



NYSERDA

PHIUS & NYSERDA's

Buildings of Excellence Competition and New Construction – Housing Program

October 15, 2021

NYSERDA's New Construction – Housing & the Buildings of Excellence Competition

Modeled energy performance may be established by one of the following:

- Appendix G of ASHRAE Standard 90.1.
- PHIUS+ as published by the Passive House Institute U.S. (PHIUS).
- Passive House Standard as published by the Passive House Institute
- The average Energy Rating Index (ERI) for all residential dwelling units, calculated in accordance with current Standard ANSI / RESNET / ICC 301 or as updated in accordance with the ANSI/RESNET protocols.

New Construction Programs & Competitions

Carbon Neutral-ready - A project that excludes all fossil fuels from the building systems and equipment qualifies as Carbon Neutral-ready. Building systems and equipment refers to building heating, ventilating and air conditioning (HVAC), domestic hot water (DHW), kitchen, laundry and other appliances. Projects that rely on a fossil fuel-fired generator for emergency use only, or projects which are served by an off-site fossil fuel-fired central heating plant, may qualify as Carbon Neutral-ready if fossil fuel use is excluded from all other building systems and equipment. NYSERDA, at its sole discretion, will consider exemptions to the Carbon Neutral-ready rule for process loads occurring in mixed-use spaces on a case-by-case basis.

New Construction - Housing Program (PON 4337)

Support of new construction and gut rehab housing projects

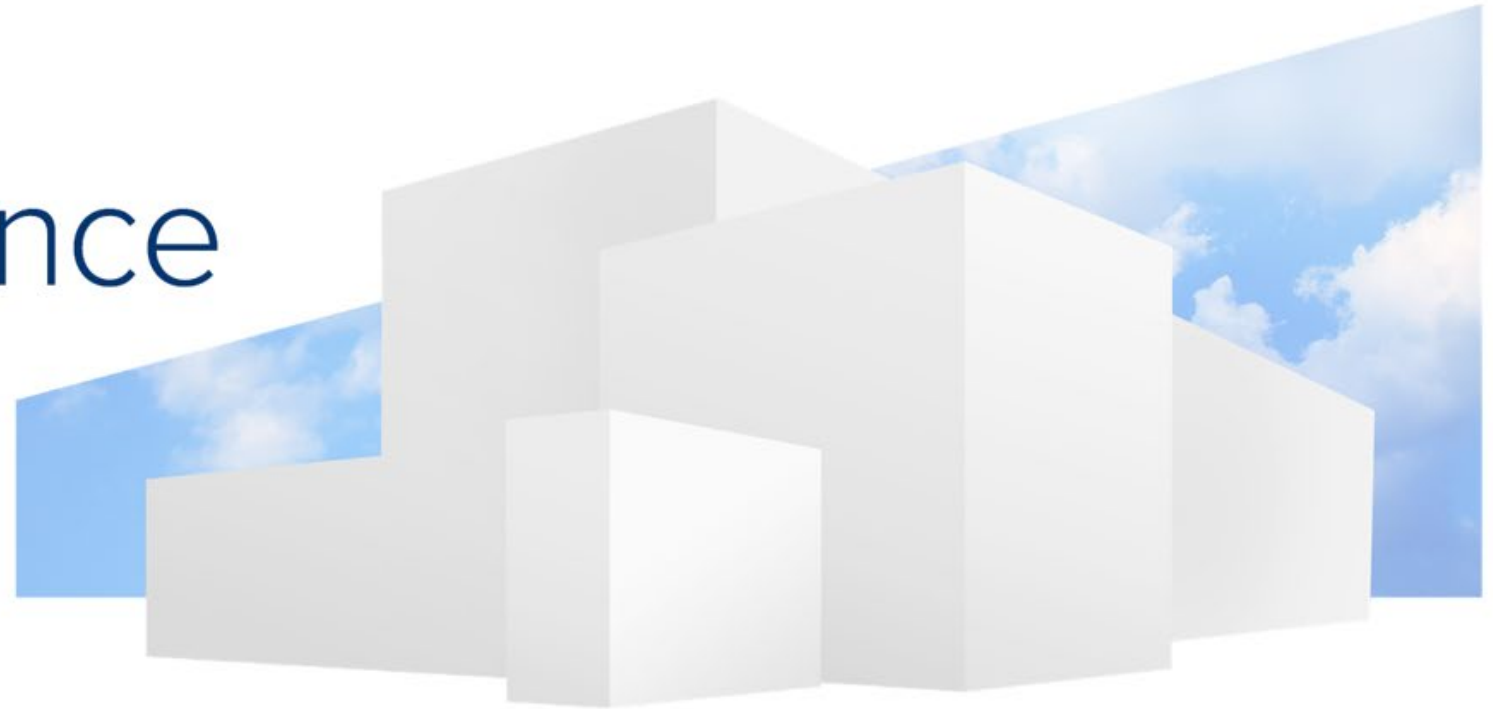
- ✓ Focus on carbon neutrality
- ✓ Serves housing of all types and sizes
- ✓ Recognizes various 3rd party performance standards
- ✓ Incentives available for retail or commercial space within an eligible mixed-use project
- ✓ Incentives of up to \$750,000 per project
- ✓ Targeted incentives offered in addition to direct funding
- ✓ Requires post-occupancy benchmarking

