



2018 Commercial Building Industry Survey Results

Survey data from 42 industry respondents obtained in August – September of 2018.

Results provided to NCBPA Member professionals and non-Member respondents.

Results Release Date: October 1, 2018

Thank you survey participants!

Wow, what an amazing response to our annual commercial survey! While we aren't sharing the names of the 42 individuals that responded, I'd like to make sure that those persons know that *we know* who did and *we thank you* for your time and thought in taking the survey. This was a lengthy survey but received valuable responses from a wide variety of industry professionals that you can explore further below. Thank you for your support!

The results of this survey will help NCBPA address the most pressing needs and opportunities our industry faces with your direct feedback. More importantly, we're sharing the raw results so that your business can benefit as well! We've removed information we deemed sensitive but comments that were both positive and negative about our industry remain – this feedback needs to be known!

Our analysis identified several items that NCBPA will focus on in the coming months that include:

- Developing a formal needs assessment for the wide-ranging but critically important topic of consumer education.
- Pushing forward with our existing Workforce Development activities using the recommendations you provided to us better recruit and retain workers.
- Identifying activities that improve code requirements, rebate opportunities, certifications, and performance measures that are valued in the commercial building industry.
- Exploring perceptions on energy efficient products, systems and practices that can better help both the client, supplier, and longevity and productivity of the building.

One item that is of great interest to NCBPA reflected in the survey is how positive you are feeling about the current commercial building industry. One respondent replied “There is a shortage of skilled and dedicated labor for the positions we need to fill. There is a long way to go in educating building owners and operators about the benefits of high-performance building.” Perhaps it's coincidence, but workforce development and consumer education are two of the four priorities found in [NCBPA's strategic plan](#) that our Board of Directors created in early 2017. NCBPA has been increasing our work in these areas ever since and we are excited to see that it remains aligned with your industry concerns. We welcome your continued suggestions for how NCBPA can support our industry moving forward and hope that all respondents will continue to participate in our work, hopefully as a member professional! Not a member? Joining is quick and easy at www.BuildingNC.org.

Please enjoy the responses below in the Executive Summary, pulled and compiled directly from the 9 sections of the survey. As always, our staff is happy to address your questions and comments!

Very best regards,

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Section 1 – Demographics

1) Contact information was provided by participants.

2) What is your company's primary/majority role in NC's commercial building performance industry?

Answer	0%	100%	Number of Responses	Response Ratio
Architect or Designer			3	7.1%
Commissioning Agent/Engineer			2	4.7%
Consultant			3	7.1%
Engineer			1	2.3%
Facility Manager			0	0.0%
General Contractor or Developer			2	4.7%
Lighting Contractor/Provider			0	0.0%
Mechanical, Electrical or Plumbing Contractor			0	0.0%
Nonprofit, Association, Municipal or Government			2	4.7%
Product or Service Provider			7	16.6%
Specialized Contractor (Envelope, Moisture, etc.)			3	7.1%
Third-Party Auditor, Certifier or Verifier			2	4.7%
Utility			1	2.3%
Other (View all)			4	9.5%
No Responses			12	28.5%
Totals			42	100%

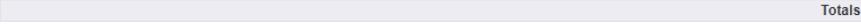
3) What are the 3 most common types of buildings that your company works in?

Answer	0%	100%	Number of Responses	Response Ratio
Agriculture or Industrial			4	13.7%
Warehouse			1	3.4%
Small Retail			4	13.7%
Large Retail			3	10.3%
Education or Schools			13	44.8%
Office			8	27.5%
Healthcare Facilities			6	20.6%
Government Buildings			6	20.6%
Public Buildings			4	13.7%
Private Buildings			13	44.8%
Lodging			5	17.2%
Transportation			1	3.4%
Other (View all)			7	24.1%
Totals			29	100%

Comments:

- Energy Provider
- Single and multifamily residential, some mixed-use, clinics, schools, churches, etc.
- Small Occupancy (6 Persons or Less)

4) How many employees does your company have in North Carolina?

Answer	0%	100%	Number of Responses	Response Ratio
1-9 employees			11	26.1%
10-49 employees			7	16.6%
50-99 employees			1	2.3%
100+ employees			5	11.9%
Other (View all)			5	11.9%
No Responses			13	30.9%
Totals			42	100%

Comments:

- Corporate center is located in Davidson, with ~2000 people. Facility in Mocksville and other sales/service/contracting employees provide additional people.
- We are located in Lawrence, KS. I am aiming for increased participation in the NC market, though.
- Self-Employed
- We work with assets in NC (Raleigh and Charlotte)

Section 2 – How are you feeling about our industry?

