



NCHFA 2021 QAP Program Comments

April 29, 2020

North Carolina Housing Finance Agency
Mr. Chris Austin, Director of Rental Investment
3508 Bush Street
Raleigh, NC 27609

Dear Mr. Austin,

On behalf of our member companies and professionals working across the state, North Carolina Building Performance Association (NCBPA) submits the following comments for your consideration regarding the 2021 Qualified Allocation Plan (QAP) program.

As you and your fellow NCHFA staff know from [our most recent comments](#) submitted last August, we continue to support and advocate for moderate increases to the QAP standards that result in more durable, energy efficient and cost-effective building design and construction. Doing so yields immediate and long-lasting operational and financial benefits for developers and tenants alike. The construction industry as a whole acknowledges that energy efficiency measures that offer lower monthly utility bills for tenants, which only become more valuable over time with continued rate increases, are most cost effective to implement during design and new construction.

We understand the concerns of developers and your office in setting minimum energy efficiency standards that increase the up-front costs of new construction projects and major renovations in ways that make the program ineffective. That is why we support your willingness to consider moderate improvements now that pave the way to better standards in the years to follow. As we made clear last fall, the 2020 QAP's ENERGY STAR 2.0 standard was at the time below North Carolina's new 2018 energy code requirements. We appreciate and acknowledge the agency's efforts to improve those standards, which included the introduction of an infiltration test limit of 5 ACH@50.

We understand that your office is currently assessing ways to increase the minimum energy efficiency standards from the current ENERGY STAR 2.0 level to a customized prescriptive standard that more closely aligns with ENERGY STAR 3.0, but stops short of requiring the certification itself. While we recognize the added energy efficiency and performance benefits of doing so, we do recommend that full certification to be required. Certification programs like ENERGY STAR 3.0 offer stringent third-

party quality assurance services by experts that are vested in the project's quality, durability, energy and water efficiency, comfort and other performance criteria. This service is a valuable benefit to the developer, contractors and tenants. With the third-party certification or verification, NCHFA will have strong confidence that the requirements have been met and won't need to spend its own time and resources to do the same.

Importantly, the ENERGY STAR 3.0 program for multifamily properties is expiring at the end of 2020 and will be replaced by the [ENERGY STAR Multifamily New Construction Program](#). The new program offers a prescriptive pathway and three compliance paths for developers and their contractors to choose based on the performance criteria, cost considerations and other goals of their projects. We feel this new program is perfect for the 2021 QAP.

While our association has no allegiance to a single standard, we do believe that requiring the new ENERGY STAR Multifamily New Construction Program certification should be the minimum standard. Here is the minimum standard change that we recommend:

Appendix B - IV. ENERGY STAR CERTIFICATION New construction projects must ~~meet the standards and requirements of~~ **achieve ENERGY STAR 2 Multifamily New Construction Program certification** as verified by an independent, third-party expert who assists with project design, verify construction quality, and tests completed units. Adaptive re-use and rehabilitation projects must comply to the extent doing so is economically feasible and as allowed by historic preservation rules. Third party raters must perform blower door tests on ~~the greater of 10% of the total number of units or 8~~ **all** units. ~~The units tested must be different unit types and in different building locations.~~ Units that fail the blower door tests must be reported to the Agency at the time of failure. Additional testing may be required at owner's expense.

If requiring full certification is not possible, we urge you to require prescriptive standards and controls in the ENERGY STAR Multifamily New Construction Program's. General energy efficiency and performance measures that we feel should be included in prescriptive requirements include:

1. Home Energy Rating System (HERS) Index Scores or Energy Rating Index (ERI) (recognized in NC code) score of less than 65 for all individual units. This performance-based rating allows some flexibility by developers and their project teams to use cost-effective trade-offs that reach the minimum energy efficiency targets.
2. Smart thermostats or resident-controlled smart metering devices in all units.

3. All toilets have an effective flush volume of 1.28 gallons or less.
4. 100 percent LED bulbs in all lighting fixtures in all units. If needed as an alternative:
 - a. A minimum of 75 percent of total hard-wire lighting fixtures or the bulbs in those fixtures qualify as high efficacy or equivalent. Lighting power density, measured in watts/square foot, is 1:1 or less.
5. Given the importance that HVAC systems have on energy usage and occupant health and safety, we recommend the following HVAC minimum standards:
 - a. Install supplemental mechanically-controlled humidity management appliances in all units, Or:
 - i. Equip all dwelling units with dedicated space, drain, and electrical hook-ups for permanent supplemental dehumidification systems to be installed if needed. Install interior relative humidity monitoring equipment (e.g., smart thermostats with hygrometers) with alerts and the ability to log humidity levels so that it may be reviewed. For multifamily properties, provide remote access for building operations and maintenance staff to monitor relative humidity and override system controls as necessary.
 - b. When sizing heating and cooling systems, size to the sensible load. If, in that scenario, the design shows that latent load will not be met by the equipment, install a dehumidifier to handle the latent load rather than sizing the air conditioner up. Sizing the air conditioner for the latent load will result in an oversized system that will have little latent control.
 - c. Install MERV 13 or higher rated filters for outdoor air ventilation equipment, particularly in geographic locations where the outdoor air exceeds the national standards for particulate matter (PM_{2.5}, PM₁₀) or ozone, and/or within 500 feet of busy streets and highways.
 - d. Avoid exhaust-only ventilation strategies in Climate Zones 3 and 4 to limit uncontrolled intake of humid air.
 - e. Design a system with the capacity to meet ASHRAE requirements, and then provide additional accommodations to adjust the outside air introduced as needed.
 - f. Calculate part load performance of HVAC equipment utilizing ASHRAE Dehumidification 1% Design Days when designing equipment to maintain 60% relative humidity.

