

## COMPARISON:

# NGBS Green vs. Green Globes

## Overview

The National Green Building Standard (NGBS) and Green Globes are both ANSI-recognized standards for high-performance, sustainable buildings. This report examines the differences and advantages of 2020 NGBS Green Certification as compared to 2021 Green Globes for New Construction.

## Summary

The **ICC-700 National Green Building Standard (NGBS)** was developed through an open consensus process and is the first residential-specific green building rating system to be approved by the American National Standards Institute (ANSI). Applicable to new and existing buildings, the NGBS is designed to serve residential buildings of all types irrespective of the building height, construction style, or climate zone. The NGBS scope includes single-family homes, multifamily and mixed-use buildings, and land development. The NGBS serves as a uniform national platform for the recognition and advancement of green residential construction and development. Home Innovation Research Labs serves as national certification agency for the NGBS. Home Innovation has certified homes and buildings as NGBS compliant for over fifteen years, and, as of June 2024, Home Innovation has certified over 520,000 homes and apartments nationwide and in the Caribbean.

**Green Globes** was adapted from the Building Research Establishment Environmental Assessment Method (BREEAM) standard in 1990. Developers sought to make the standard more user-friendly by transforming it into a questionnaire-based tool. That new system was then converted into a web-based format, renamed Green Globes, and marketed throughout the U.S. Green Globes includes modules for new construction, existing buildings, healthcare, and sustainable interiors. Starting in 2010, updated versions of Green Globes have been approved as ANSI standards. The most recent version of Green Globes for New Construction was released in 2021. Green Globes certification program is managed by the Green Building Initiative (GBI), a 501(c)(3) nonprofit organization dedicated to accelerating the adoption of building practices that result in energy-efficient, healthier, and environmentally sustainable buildings.

## Building Eligibility

While both NGBS Green and Green Globes address multifamily buildings, the two programs differ significantly regarding building eligibility.

The NGBS is designed specifically for the buildings in which we live. The NGBS scope covers single-family home, multifamily buildings, the residential portions of mixed-use buildings, mixed-use buildings where the residential portion is at least 50% of the gross floor area, building conversions, renovations and additions of existing buildings, and land developments. The 2020 NGBS version includes an expanded scope that applies to hotels/motels, assisted living, student housing, and residential board and care facilities. While commercial buildings and residentially used buildings may share construction types and methods, occupancy matters, and, thus, the NGBS is uniquely suited to residential occupancy.

The Green Globes Multifamily New Construction rating system is suitable for a wide range of buildings, including large and small offices, retail stores, multifamily, and institutional buildings such as healthcare facilities, government buildings, schools, colleges, and universities. The Green Globes certification systems include new construction, existing buildings, and sustainable interiors for multifamily buildings but do not include mixed-use buildings or land developments. Green Globes does not apply to single-family homes or townhomes that are three stories or less in height.

| Comparison: Building Eligibility  |   |
|---|---|
| 2020 NGBS   | 2021 Green Globes Multifamily New Construction  |
| <ul style="list-style-type: none"> <li>Single-family homes</li> <li>Multifamily and mixed-use buildings</li> <li>All Group R occupancies within the IBC and IRC, including hotels/motels, student housing, dormitories, assisted living along with residential board and care facilities, and group homes identified as I-1 occupancy under the IBC</li> <li>Land developments</li> </ul> | <ul style="list-style-type: none"> <li>Multifamily buildings</li> <li>Commercial, industrial, and retail buildings</li> <li>Institutional buildings, including healthcare, government, and schools</li> </ul> |

## Building Eligibility

While both NGBS Green and Green Globes address multifamily buildings, the two programs differ significantly regarding building eligibility.

| Comparison: Green Practices  |   |
|--|---|
| 2020 NGBS  | 2021 Green Globes Multifamily New Construction  |
| <ul style="list-style-type: none"> <li>Lot Design, Preparation, and Development</li> <li>Resource Efficiency</li> <li>Energy Efficiency</li> <li>Water Efficiency</li> <li>Indoor Environmental Quality</li> <li>Operations, Maintenance, and Homeowner Education</li> </ul> | <ul style="list-style-type: none"> <li>Site</li> <li>Materials</li> <li>Energy</li> <li>Water Efficiency</li> <li>Indoor Environment</li> <li>Project Management</li> </ul> |

## Compliance Criteria

### NGBS Green Certification

The NGBS offers four certification levels for multifamily and mixed-use buildings: Bronze; Silver; Gold; and Emerald. Non-residential space in a mixed-use residential building can earn one level—Certified.