5) How positive do you feel right now about each of the following industry topics?

1 = Not positive at all , 2 = Not very positive , 3 = Neutral , 4 = Somewhat positive , 5 = Very positive

Answer	1	2	3	4	5	Number of Responses	Rating Score*
Workforce development - attracting new workers and retaining existing ones						23	3.1
Consumer education - owners and operators are knowledgeable about building performance						23	2.9
Policy and regulatory - a supportive business climate at the local and state level						23	2.7
Product innovation - new and beneficial products are available and providing solutions						23	4.2

Comments:

- Technological and aesthetic advances are great, but specifiers are still going with old products they have used for years.
- There is a shortage of skilled and dedicated labor for the positions we need to fill. There is a long way to go in educating building owners and operators about the benefits of high-performance building. Everyone is concerned only about upfront cost. Policy is a mixed bag around the country, but lacking at the federal level, and not great in NC at the moment.

6) One-word answer: What does your company need to grow and prosper?

Top three responses were:

1. Trained workforce
2. Demand/Business
3. Education and Development

7) Short answer: What concerns you the most about the future of NC's commercial building performance industry?

Responses:

- Available, motivated, educated technicians, engineers, operators.
- Some who are in charge of allocating funds for performance improvement related projects are not interested in saving energy costs since it is not "visible" (i.e. K-12 schools). Energy engineers want to save utility costs but can't get approval from above.
- Regulatory atmosphere and the skilled workforce to implement construction accurately and appropriately as well as those that provide oversight and management of it.
- The industry's inability to educate consumers and building owners and policymakers on the full benefits of energy efficiency investments.

- Lack of code enforcement with the current energy code. Designers design the building properly, but it is not constructed as it is drawn and specified.
- Lack of support.
- Energy costs are too low to prompt owners/occupants to act on efficiency.
- The overall health of the construction industry.
- Zoning Regulations are limiting the design and size of homes.
- How difficult it is to work with site supervisors and architects/designers on commercial projects.

8) List any ideas you have for how NCBPA could support your company and others like it in lowering the cost of doing business.

Responses:

- Policy that motivates and drives state and local governmental units to engage in energy efficiency projects. Also, workforce development initiatives that significantly improves the funnel of trained and motivated talent.
- As an architect I am constantly disappointed in the quality of the workforce in review and implementation of regulations. Building regulations are a specialty of ours and we are constantly needed to educate the code enforcement personnel on what the regulations mean and how they should be applied.
- I am more concerned with growth than I am with cost reduction. Consumer, commercial building owner, and policymaker education on what our industry can bring to them would be more important.
- Insurance.
- We address building envelope energy and moisture issues. Tax and other financial rebates etc. would help owners act.
- Help to create additional incentive programs and rebates with the State Government, Utility Companies, and Federal Government for Energy efficiency, Solar, Geothermal, and Homes exceeding current code.
- We have lowered it as much as possible, now need customers, which is drastically improving at this moment.
- As a product supplier, we would most benefit from educational efforts targeted at building owners, design professionals, builders, and developers. A policy push to either mandate higher levels of performance, or to create incentives for it, would be even better.
- Job Fair, Local Community and College Advertising.
- Increased recognition of national qualifications for third party engineers and inspectors rather than local and micro-local code official approval.

Section 3 – Workforce Development

9) Is your company having difficulty finding and retaining entry-level works related to commercial building performance trades? What about for more experienced workers?

Answer	0%	100%	Number of Responses	Response Ratio
Yes to entry-level workers			4	9.5%
No to entry-level workers			0	0.0%
Yes to more experienced workers			6	14.2%
No to more experienced workers			1	2.3%
Other (View all)			6	14.2%
No Responses			24	57.1%
Totals			42	100%

Comments:

- No trouble finding entry level workers, but having trouble finding more experienced and qualified workers.
- The quality of job seekers and applications is poor. Virtually everyone that is knowledgeable is employed.
- Filling and retaining positions on the factory floor has been a real challenge in KS, though I understand it is a nationwide problem.
- IAQ is having difficulty due to the specialty nature of the industry.
- We are not having trouble hiring workers who are interested in designing efficient buildings. We usually have far too many unqualified candidates applying for design posts for both entry-level and experienced positions. After sorting through we usually find the right hire.

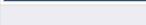
10) If you know, does your company plan on hiring new employees over the next 12 months? 3 years? 5 years?