Carbon Neutral Portfolio level support

- ✓ Portfolio level support
- ✓ To entities positioned to influence a large volume of projects to carbon neutrality
- ✓ Technical assistance funding up to \$250,000

**Further program detail and updates are presented
on NYSERDA's New Construction Monthly Webinars**

Buildings of Excellence



Fill out this form to be notified regarding future Buildings of Excellence webinars or events, when each round of the Competition is launched, are about to close, and when the winners are announced.

Buildings of Excellence Design Competition



Buildings of Excellence Design Competition

The Buildings of Excellence Competition aims to accelerate the design, development, construction, and operation of carbon neutral buildings that:

- ✓ Exhibit architectural and urban design quality and innovation.
- ✓ Are capable of withstanding increased risks and impacts from future climate change.
- ✓ Demonstrate how to enhance interest in and demand for carbon neutral and climate-resilient buildings
- ✓ Assess and propose reductions in embodied carbon.
- ✓ Commit to sharing information related to the project's design, costs, and performance.
- ✓ Additional consideration given to projects that incorporate certain attributes or that will achieve energy affordability, and serve Disadvantaged Communities, Downtown Revitalization, Gut Rehab or Adaptive Re-use,

The Buildings of Excellence Competition offers:

- ✓ Up to \$1,000,000 per project
- ✓ Support for initiatives focused on broad marketing and public awareness.
- ✓ \$31 Million has been awarded through rounds 1 and 2
- ✓ Round 3 is expected to be published later 2021, or early 2022
- ✓ A 4th round of this Competition is now anticipated

Buildings of Excellence Design Competition

Round 3 will emphasize & focus on:

- ✓ Projects in the Early Schematic Design phase of development,
- ✓ Quality of Architectural Design,
- ✓ Carbon Neutral-ready Attributes for Highly Efficient Buildings,
- ✓ Cost Reduction, Integrated Strategies to achieve Performance and Validation,
- ✓ Climate Change Resilience,
- ✓ Quality of Co-benefits, such as Occupant Health and Safety, Sustainability, Durability,
- ✓ Entertain proposals for Market-rate projects separately from projects that self-identify as LMI buildings or for those proposing as projects that will be located within Under-served or Disadvantaged Communities.
- ✓ Request less technical details from proposers, understanding that projects may only be in Schematic Design.

Awarded Projects Overview

Buildings of Excellence Round 1 Projects

- 28 Projects Awarded
- 68% LMI
- 2704 Dwelling Units
- Average cost/sq.ft. \$372
- All Electric Space Conditioning
- 15 Projects Fully Electrified

