.



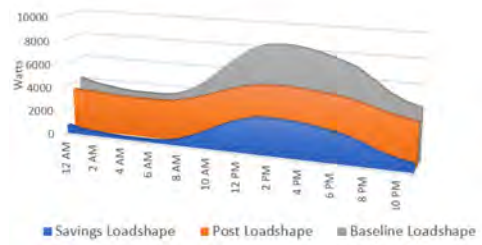
## Pilot Programs

NCI can design a pilot program to simultaneously prove the concept of performance-based savings in your service territory, generate energy savings claims, and prepare the local contractor market for future scaled program deployment.

### See Performance in Action

Pilot programs can be designed to answer your unique questions within a budget that works for you, right now!

**Change in Cooling Season HVAC End-Use Loadshape, 28k SF Office Building, Post-renovation**



The chart above shows renovations improved average system performance by 22% and reduced annual HVAC energy use by over 19%, while reducing the HVAC contribution to peak load by over 50%!





## Performance-Based Program Design

NCI offers consultation on performance-based HVAC program design. Our team has extensive background in energy efficiency program design including savings estimation, policies and procedures, incentive design, training requirements, quality control, and measurement and verification plans.

### Embed Performance into HVAC program offerings

Performance measurement can be embedded into nearly any HVAC program offering. Program types that can benefit include, but not limited to:

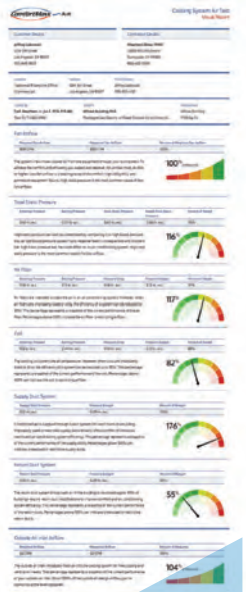
- Quality Maintenance
- Retro-commissioning
- System Renovation
- Retrofit Add-On
- Early Retirement/ Replacement
- Quality Installation
- New Construction



## Performance Measurement Software



ComfortMaxx™ cloud-based software simplifies the performance measurement process for technicians in the field. The software allows them to easily capture field measured data and calculate delivered performance. The software produces reports to help diagnose system deficiencies and demonstrate them to the customer. With this data, the contractor can create a scope of work, and sell the improvements. ComfortMaxx can be licensed and customized to capture data to support a variety of utility programs.



Sample consumer report from ComfortMaxx



## Measurement & Verification Services

Do you need assurance that a program is actually delivering the Performance it claims to? NCI has a highly trained team of Performance measurement professionals who can efficiently and effectively verify the delivered performance and efficiency of any HVAC system.

This service can be deployed as a quality control step internal to the program, or can be added to traditional third-party EM&V for a higher level of assurance that programs are performing as intended.

Our engineering team can advise on EM&V plans, and can assist in analysis and interpretation of performance measurement results.

NCI employs a team of professionals with deep experience in utility program management, design, training, implementation, and measurement and verification.

NCI has a long history of delivering training and services to utilities large and small. Our utility clients include:

- Austin Energy
- Southern California Edison
- Xcel Energy
- CPS Energy
- Holy Cross Energy

## Decades of Experience

“As a Utility, the NCI system performance classes have provided an opportunity to reconnect with contractors in a mutually beneficial way. Recognizing the importance of Performance-Based Contracting; a tool loan program is now in place to help contractors realize the benefits of the program and help them kick start performance contracting.”

— **Kim Spickard,**  
Xcel Energy

## Contact NCI

**National Comfort Institute**  
PO Box 147  
Avon Lake, OH 44012  
800-633-7058

Mel Johnson  
Vice President of Utility  
Programs  
714-771-9089  
[melj@ncihvac.com](mailto:melj@ncihvac.com)