Answer	0%	100%	Number of Responses	Response Ratio
No			3	15.7%
Yes - 12 months			10	52.6%
Yes - 3 years			5	26.3%
Yes - 5 years			4	21.0%
Other (View all)			2	10.5%
Totals			19	100%

Comments:

- Need 6-7 BAS technicians now.
- Goal is to continue to grow and hire every year.
- We need more factory labor. There will likely also be front office positions for which we will hire within 12 months.
- The IAQ is an industry for existing homes and buildings.
- We are hiring now, but it's hard to predict how long we will need to continue to do so.

11) Where does your company have the most success finding qualified employees?

Answer	0%	100%	Number of Responses	Response Ratio
Current employee referrals			8	47.0%
Online job site			2	11.7%
Your company's own website			2	11.7%
High schools			1	5.8%
Colleges or Universities			5	29.4%
Local job placement resources			2	11.7%
Other industry companies			4	23.5%
Other (View all)			3	17.6%
Totals			17	100%

Comments:

- BPI - Building Performance Association, IAQA - Indoor Air Quality Association.
- Headhunters, technical staffing companies.

12) About what percentage of your company's workforce is made up of entry-level workers (less than 3 years' experience)?

Answer	0%	100%	Number of Responses	Response Ratio
0%			5	11.9%
1 - 25%			11	26.1%
26 - 50%			3	7.1%
51 - 75%			0	0.0%
76 - 100%			0	0.0%
No Responses			23	54.7%
Totals			42	100%

Comments:

- Most consultants come from ResNet, BPI and HVAC Industries.
- We have grown recently, but usually hire people who have worked previously. All new hires are required to complete a training period as an intern to make sure it will be a good fit.

13) Rank the barriers your company faces related to hiring entry-level employees from largest to smallest.

1 = Largest Barrier

Answer	1	2	3	4	5	6	7	8	Number of Responses	Ranking Score*
Lack of required technical skills/certifications									15	1.7
Lack of basic career competencies									15	2.8
Failure to meet minimum education requirements									15	5.8
Drug test failure									15	6.9
Background check failure									15	5.7
Budget issues									15	5.4
Transportation-related issues									15	5.0
Finding eligible candidates to interview									15	2.7

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Comments:

- On the architecture side too many people apply without the necessary skills. In the engineering side too few people apply, but most have the minimum skills required, even if they don't have all the extras.

14) Rank the barriers your company faces related to hiring more experienced employees from largest to smallest. If something else, enter in the comments.

1 = Largest Barrier

Answer	1	2	3	4	Number of Responses	Ranking Score*
Compensation or benefits issues					16	2.0
Workplace conditions (physical labor requirements, etc.)					16	3.5
Finding eligible candidates to interview					16	1.7
Being able to offer professional growth opportunities					16	2.8

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Comments:

- Energy efficiency is perceived as a more lucrative field.
- We find that some of the more experienced candidates have unrealistic expectations when it comes to pay. For higher pay we expect the designer to be licensed, willing to travel and present at conferences, and hold whatever certifications are appropriate for the position.

15) Select the general job roles your company has difficulty hiring for or retaining employees in.

Answer	0%	100%	Number of Responses	Response Ratio
Engineer (software, industrial, mechanical, etc.)			6	37.5%
Energy Specialist/Manager			5	31.2%
Crew lead/supervisor			0	0.0%
Sales or business development			2	12.5%
Advertising or marketing			0	0.0%
Office or administrative			2	12.5%
Design or planning			1	6.2%
Highly technical roles (advanced HVAC, automation, etc.)			4	25.0%
Traditional trades (HVAC, plumbing, electrical, carpentry etc.)			3	18.7%
Intern or apprentice			1	6.2%
Other (View all)			3	18.7%
Totals			16	100%

Comments:

- Building Automation Certification(s).
- We need the fully rounded individuals that understand the entire package of elements within the construction industry from client contact to labor in the field as well as public relations and outreach.
- Very few people are qualified to make energy models. The classic judgment call issue; putting bad assumptions in yields useless information.

16) What credential or certification does your company value the most when hiring workers?

Responses:

- Experienced technicians mainly.
- Professional Engineer (PE).
- Registered architect.
- Am not familiar with overall hiring practices.
- BECx.
- Home Energy Rating Rater.
- At least 5 years of job experience of any type.
- National Fireplace Institute certification.
- N/A.
- HVAC, electrical.
- BPI - Building Analyst.
- AIA.
- ICC Certification, EIT, PE.
- PE.
- AIA or PE.
- Commercial building science background.