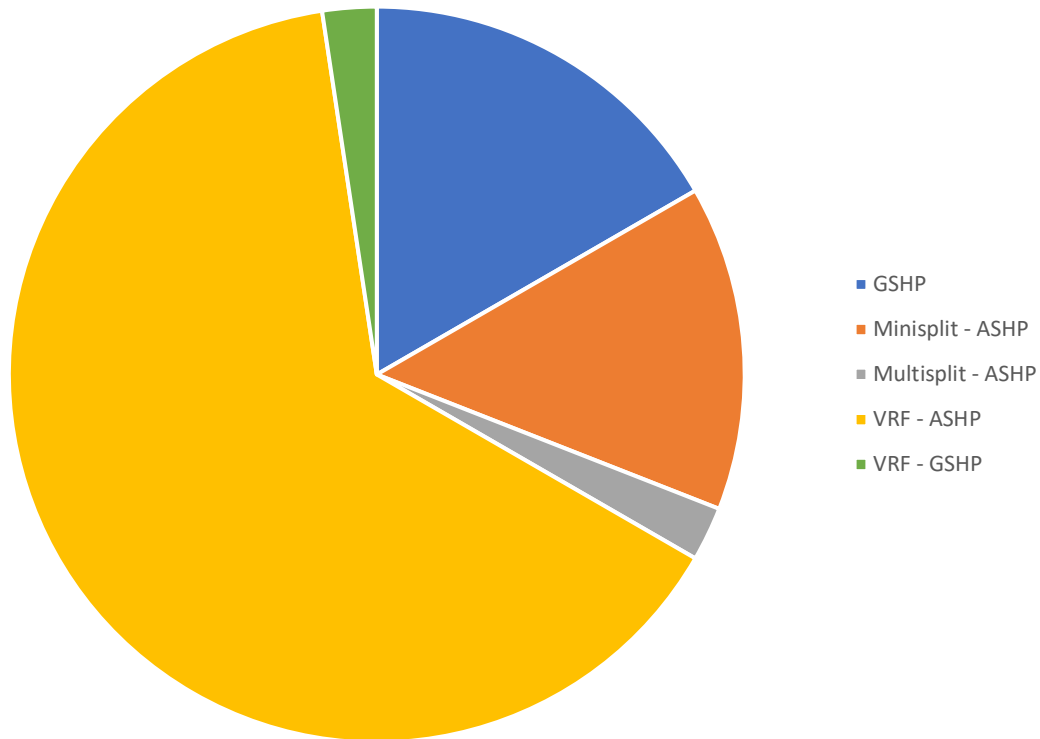
Buildings of Excellence Round 2 Projects

- 14 Projects Awarded
- 78% LMI
- 1569 Dwelling Units
- Average cost/sq.ft. \$360
- All Electric Space Conditioning
- All Projects Fully Electrified

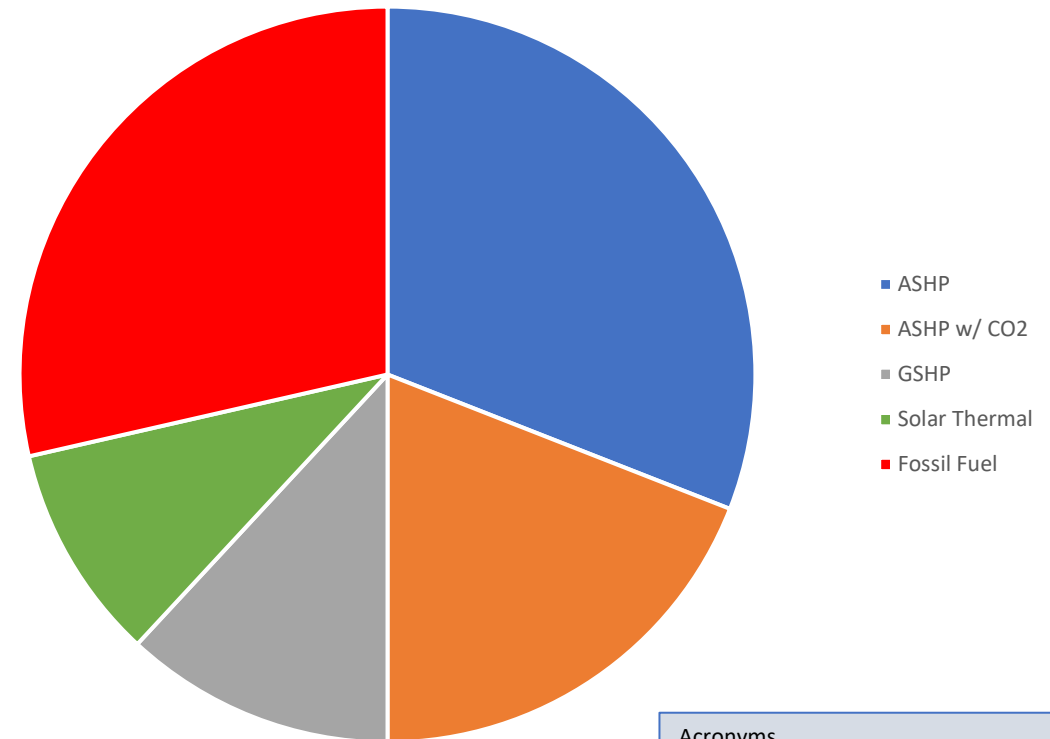
See [NYSERDA Buildings of Excellence Competition microsite](#) for additional analysis, presentations, and recordings