The NGBS was specifically designed so that no one category of green practice is weighted as more important than another. The NGBS requires that all projects achieve a minimum point threshold in every category of green practice to be certified. A project cannot obtain all or most of its points in a few categories, as other rating systems allow. Similarly, to move up in certification level, the building must meet increasing point thresholds across all categories. These requirements make the NGBS one of the most rigorous green building rating systems available.

| Green Building Categories |  | Comparison: Green Practices |            |            |            |
|---------------------------|--|-----------------------------|------------|------------|------------|
|                           |  | Bronze                      | Silver     | Gold       | Emerald    |
| Chapter 5                 | Lot Design, Preparation, and Development             | 50                          | 64         | 93         | 121        |
| Chapter 6                 | Resource Efficiency                                  | 43                          | 59         | 89         | 119        |
| Chapter 7                 | Energy Efficiency                                    | 30                          | 45         | 60         | 70         |
| Chapter 8                 | Water Efficiency                                     | 25                          | 39         | 67         | 92         |
| Chapter 9                 | Indoor Environmental Quality                         | 25                          | 42         | 69         | 97         |
| Chapter 10                | Operation, Maintenance, and Building Owner Education | 8                           | 10         | 11         | 12         |
|                           | Additional Points from Any Category                  | 50                          | 75         | 100        | 100        |
| <b>Total Points</b>       |  | <b>231</b>                  | <b>334</b> | <b>489</b> | <b>611</b> |

The NGBS has 45 mandatory practices that must be met for compliance. Many of these practices address critical green building issues, such as building durability (i.e., moisture management), minimum energy efficiency, pollutant control, and building owner and resident education.

## Green Globes Certification

Green Globes is a point-based system, wherein a building can attain certification based on the green practices incorporated into its design and construction. Projects can qualify for four certification levels (one to four “Green Globes”) by earning the required percentage of points for that specific level.

| Green Globes Rating          | Percentage of Points Achieved Out of Applicable Points | Description   |
|------------------------------|--|---|
| Four Green Globes Certified  | 85-100%  | Demonstrates world-class leadership in resource efficiency and reduced environmental impacts.   |
| Three Green Globes Certified | 70-84%   | Demonstrates outstanding leadership in resource efficiency and reduced environmental impacts and a commitment to continual improvement. |
| Two Green Globes Certified   | 55-69%   | Demonstrates noteworthy progress applying best practices toward resource efficiency and reducing environmental impacts.                 |
| One Green Globes Certified   | 35-54%   | Demonstrates movement beyond awareness and a commitment to resource efficiency and reducing environmental impacts.                      |

Projects must achieve all minimum requirements for ventilation and energy to earn Green Globes Multifamily New Construction certification. (Buildings must meet these minimum requirements and are separate from the criteria in the overall Green Globes system.) No points are associated with meeting these minimum requirements. In addition, projects must also achieve a minimum of 35% of applicable points from the Green Globes rating system.

## Comparison of Green Criteria

| Lot Design, Preparation, And Development/Site   |   |   |
|---|---|---|
| Topics Addressed by Both Rating Systems   | Additional Topics Addressed by NGBS   | Additional Topics Addressed by Green Globes   |
| <ul style="list-style-type: none"> <li>Selection of brownfield or infill lots</li> <li>Easy access to public transit, pedestrian and bike access and carpooling</li> <li>Environmentally friendly lot construction, sediment and erosion control, site disturbance, and construction waste management</li> <li>Heat island mitigation, stormwater management plans</li> <li>Tree protection and preservation and landscaping and maintenance plans</li> </ul> | <ul style="list-style-type: none"> <li>CNG vehicle fueling option</li> <li>Smoking prohibitions</li> <li>Exercise and recreational space</li> <li>Density on the lot on a net developable area</li> <li>Mixed use development option</li> </ul> | <ul style="list-style-type: none"> <li>Bird strikes and collision prevention</li> <li>Light pollution management</li> <li>Wildland-urban interface site design</li> </ul> |

| Resource Efficiency/Materials   |   |  |
|---|---|--|
| Topics Addressed by Both Rating Systems   | Additional Topics Addressed by NGBS   | Additional Topics Addressed by Green Globes  |
| <ul style="list-style-type: none"> <li>Sustainable products and materials</li> <li>Conditioned floor area</li> <li>Local, reused, recycled and natural content materials</li> <li>Construction waste management plan.</li> <li>Whole building life cycle assessment</li> <li>Resource conservation: modular and prefabricated construction.</li> <li>Moisture control and pest treatment</li> </ul> | <ul style="list-style-type: none"> <li>Product declarations</li> <li>Universal design elements: accessible construction</li> <li>Resilient construction for forces generated by flooding, snow, wind, or seismic loads</li> </ul> | <ul style="list-style-type: none"> <li>Product risk assessment</li> <li>Supply chain waste minimization</li> </ul> |