17) What, if anything, is your company doing to address issues related to a lack of available skilled labor in our state?

Responses:

- Working with k12's, CC's and universities to institute STEM & Workforce Development programs.
- Keep our eyes and ears open to any and all new hiring opportunities.
- Looking to hire someone who is a good fit that we can send to training to become skilled.
- Currently have a paid intern.
- Unfortunately, there is considerable competition for BPI HHE candidates from ResNet HERS Raters and even BPI Building Analysts due to the critical need for both.
- Relocating staff
- Only hiring people with the drive to attain required skills. And clearly communicating what those skills are in our applications as well as at career fairs. We also do lots of youth outreach to promote interest in our field.
- Hiring folks with no experience but that seem to have the proclivity to learn and work hard

18) Rate your level of interest in NCBPA offering an annual Workforce Development Summit that allows faculty, students and industry companies to collaborate on workforce development initiatives. This could be a standalone event like NCBPA's Sep 20th Summit or held as part of NCBPA's Annual Conference starting in 2019.

1 = No Interest , 2 = Neutral , 3 = Some Interest , 4 = Strong Interest				Number of Responses	Rating Score*
1	2	3	4		
18				18	3.1

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Comments:

- Currently no time to be involved.
- Depends if it includes maintenance technicians.

Section 4 – Apprenticeship Programs and Career Pathways

19) Are you aware of existing apprenticeship programs or industry career pathway resources for our industry? If so, please provide website links or information so that we can research them.

Answer	0%	100%	Number of Responses	Response Ratio
Yes			4	9.5%
No			11	26.1%
Other			0	0.0%
No Responses			27	64.2%
Totals			42	100%

Comments:

- Would like to know about them.
- Community colleges, but not specifically for our work.
- Most community colleges and employers will offer paid training for perspective employees and interns.
- ICC online courses, Air Barrier Association.

20) Rate your level of interest in hiring an Apprentice for a 1 - 3 year term through an established program, if one were to be made available to you.

1 = No Interest , 2 = Little Interest , 3 = Some Interest , 4 = Strong Interest				Number of Responses	Rating Score*
1	2	3	4	14	2.4

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Comments:

- In providing interns, apprentice applicants.
- For maintenance techs.
- Unfortunately, my type of career can offer no such type of opportunity. I can only offer career advisement and mentoring.
- We have our own internship program that is tailored to suit our needs and find reliable full time hires.

21) Does your company have an internal apprenticeship program? Whether or not you do, would you be interested in working through an industry or state-run program?

Answer	0%	100%	Number of Responses	Response Ratio
Yes, and interested in external program			6	14.2%
Yes, but not interested in external program			1	2.3%
No, but interested in external program			2	4.7%
No, and not interested in external program			4	9.5%
Other (View all)			1	2.3%
No Responses			28	66.6%
Totals			42	100%

22) What specific role, job title or skill would your company benefit from if provided through an apprenticeship program for 1 - 3 years? If you are able, estimate what their salary or hourly pay range could be as an apprentice.

Responses:

- Entry level employees.
- Architectural graduate.
- HVAC Engineer.
- Architect.
- Electrical Engineer.
- Assistance Superintendent.
- Assistant Installer of hearth products. 10 per hr. to be raised as person expands their contributions and independent activity.
- Factory labor, with potential for advancement to management. \$15/hr.
- Basic commercial construction knowledge. OSHA certified. 30-38k
- Marketing/admin in energy industry.

23) If interested, describe the best-case scenario you envision, or have experienced, for someone new coming into NC's commercial building performance industry and becoming an experienced professional over time. What does the ideal career path look like?

Responses:

- Practicing architect, registered.
- Assistant superintendent to get hands on experience with the challenges and benefits of building high performing homes. Then becoming a Project Manager to be accountable for profitability, time, and quality. Then they can do almost anything from sales to installation.
- Taking classes combined with independently performed on line courses and on the job training.

- Training, entry-level employment, advancement. Such as BPI or RESNET, going into audits or trades, and moving up to management of self-employment.
- Student/Apprentice, Employee, Technician, Professional, Manager, Consultant, Educator.
- Proper technical credentials/knowledge, and a realistic (not academic) view of the energy business and how hard it is to get energy projects moving forward. Too many young people and students are ignorant of real world politics and barriers to implementing energy projects. They are not being taught anything about this in schools and get a real rude awakening when they hit the work force. Thus, they can become disillusioned quickly because of their unrealistic expectations.
- Appropriate education (and previous experience of not starting at entry-level), demonstrated interest in sustainability through past projects (either in school or professionally), and a good understanding of where they are in their progression of license and certification attainment. Then its just a matter of doing an excellent job, gaining experience incorporating sustainability into their projects, and getting the certifications along the way. The person would continue to keep up with current building and sustainability trends by participating in design competitions and attending conferences and webinars regularly.