Building Systems by Project Count

Buildings of Excellence Space Conditioning Distribution



Buildings of Excellence DHW Distribution

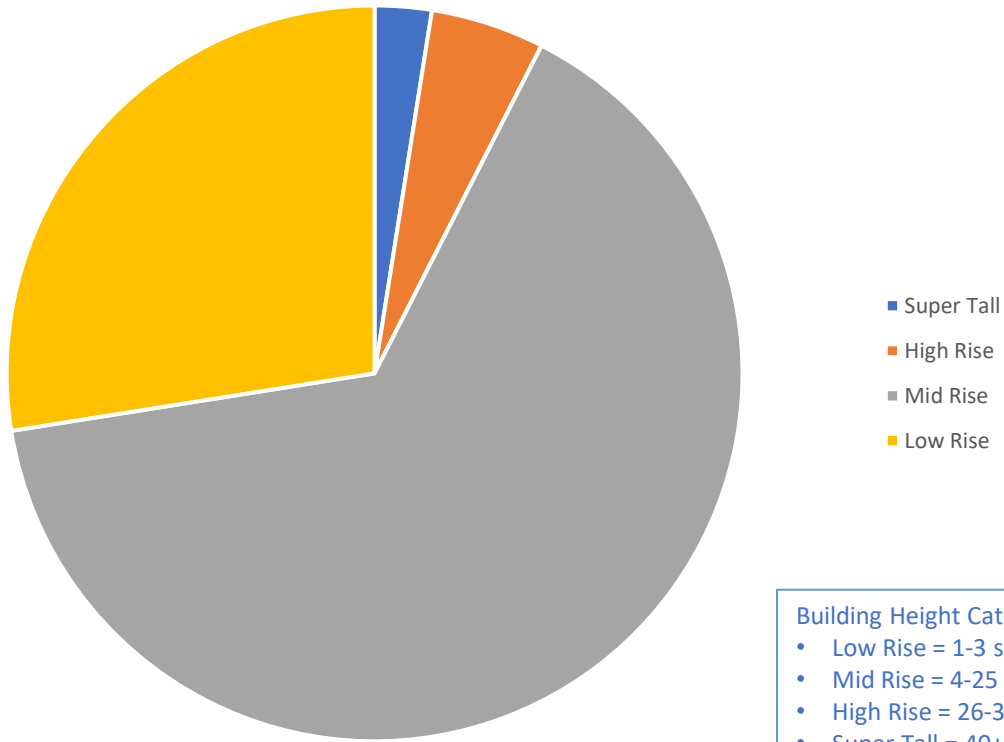


Note: Charts show Round 1 and Round 2 Projects

Acronyms
GSHP – Ground Source Heat Pump
ASHP – Air Source Heat Pump
VRF – Variable Refrigerant Flow
DHW – Domestic Hot Water
CO2 – Carbon Dioxide