- g. Use ACCA Manual LLH sizing calculations to size your systems to maintain interior relative humidity below 60%; refer to Appendix 3 Ancillary Dehumidification for explicit latent load guidance.
- h. Do not utilize electric resistance reheat as a strategy for controlling interior moisture as it will lead to high utility bills for those systems.
- i. Follow best practices found in weatherization programs ([like this one](#)) that approve smart exhaust systems as approved program measures.

In addition to any prescriptive measures that the 2021 QAP will require, we urge you to initiate a study with developers and industry professionals on incorporating administrative and financial incentives for developers that go above and beyond by certifying buildings and units to any one of the following standards:

- 1. Enterprise Green Communities certification.
- 2. LEED-H certified level.
- 3. National Green Building Standard (NGBS) Bronze level.
- 4. Passive House Institute US (PHIUS) or Passive House Institute (PHI).
- 5. U.S. EPA's WaterSense Labeled Homes certification for all units.
- 6. U.S. EPA's Indoor airPLUS qualification for all units.

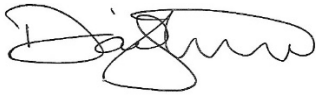
We recognize that in the current market few developers will pursue these options. However, much like how North Carolina's 2018 building code provides an expedited energy code compliance pathway for residential new construction projects that meet the "HERO" or "Stretch" code option of 15% more energy efficient than the minimum, we believe that inclusion of this performance-based pathway will encourage developers just a little more to consider these programs and more stringent energy efficiency measures that will lead to increased and lower-cost adoption over time.

In addition to these recommendations, we reiterate our prior request for NCHFA to initiate a nine-month study to identify a pathway towards continued energy efficiency improvement that includes:

- 1. Analyzing the project-level short and long-term costs and benefits of these changes with involvement from developers, contractors, financing institutions and key stakeholders.
- 2. Identifying short-term utility, foundation, state or federal incentives that would assist developers in making the transition to improved energy efficiency requirements and options.

3. Providing points for optional energy efficient, green and high performance measures, ratings and certification programs.

NCBPA, our members and partners are ready and willing to assist NCHFA in addressing these opportunities. Thank you for the opportunity to provide these comments.



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Updated Detailed Recommendations from Our 2020 Comments

NCBPA and its members recommend the following action for the 2021 QAP:

(1) Incorporate Energy Efficiency Benchmarks from Other Southeastern States

Many states have or are in the process of raising energy efficiency standards and incorporating optional points for high performance measures using cost-effective means for developers that offer real benefits to tenants. Every year, North Carolina's QAP program falls further behind and will face increasing difficulty to meet code improvements and market trends towards more energy efficient construction.

NCBPA and our members recommend that NCHFA commits to a nine-month study to identify the costs, benefits and resources needed to increase the minimum energy efficiency standards and offer points for additional energy efficient, green and high performance measures, ratings and certification programs.

- Refer to attachments A1, A5, A6 and A9.

(2) Codify Energy Efficiency's Role as a Tool for Improving and Preserving Rental Housing Affordability

Developers often feel that additional energy savings opportunities – no matter their ability to return positive long-term returns to their investments and future tenants – are simply too costly up-front to incorporate into their projects. With the 2021 QAP, NCHFA has an opportunity to begin shifting this dynamic and do more to codify the long-term value of energy efficient construction, of course giving proper consideration to the up-front costs incurred by developers. [According to the RAND Corporation](#), “the prioritization of energy-efficient measures in the scoring system for developers to obtain these highly competitive tax credits is one of the most significant ways to increase the share of resources for energy efficiency within affordable multifamily rentals.”

NCBPA and our members recommend that NCHFA commits to a nine-month study to identify the ways that the 2021 and future QAP standards can codify and incentive developers to invest in energy efficient, green and high performance design, measures, ratings and certification programs to directly address their data-proven ability to improve and preserve rental housing affordability.

- Refer to attachment A7 (pages 36 – 39).