Section 5 – Building and Professional Certification Programs

24) Indicate the importance you place on industry professionals having the following certifications.

1 = No Importance, 2 = Little Importance, 3 = Some Importance, 4 = Strong Importance

Answer	1	2	3	4	Number of Responses	Rating Score*
Certified Energy Manager			3		12	3.0
ASHRAE Certifications (multiple)			3		11	3.1
USGBC (LEED) Certifications (multiple)		2			12	2.4
Certified Commissioning Professional		2			11	2.7
Certified Facility Manager		2			11	2.2
Professional Engineer			3		12	3.3
Registered Building Envelope Consultant			3		10	2.8
Certified Passive House Consultant (for commercial use)		2			12	2.4
Professional Energy Manager		2			12	2.1
Building Envelope Science Institute Certifications (multiple)		2			11	2.5

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Comments:

- Not familiar with these
- BPI - Building Analyst or ResNET Analyst.
- Certifications are all that is needed.
- To take the Healthy Home Evaluator Test.
- I have found that CEMs and PEMs are not very knowledgeable and waste a lot of time talking about information that is very out of date.

25) Does your company provide incentives (bonus, time off, promotions) for employees that attain and maintain these types of industry certifications?

Answer	0%	100%	Number of Responses	Response Ratio
Yes			5	11.9%
No			6	14.2%
Sort of			1	2.3%
Other (View all)			1	2.3%
No Responses			29	69.0%
Totals			42	100%

Comments:

- We pay for obtaining the certificates and the time to do so.
- We pay for employees to obtain certs and they get paid for their time.

26) What financial value, as a percentage of total building cost or value, do you believe high performance upgrades, features or products generally add to the market value of a building or project?

Answer	0%	100%	Number of Responses	Response Ratio
Less than 1%			0	0.0%
2 to 3%			3	7.1%
4 to 7%			4	9.5%
7 to 10%			1	2.3%
10% or more			4	9.5%
Other (View all)			1	2.3%
No Responses			29	69.0%
Totals			42	100%

Comments:

- IAQ is a Qualitative Asset and therefore I am unable to determine a value.
- In addition to the value of a building that functions well, there are also a number of health benefits for occupants. And substantial energy savings can be achieved which get to be enjoyed by the owner ever year.

27) What value do you place on the role of a third-party certifier or verifier as part of a project?

1 = No Value , 2 = Little Value , 3 = Some Value , 4 = High Value

	1	2	3	4	Number of Responses	Rating Score*
					14	3.6

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Comments:

- Third party verification is very important to designers to make sure everything is built and installed correctly.

28) Which is more common for your company's projects: to complete and obtain building certifications or to incorporate certification principles or requirements without obtaining the actual certification?

Answer	0%	100%	Number of Responses	Response Ratio
Complete certifications			2	4.7%
Use principles			7	16.6%
Other (View all)			4	9.5%
No Responses			29	69.0%
Totals			42	100%

Comments:

- Seeing a trend that more clients are pursuing the LEED points they see value in and not pursuing those with little value (i.e. bike racks), and therefore many are not submitting for certification. Right now it's about 50/50.
- A HERS rating makes my job easier.

- We have the expectation that our design principles will be incorporated into our projects and into our career paths. These two ideas go hand-in-hand promoting only one or the other will not lead to a cohesive workforce.

29) In your experience, do energy efficient, green or high performance certification programs result in faster, easier or more profitable building or project value and sales?

Answer	0%	100%	Number of Responses	Response Ratio
Yes			3	7.1%
No			4	9.5%
Maybe			5	11.9%
Other (View all)			1	2.3%
No Responses			29	69.0%
Totals			42	100%

Comments:

- Believe projects pursuing certifications will have the opportunity to be more efficient by implementing commissioning processes, however, as shown by the data, not all CxAs are the same and not all certified buildings operate efficiently.
- Perhaps increased value, but often make the process more difficult and/or slower.
- Generally, if a project is going for a certification they have better budgeting, more communication, and clearer goals.

30) List a few of the professional certifications you consistently maintain and any that you are currently pursuing. If able, please provide some comments on how one or each has been helpful in your career development.