| Energy Efficiency/Energy   |  |  |
|--|--|--|
| Topics Addressed by Both Rating Systems  | Additional Topics Addressed by NGBS  | Additional Topics Addressed by Green Globes  |
| <ul style="list-style-type: none"> <li>Metering</li> <li>Monitoring and reporting</li> <li>Verification</li> <li>Onsite renewable energy</li> <li>Off-Site renewable energy credits</li> <li>Performance &amp; Prescriptive path options</li> </ul> <p><b>Minimum Requirements</b></p> <ul style="list-style-type: none"> <li>NGBS: Energy performance at or above 2018 IECC and applicable mandatory practices met.</li> <li>Green Globes: Energy performance 15% above ASHRAE 90.1-2010</li> </ul> | <ul style="list-style-type: none"> <li>Parking garage efficiency</li> <li>Grid-interactive electric thermal storage system</li> <li>Alternative refrigerant</li> <li>Smart ventilation</li> <li>CNG vehicle fueling station</li> </ul> <p><b>Additional Energy Compliance Paths</b></p> <ul style="list-style-type: none"> <li>ERI Target Path</li> <li>Alternative Bronze and Silver level compliance path</li> <li>Alternative Gold level compliance path</li> <li>Alternative Gold level compliance for tropical zones</li> </ul> | <ul style="list-style-type: none"> <li>Vertical, horizontal, and inclined transport systems (elevators, escalators etc.)</li> <li>Credit for load shedding capabilities</li> <li>Plug load and process energy management</li> </ul> <p><b>Additional Energy Compliance Paths</b></p> <ul style="list-style-type: none"> <li>Performance: building carbon dioxide equivalent (CO<sub>2</sub>e) emissions</li> </ul> |

| Water Efficiency  |   |  |
|---|---|--|
| Topics Addressed by Both Rating Systems   | Additional Topics Addressed by NGBS   | Additional Topics Addressed by Green Globes  |
| <ul style="list-style-type: none"> <li>Plumbing fixture efficiency limits</li> <li>Efficient domestic water heating system</li> <li>Structural wastewater control</li> <li>ENERGY STAR certified clothes washer</li> <li>Water treatment and filtration</li> <li>Alternative water sources: recycled, reclaimed, grey, storm or rainwater</li> <li>Water usage metering</li> <li>Auto leak detection and control systems</li> <li>Efficient irrigation systems for landscaping</li> </ul> | <ul style="list-style-type: none"> <li>Engineered biological system or intensive bioremediation system</li> <li>Recirculating humidifier</li> </ul> | <ul style="list-style-type: none"> <li>Cooling towers</li> <li>Commercial water intensive equipment: food service, laboratory and medical</li> </ul> |

| Indoor Environmental Quality   |   |  |
|--|---|--|
| Topics Addressed by Both Rating Systems  | Additional Topics Addressed by NGBS   | Additional Topics Addressed by Green Globes  |
| <ul style="list-style-type: none"> <li>Air handling equipment</li> <li>MERV 8 or better air filter</li> <li>CO2 and ventilation control sensor</li> <li>Minimal VOC based products (adhesives, sealants, coatings etc.)</li> <li>Carbon monoxide monitoring</li> <li>Acoustical privacy and comfort</li> <li>Pest and contamination control</li> <li>Radon testing and mitigation</li> <li>No smoking signage</li> </ul> | <ul style="list-style-type: none"> <li>Formaldehyde free or low emission wood materials (structural, cabinets, doors etc.)</li> <li>Low emission floor/wall coverings.</li> <li>Low emission insulation products.</li> <li>Silent exhaust fans</li> </ul> | <ul style="list-style-type: none"> <li>Legionellosis mitigation in the building water systems</li> <li>Assessment of transient noise</li> <li>Acoustic insulation and vibration isolation</li> </ul> |

| Operations, Maintenance, and Homeowner Education/Project Management   |  |  |
|---|--|--|
| Topics Addressed by Both Rating Systems   | Additional Topics Addressed by NGBS  | Additional Topics Addressed by Green Globes  |
| <ul style="list-style-type: none"> <li>Performance and green design goals</li> <li>Pre-design written goals</li> <li>Life cycle cost analysis/building service life planning</li> <li>Commissioning or systems manual &amp; training</li> </ul> | <ul style="list-style-type: none"> <li>Homeowner's manual and training guidelines</li> <li>Public education</li> </ul> | <ul style="list-style-type: none"> <li>Integrated design phase</li> <li>Site and building resilience*</li> </ul> |

\* NGBS addresses site and building resilience in chapter 6 – Resource Efficiency

The NGBS and Green Globes approach this section differently. Even though the NGBS has no dedicated chapter for project management, the intent of these practices is captured throughout all chapters. The Project Management chapter under the Green Globes requires written performance and green design goals for a list of specifically selected items from each of the other chapters.