Building Attributes by Project Count

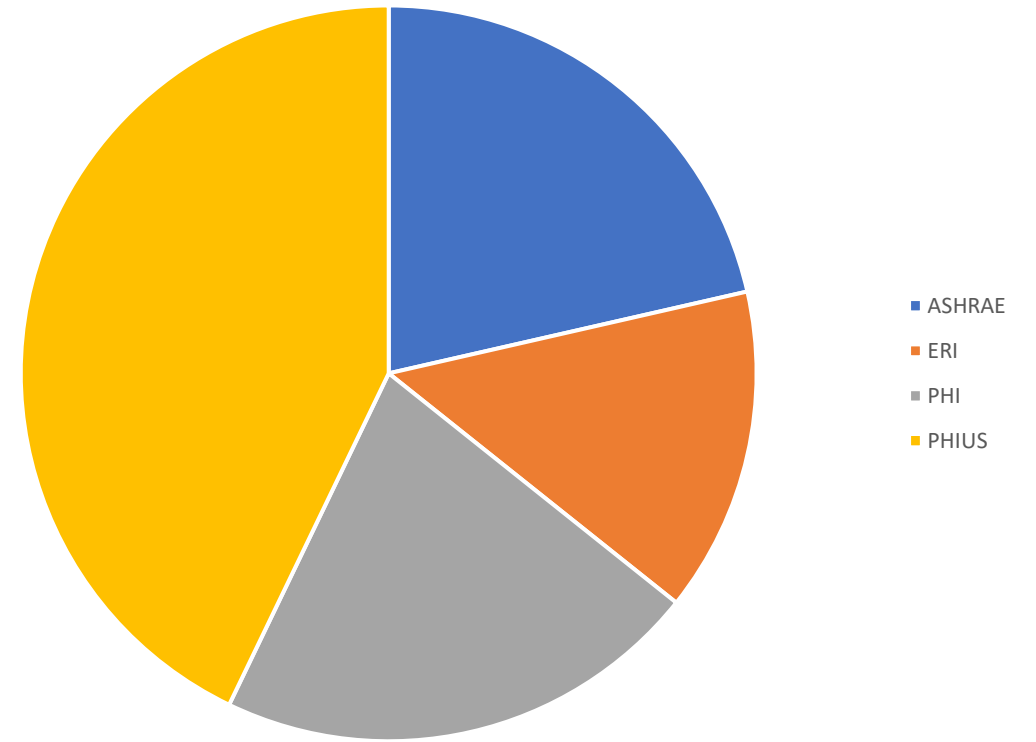
Buildings of Excellence Height Classification Distribution



Building Height Categories:

- Low Rise = 1-3 stories
- Mid Rise = 4-25 stories
- High Rise = 26-39 stories
- Super Tall = 40+ stories

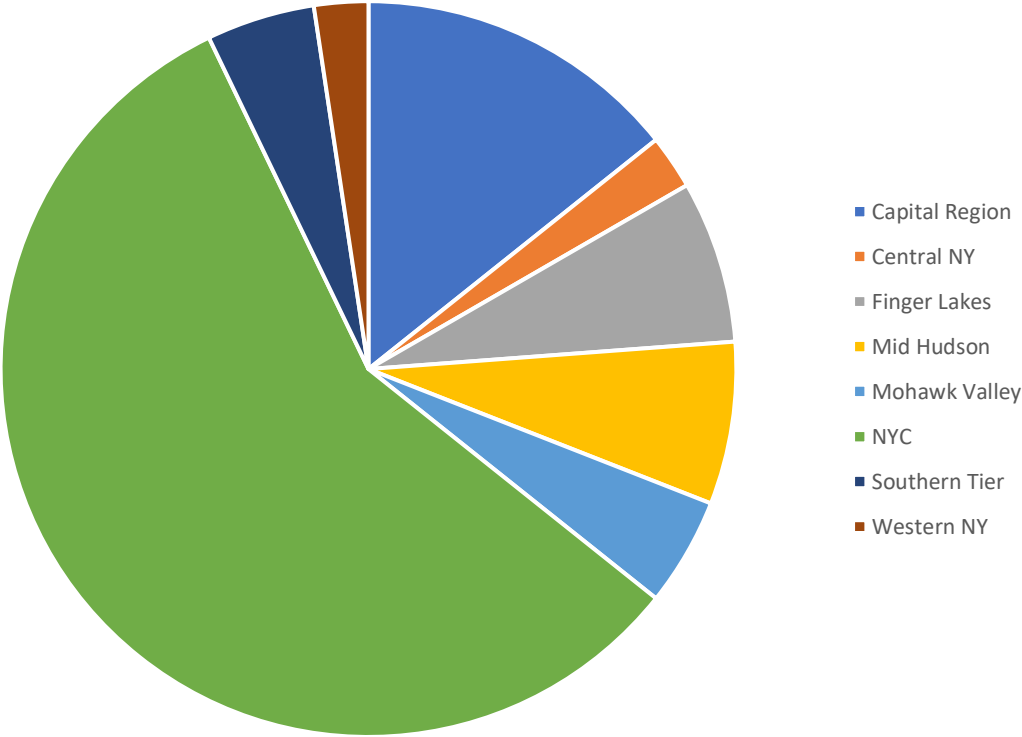
Buildings of Excellence Performance Path Distribution