Responses:

- PE, CEM, CCP, LEED AP, GGP.
- PE is most commonly required/preferred in RFQs. CCPs are next most common, and the CEM is used often in RFQs for RC and Energy Audits.
- Registered architect, it has been my lifetime!
- LEED Certified.
- Commercial GC License (allows us more control over the repair work we specify needs to be completed to repair buildings).
- BPI Envelope & Analyst (Required for Utility Programs).
- BECx (Required for Envelope Commissioning).
- CxA (Required for Commissioning).
- Certificated Green Professional.

- National Fireplace Institute certifications in Woodburning Products, Gas Products & Pellet Burning Products.
- The certification helps keep up with changes and new information. Also is useful in relating to building inspectors.
- Certified Passive House Consultant (current).
- PHIUS Certified Builder (current).
- BPI Building Analyst Professional (expired).
- BPI Envelope Professional (expired).
- BPI Multifamily Building Analyst (may pursue next year).
- RESNET (almost completed in 2012).
- USGBC LEED GA -> AP (may pursue next year).
- Certified Energy Manager (may pursue in 2020).
- BPI Building Analyst and BPI Healthy Home Evaluator Certifications are required to be maintained.
- IECC, ICC, EIT, PE, NEBB, AABC.
- CEM, CPC (was formerly a PE).
- I dropped the PE because of the expensive maintenance requirements. Certifications are largely a "business" and of less value than experience in reality.

Section 6 – Code, Policy, and Legislation

31) Do you feel that your company is prepared to meet NC's new building and energy code requirements starting on January 1 of 2019?

Answer	0%	100%	Number of Responses	Response Ratio
Yes			11	26.1%
No			0	0.0%
What new code?			0	0.0%
Maybe			1	2.3%
Other (View all)			1	2.3%
No Responses			29	69.0%
Totals			42	100%

Comments:

- Need an overview of changes coming for commercial.
- We're prepared to meet Passive House standards.
- The code didn't change that much. We really need to push for amendments to keep our energy code relevant. And shorten the code cycle. 6 years is too long in a sector where we are constantly innovating.

32) NCBPA is offering a Commercial Energy Code educational workshop in October and November before the new code starts. What is your level of interest, either for yourself or a co-worker, in participating in this workshop?

1 = No Interest , 2 = Little Interest , 3 = Some Interest , 4 = High Interest

	1	2	3	4	Number of Responses	Rating Score*
					13	2.8

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Comments:

- With business escalating, no time.
- I am very interested, and if it is offered online I will push/force for my co-workers to be there too.

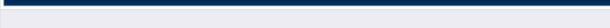
33) What aspects of energy or performance-related code, either new construction or retrofit, does your company struggle with? What code changes do you think are needed to address them?

Responses:

- Getting the code inspectors to understand the code.

- continued specification of low efficiency hearth products. Code changes: require manageable minimum levels of efficiency for each class of product, AND give substantial incentives for using the most efficient products.
- We do not struggle with these items. If anything, we want more stringent code to mandate better buildings. We are well-suited to deliver such buildings.
- Retrofit.

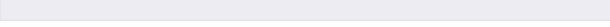
34) If you are aware of them, do you feel confident in being able to work with, or around, the new restrictions of COMcheck for the 2019 commercial energy code?

Answer	0%	100%	Number of Responses	Response Ratio
Yes			6	14.2%
No			0	0.0%
Maybe			3	7.1%
Other (View all)			3	7.1%
No Responses			30	71.4%
Totals			42	100%

Comments:

- We have taught COMcheck.
- Don't know what that is.

35) Looking ahead, does your company plan to incorporate the wiring or installation of renewable energy systems (solar PV), electric vehicle charging stations or energy storage systems in new buildings by 2022 or 2025, the starts of NC's next commercial code cycles?

Answer	0%	100%	Number of Responses	Response Ratio
No			3	7.1%
Yes - 2022			2	4.7%
Yes - 2025			0	0.0%
Maybe			3	7.1%
Other (View all)			4	9.5%
No Responses			30	71.4%
Totals			42	100%

Comments:

- Definitely something we are looking at. Would be surprised if we don't get there by 2025, maybe 2022.
- We like our building to be solar ready. We include solar installations, charging stations, and thermal storage whenever it meets our clients needs. They are very popular for LEED and WELL buildings.

Section 7 – Efficiency and Performance Practices

36) What is your level of knowledge or comfort with the following design and/or planning topics related to energy efficient, green and high performance buildings?