## Key Differences

The NGBS Green's minimum threshold requirements across all green building categories ensures that compliant buildings are holistically more sustainable than code minimum construction and set a standard performance baseline for buildings earning certification. Green Globes does not feature a similar point structure, which means that Green Globes certified buildings may not be as comprehensively green, as they can earn points in one or a few categories.

The NGBS Green's mandatory requirements ensure that critical green practices for building durability, efficiency, and resident health are incorporated into every NGBS Green certified building. While energy efficiency and ventilation are critical building components, the NGBS does not prioritize them above moisture management, water efficiency, or operations and maintenance. Green Globes does not have a set of comprehensive mandatory items or prerequisites to achieve certification apart from critical energy and ventilation requirements. A building is eligible for Green Globes certification when it achieves 35% of the applicable points.

NGBS Green compliance requires post-construction performance testing by an independent third-party professional to assess envelope, duct, and HVAC leakage and provide an in-depth assessment of a building's physical barrier to exterior conditions and system inefficiencies. Green Globes does not require any performance testing.

NGBS requires a minimum energy performance of at or above 2018 IECC along with meeting all the applicable mandatory practices. For Green Globes, energy savings of greater than 15% better than ASHRAE 90.1-2010 must be demonstrated. In other words, the minimum Green Globes energy performance is roughly equivalent to the 2020 NGBS silver level.

Overall, NGBS Green addresses a lot more areas and practices for buildings seeking green

certification, and simultaneously offering more flexibility in each chapter. Green Globes has a limited number of practices which deprives buildings of the flexibility to get the deserved points for certification.

NGBS Green practices are solely focused on single family homes, multifamily communities, and other types of residential buildings. Green Globes practices, even though applicable to residential buildings, seems to equally focus on practices concerning commercial buildings; specifically, in the resource (materials), energy and water chapters.

## Certification Process & Verification

### NGBS Green Certification

Home Innovation requires that an accredited NGBS Green Verifier inspects the project to verify that all green design or construction practices claimed by the developer toward green certification are incorporated correctly into the project. Most projects require at least two inspections. The Verifier must perform a rough inspection before the drywall is installed to observe the wall cavities, and a final inspection once the project is complete. The required verification imbues an elevated level of rigor and quality assurance to the projects that are certified.

Home Innovation qualifies, trains, tests, and accredits the NGBS Green Verifiers and maintains a current list at [www.HomeInnovation.com/FindNGBSVerifier](http://www.HomeInnovation.com/FindNGBSVerifier). Verifiers must possess experience in residential construction and green building. Many verifiers are Home Energy Rating System (HERS) raters. Verifiers are trained in how to verify every NGBS practice. After completing the training, candidates must pass an exam and carry sufficient insurance to earn accreditation. Verifiers renew their accreditation annually and retrain and retest with every NGBS version. Home Innovation maintains strict rules to ensure verifiers remain independent and free



of conflict-of-interest on the projects for which they provide verification services. Verifiers serve as in-field agents to confirm buildings are NGBS compliant. Verifiers are subject to regular audit as part of Home Innovation’s quality assurance effort.

Verifiers record the results of their rough and final inspections on a verification report and submit it to Home Innovation. Home Innovation reviews every rough and final inspection to ensure national consistency and accuracy in the verification reports. After the verification reports are reviewed and approved, Home Innovation issues NGBS Green certification to the project.

### Green Globes Certification

Conformance with Green Globes is verified through construction documents, plans, specifications, and other data that demonstrates compliance with the practices being pursued. Green Globes certification is a two-stage process involving online surveys and on-site assessment. During the design phase, project teams complete an online survey to identify the green building practices planned to be utilized in the project. GBI reviews this survey for initial compliance. Once construction has been substantially completed, the

project team updates the same survey and resubmits to GBI. GBI will then organize a third-party assessment conducted by a GBI-trained assessor. Assessors interface with project teams and building owners during the assessment process by reviewing and evaluating documentation, conducting site visits, and creating comprehensive assessment reports. Assessors submit these reports to GBI, which reviews all final documentation for compliance and certification.