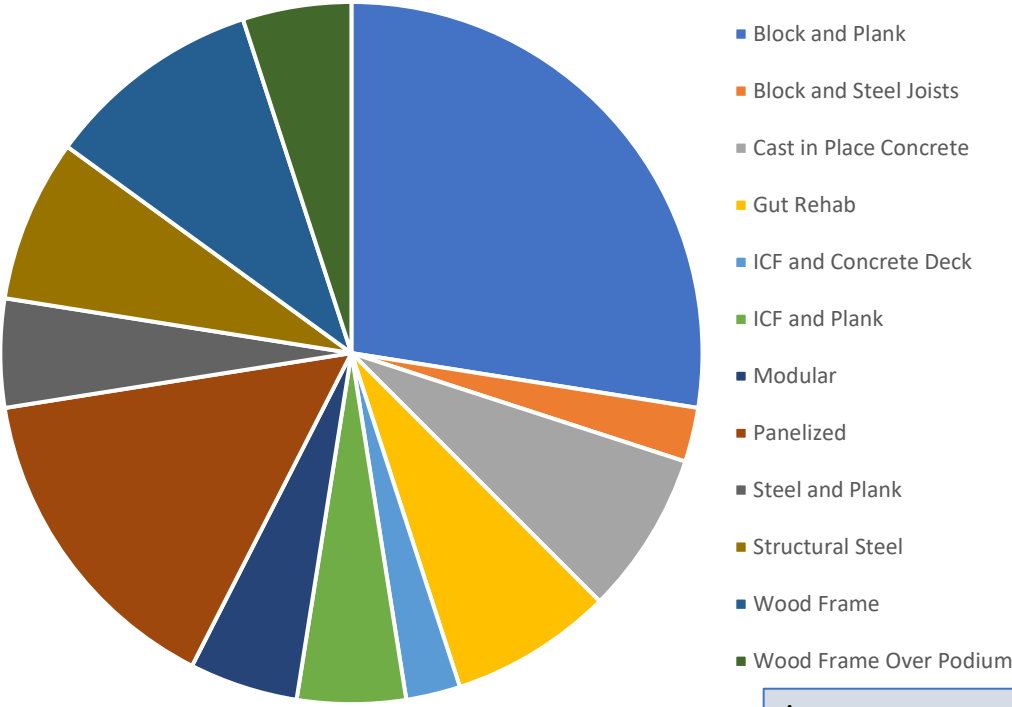
Note: Charts show Round 1 and Round 2 Projects

Building Attributes by Project Count

Buildings of Excellence Regional Distribution



Buildings of Excellence Structural Envelope Distribution



Acronyms
ICF – Insulated Concrete Form

Note: Chart shows Round 1 and Round 2 Projects

Performance, Cost Data and Case Studies

- Comprehensive performance validation of projects
- [Project cost data estimates for Buildings of Excellence projects](#) have been published and will be updated on a monthly basis.
- Case Studies will be published

Analysis indicate the most impactful solutions

:

- **Experienced, engaged, and skilled team involved early in the project - Integrated Design**
- **Repeat Team** – teams that have worked together across many projects
- **Flexible Team and Design** – teams that are willing to change and adapt
- **Repeatable and adaptive design** – a standard design used by teams that can be improved upon incrementally
- **Simplified design** – simple designs that allow for minimal variations of materials and practices that is easy for subcontractors to quote and execute.

Buildings of Excellence Winners page

Awarded project details and cost-related information available, plus:

- [Whole Building Integrated Design to Cost Effectively Achieve Net Zero Energy Performance](#)
- [Cost Optimized Design of Electrified Solar Thermal DHW Systems with Air Source Heat Pump Backup](#)
- [Simplification and Right Sizing of Ground Source Heat Pump Systems to Optimize Performance and Cost](#)
- [Buildings of Excellence Awarded Project Cost Analysis](#)



Visit nyserdera.ny.gov/boe to view the cutting-edge carbon neutral projects that are supporting New York's nation-leading climate goals.

Stay tuned for round 3 of the Competition expected Fall 2021!