1 = None at all , 2 = Not very much , 3 = Neutral , 4 = A little , 5 = A lot

Answer	1	2	3	4	5	Number of Responses	Rating Score*
NC's new minimum code requirements starting Jan 1, 2019						13	3.1
Most popular or best certification programs to use						13	3.9
How to assess field effectiveness of your design elements						13	4.1
What design elements save the most energy or contribute to high performance/green						13	4.8
When to involve specialized contractors (envelope, commissioning, etc.)						13	4.1

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Comments:

- This is my job from the design side. It is my all-day every-day.

37) Of the energy and performance issues listed below, which do you believe to be the top concerns of your clients?

Answer	0%	100%	Number of Responses	Response Ratio
Improper air balance and filtration			6	46.1%
Energy use characterized as performance			4	30.7%
High utility bills			10	76.9%
Malfunctioning appliances, automation, devices or equipment			6	46.1%
Thermal bridging in walls and roof			3	23.0%
HVAC equipment issues and upkeep			9	69.2%
Obtaining a certification for their building			0	0.0%
Demand reduction strategies			3	23.0%
Multiple building systems performing together			3	23.0%
Environmental site restoration			1	7.6%
Rain control strategies / water management			2	15.3%
Other (View all)			3	23.0%
Totals			13	100%

Comments:

- Sequences of operations have become more and more complicated to attempt to get 1 or 2% more efficiency out of an energy model. However, due to that complexity, sequences often get overridden by operators who don't understand and results in the systems operating considerably less efficiently than designed.

38) List any energy efficient, green or high performance features or products that your company sees as being innovative in the NC market.

Responses:

- EcoWise products utilizing next generation, low GWP refrigerants that are highly energy efficient.
- Advanced building & enterprise management control systems that help building owners retain building efficiency throughout its lifetime.
- Electric low speed consumer or utility vehicles which offer low operating costs and reduced 1st cost for light duty utility use.
- High efficiency wood and gas burning fireplaces and freestanding stoves (75-80%). They have such an impact on home heating--with heating water the two highest home operating expenses.
- A mid-efficiency (40%) fireplace called the Renaissance Rumford--first open burning fireplace to meet EPA clean burn standards. (www.renaissancefireplaces.com. Even at 40% efficiency it can contribute to home heating and the responsible use of renewable fuel as opposed to traditional prefabs and masonry fireplaces (-10 to+10 efficiency-Auburn U. study).
- Low energy dehumidification would be an incredible innovation for the NC market.
- Improved Filters, Natural, Efficient and Eco-Friendly Building Materials.
- New LED street lighting, building analytics programs, better energy modeling, use of GSHP or alternative HVAC, etc.
- Bi-polar ionization air filtration, solar tracking skylights, increased use of VRF.
- New air and moisture barrier materials/systems.

39) What types of incentive or rebate programs do you and/or your clients use the most?

Responses

- Manufacturer rebate programs, or which dealers usually make the largest contribution.
- Check payment discount of 2.5 to 3%.
- Seasonal discount to transfer volume of sales from fall to spring/summer.
- Low Income Housing Tax Credits for energy efficiency has been our biggest selling point so far.
- US DOE incentives, EPA incentives, HHS incentives.
- Utility sponsored, federal/state incentives, tax incentives.
- Duke incentives (Other utility rebate programs on other states).
- Duke Energy's Smart Saver.

40) Please rank how important you think it is to have a financial rebate or incentive program that encourages the use of these products or systems in commercial buildings.

1 = Most	1	2	3	4	5	6	7	8	9	10	Number of Responses	Ranking Score*
Active Solar Heating and Cooling Systems											10	4.5
Geothermal HVAC											10	4.9
Green Roof											10	8.4
Wind Power and Production											10	7.3
Commercial Lighting											10	4.6
Retro-commissioning											10	3.7
Water Conservation											10	4.9
Net Zero Ready											10	3.4
Battery Storage											10	7.3
Electric Vehicle Charging											10	6.0

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Comments:

- Have no idea.
- All of these rebates and incentives are very valuable but do not apply to IAQ.
- We need to get the low hanging fruit first. Also VRF is nearly as efficient as geothermal but far less expensive to build and maintain.

41) Do you have an internal quality control and/or quality assurance process, program or dedicated staff?

Answer	0%	100%	Number of Responses	Response Ratio
Yes			9	21.4%
No			1	2.3%
Sort of			4	9.5%
Other			0	0.0%
No Responses			28	66.6%
Totals			42	100%

Comments:

- No dedicated staff but we have an internal process.
- A whole team dedicated to QA/QC, with a rigorous process.
- It is absolutely necessary.