### Key Differences

- NGBS Green Certification does not require projects to have a design phase review. Instead, NGBS Green Verifiers will typically meet with project teams during design to score the project and ensure that all mandatory practices are included, and sufficient optional practices are selected to achieve the target certification level.
- Green Globes does not require a mid-construction inspection to verify insulation and air-sealing, erosion control, and other high-quality construction practices that are critically important for efficient operation, resident comfort, and building durability.

## Certification Fees

Both NGBS Green and Green Globes assess certification fees for third-party oversight and support. Green Globes is more than three times as expensive as NGBS Green.

For NGBS Green certification, registration is free. Certification fees are assessed based on building height and number of stories. A four-story building with 100 residential units would be assessed a \$3,700 certification fee.

Green Globes requires a \$1,500 flat-rate registration fee. For certification, there are three separate fees: Design Review; Final Certification; and Assessor Travel. The Design Review and Final Certification fees are assessed based on total conditioned area. A four-story building with 100 residential units would be assessed \$12,750 in overall fees.

|                        | NGBS Green <sup>1</sup>  | Green Globes <sup>2</sup>  |
|------------------------|--|--|
| <b>Registration</b>    | \$0  | \$1,500  |
| <b>Certification</b>   | \$700/building + \$30/unit = \$3,700   | Assume each unit is 850 sq. ft.<br>Total conditioned floor area = 850 x 100 = 85,000<br>Design Review Fee: \$5,250<br>Final Certification Fee: \$4,500<br>Total: \$9,750 |
| <b>Assessor Travel</b> | N/A – developers partner directly with third-party NGBS Green Verifier for site inspections. | \$1,500  |
| <b>Total</b>           | <b>\$3,700</b>   | <b>\$12,750</b>  |

<sup>1</sup> [NGBS Certification Fees](#)

<sup>2</sup> [Green Globes Certification: What it Costs](#)

## Conclusion

Compared to Green Globes, NGBS Green certification offers a more balanced, rigorous, and affordable green certification for multifamily and mixed-use buildings.

While both NGBS Green and Green Globes address multifamily buildings, the NGBS is designed specifically for residential buildings. Commercial buildings and residentially used buildings share construction types and methods; however, occupancy matters, and the NGBS is uniquely suited to residential occupancy.

The NGBS’s minimum threshold requirements ensure that compliant buildings are holistically more sustainable than code minimum

construction and set a standard performance baseline for buildings earning certification. Green Globes does not feature a similar point structure, which means that Green Globes certified buildings may not be as comprehensively green, as they can group their points in one or a few categories.

The NGBS’s mandatory practices ensure that critical green practices for building durability, efficiency, and resident health are incorporated into every certified building. Green Globes does not include a set of comprehensive mandatory requirements outside of the mandatory requirements for energy efficiency and ventilation.

For NGBS Green certification, mid-construction inspections and post-construction performance testing is required by an independent third-party professional to assess critical durability, energy efficiency and other high-quality construction practices that are critically important for efficient operation, resident comfort, and building durability. Green Globes does not have similar requirements.

Overall, NGBS addresses a lot more areas and practices for buildings seeking green certification, and simultaneously offering more flexibility in each chapter. Green Globes has a limited number of practices which deprives buildings of the flexibility to get the deserved points for certification.

NGBS practices are solely focused on single-family homes, multifamily communities, and other types of residential buildings. Green Globes practices, even though applicable to residential buildings, seems to equally focus on practices concerning commercial buildings; specifically, in the resource (materials), energy and water chapters.

Cost wise, both NGBS Green and Green Globes assess certification fees for third-party oversight and support, but Green Globes is more than three times expensive than NGBS Green.

### About Home Innovation Research Labs & NGBS

Home Innovation Research Labs is a full-service research, testing, and consulting firm focused removing barriers to innovation in the building industry. We help our clients to improve the quality, durability, affordability, and performance of building products as well as single and multifamily homes. Home Innovation provides an integrated, multidisciplinary team – including professionals in market research, building science analysis, laboratory testing, and standards development – to solve our clients’ most difficult product and technology issues. All of these skills manifest in our NGBS Green program - the largest residential green certification program in the nation. From product development and launch through improvement and certification, we help to find a home for innovation in the construction industry.

The ICC 700 National Green Building Standard® (NGBS) was developed based on decades of research and experience in residential building. It was the first point-based rating system focused on green residential construction, remodeling, and land development to be approved by the American National Standards Institute (ANSI). As an ANSI-approved standard, the NGBS was developed by a consensus committee and is subject to periodic review and public comment. Home Innovation serves as the administrator of this process and as the training and certification organization for the NGBS.

**Learn more about Home Innovation and the NGBS at [www.HomeInnovation.com](http://www.HomeInnovation.com)**