(3) Identify Utility, Foundation, State or Federal Incentives to Assist Developers

Duke Energy incentives are available to help developers offset additional upfront costs for energy efficient design and product purchases. In particular, recent changes to [Duke Energy's North Carolina Energy Efficiency Design Assistance program](#) make LIHTC/QAP projects eligible to receive free consulting, energy modeling and Smart \$aver incentive application assistance when constructing new buildings, completing major renovations or making additions. Additional utility, private foundation, state and federal incentives may be available to assist developers in getting over the “hump” in the first few projects.

NCBPA and our members recommend that NCHFA work with Duke Energy and other utilities to offer incentives to developers that are on the cusp of being able to implement improved energy savings design, measures and products in their next projects. Offering incentives that encourage their transition to more energy efficient construction will support the needed transition to increased stringency in new QAP requirements.

- Refer to attachment A4.

(4) Incorporate Points for Third-Party Programs

Projects that meet varying levels of third-party energy efficiency programs such as National Green Building Standard and Passive House (amongst others) receive QAP points in many other state programs. NGBS, in particular, is widely used in North Carolina multifamily projects and could be used to support a transition to ENERGY STAR Multifamily New Construction Program as a new minimum standard for the 2021 QAP. Programs such as Passive House are showing significant financial returns to tenants in states including Pennsylvania where developers can implement the standard without any additional cost after their third project.

NCBPA and our members recommend that NCHFA commits to a nine-month study to identify how best to offer QAP points for third-party programs such as NGBS and Passive House in the 2021 and future QAP standards.

- Refer to attachments A2, A3, A8, A12, A13 and A14.

(5) Educate Developers on Savings Opportunities Through the New Energy Rating Index Energy Code Compliance Path

North Carolina's 2018 NCECC includes a [new optional pathway for residential projects](#) of three stories or less to use Home Energy Ratings (HERS Ratings), known in our new code as the Energy Rating Index (ERI), to pass for energy code compliance. Essentially, a low enough HERS rating expedites the energy code inspection and compliance process.

NCBPA and our members recommend that NCHFA communicate the added benefits of the ERI compliance pathway to developers as an additional voluntary incentive for having their projects rated for energy efficiency with HERS Ratings.

(6) Increase Energy Efficiency Standards to Improve North Carolina's Crippling Home Energy Affordability Gap

According to a 2019 report from Fisher, Sheehan & Colton, "Home energy is a crippling financial burden for low-income North Carolina households... with incomes of below 50% of the Federal Poverty Level pay(ing) 33% of their annual income simply for their home energy bills." As referred to earlier, new construction is the most cost-effective time to offer residents improved energy efficiency. Doing so later on only increases the costs and eliminates years of potential energy, health, safety and other benefits.

NCBPA and our members recommend that commits to a responsible transition to better energy efficiency standards that properly account for the value of up-front costs with long-term benefits to tenants and NCHFA.

- Refer to attachments A10 and A11.

(7) Incorporate Cost-Effective Energy Efficiency Improvements into Rehab Projects

In support of public comments dating back to at least 2015 from organizations such as [NRDC](#), *NCBPA and our members echo prior recommendations that NCHFA consider adopting additional requirements and incentives to extend the benefits of energy efficiency to rehabilitation projects.* Doing so will further advance the energy efficiency of existing properties as part of the QAP program. The 2021 QAP should (1) require an energy consultation or audit as a condition of eligibility for tax credits for rehabilitation projects and (2) adopt points to encourage performance-based energy savings in rehabilitation projects that seek an allocation of tax credits.

- Refer to attachment A15.

(8) Undertake a Study to Determine How Best to Implement Energy Data Benchmarking Requirements and Compliance Practices

Many states have already or are planning to offer QAP points for developers that incorporate energy data benchmarking into their projects. Doing so in North Carolina would assist NCHFA in tracking energy efficient, green and high performance improvements to determine how design, measures, ratings and certification programs are impacting the end results of tenant benefits compared to up-front costs for developers.

NCBPA and our members recommend that NCHFA commits to a nine-month study to identify how best to offer QAP points for developers that incorporate energy data benchmarking into their projects.

ATTACHMENTS

In support of the above recommendations, we have emailed the following attachments:

- A1: Virginia Housing Flyer
- A2: NAPHN Policy Resource Guide (see pages 23 – 25)
- A3: Build SMART Whitehall Case Study
- A4: Duke Energy Energy Efficiency Design Assistance Program Overview
- A5: Minnesota Housing Finance Agency Program Summary
- A6: Connecticut Housing Finance Agency Program Summary
- A7: Energy Efficiency as a Tool for Preservation of Affordable Rental Housing (see pages 38 – 39)
- A8: Pennsylvania Housing Finance Agency Passive House Project Case Study
- A9: Georgia Housing Finance Agency QAP Requirements
- A10: North Carolina 2018 Home Energy Affordability Gap Fact Sheet
- A11: North Carolina 2018 Home Energy Affordability Gap Detail
- A12: Onion Flats Passive House Program Presentation
- A13: Summary of Passive House Points in QAP Programs
- A14: Summary of National Green Building Standard
- A15: NRDC 2015 QAP Comments