42) If you know, please list 3 companies that your company purchases a majority of its materials, software or equipment from. NCBPA will contact select companies to seek out discount programs on behalf of our members.

Responses:

- The Energy Conservatory, Centek Labs, EMSL.
- LP, James Hardie, Moen, American Standard.
- we are too specialized and our industry too small for this to be effective.
- Autodesk, Trane, Equest.

- Procore, Fluke.

Section 8 – Consumer and Trade Professional Education Resources

43) Rank your preferred method for obtaining required or desired continuing education units or training.

1 = Most preferred						Number of Responses	Ranking Score*
Answer	1	2	3	4	5		
Webinar						13	2.5
In-person classroom workshop						13	2.7
In-person field workshop/tour						13	3.1
Online self-paced course						13	3.1
Conference						13	3.6

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Comments:

- I prefer webinars and online self-paced courses for training. Conferences and in person classes are better for continuing education hours (as an engineer these have to be done in a very specific way).

44) Rank the following items based on how important you think they are to the future success for industry professionals.

1 = Most						Number of Responses	Ranking Score*
Answer	1	2	3	4	5		
Career Pathways Resources						12	3.1
Continuing Education						12	2.7
Technical Training						12	2.5
Lowering the Cost of Desired Certifications						12	3.4
Employee Benefits						12	3.3

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

45) NCBPA is in the process of finalizing a website that educates building owners and operators on their options for improving building performance. Please rank the level of importance you place on the following topic areas and resources for the website.

1 = Least							Number of Responses	Ranking Score*	
Answer	1	2	3	4	5	6			7
Contractor directory								11	4.3
Case studies								11	3.3
Code updates and code change request resources								11	3.5
Industry news and events								11	4.6
Product and service research and information								11	3.8
Building performance benefits by building types								11	3.8
How to incorporate renewables and storage into buildings								11	4.6

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Comments:

- Make sure case studies are up to date. If your information is outdated, you will actually misinform your readers.

46) Short answer: What do your customers NOT understand about building performance?

Responses:

- EVERYTHING!
- It's more than the money they pay for the Duke bill.
- Long term savings vs. upfront cost.
- How does it immediately effect their family?
- How whole building affects natural draft fireplace.
- It's about more than bills. It's quality of life.
- Maintaining Building Longevity.
- Saves money.
- How easy/inexpensive it is to improve.
- The huge benefits available.

Section 9 – Products and Services

47) How comfortable are you working with the following types of HVAC systems?

1 = Not at all , 2 = Not very much , 3 = Somewhat , 4 = A little , 5 = Very comfortable

Answer	1	2	3	4	5	Number of Responses	Rating Score*
VAV System						13	3.6
Chilled Beams						13	3.2
VRF or VRV Systems						13	3.6
Heat Pumps						13	4.2
CAV System						13	3.2
Geothermal						13	3.5
CHP Systems						13	3.0

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Comments:

- I have experience modeling nearly all these systems in detail for LEED.
- We have a lot of knowledge about the applications for these systems, but we're not a mechanical contractor.

48) If geothermal HVAC systems are a part of your offerings, which brand do you prefer?

Responses:

- No preference.
- Trane.
- Climate.
- We don't promote any brand - varies by situation.

49) If you sell products or professional services (e.g. financial not engineering), what time or cost saving opportunities do you think that NCBPA could support you with?

Responses:

- Less concerned about cost containment than I am facilitating growth.
- Better and cheaper project management software.
- Marketing!

50) What challenges do you face marketing and selling your products and services in our industry?

Answer	0%	100%	Number of Responses	Response Ratio
Reaching target customers			5	50.0%
Product availability			2	20.0%
Distribution challenges			0	0.0%
Competitive pricing			4	40.0%
Lack of technical product knowledge			1	10.0%
Lack of innovative product design in keeping up with future trends			0	0.0%
Other (View all)			2	20.0%
Totals			10	100%

Comments:

- Everyone wants solar because its sexy, but they aren't looking at what they are putting in their buildings behind the drywall.
- It is hard to provide competitive pricing on an apples-to-apples basis as our competition is bidding lower quality building. It is important that the purchasers understand this.
- We're as busy as we can stand to be right now. Our issue is finding qualified workers so we can grow.

51) Would you be willing to offer purchase discounts or incentives to NCBPA member companies that buy, or would look to buy, from your company?

Majority yes.