Energy Efficiency Stakeholder Meeting

August 18, 2022

Agenda

1. Welcome & Introductions
2. Recap of Last Meeting
3. Current Program Updates
   - BPU Updates
   - Utility Company Updates
4. New Construction Program Update
5. Benchmarking
6. Working Group Updates
7. Rutgers NJ Energy Code Compliance Study
8. Clean Energy Conference
9. General Q&A
10. Items of Interest
11. Next Meetings

Welcome & Introductions

Recap of Last Month

July Meeting Recap

What we covered:

- ✓ Transition information on NJCEP website
- ✓ NJCEP and Utility Program updates
- ✓ Proposed Updates to NJCEP New Construction Program
- ✓ Working Group updates
- ✓ Q&A

Post-Transition
Energy Efficiency Programs

NJBPU and NJCEP Administered Programs

New Jersey's cleanenergy program™

- New Construction (residential, commercial, industrial, government)
- Large Energy Users
- Energy Savings Improvement Program (financing)
- State Facilities Initiative*
- Local Government Energy Audits
- Combined Heat & Power & Fuel Cells

*State facilities are also eligible for utility programs

Utility Administered Programs

atlantic city electric™ AN EXELON COMPANY

Jersey Central Power & Light A FirstEnergy Company

PSE&G

Rockland Electric Company

ELIZABETHTOWN GAS

SOUTH JERSEY GAS

New Jersey Natural Gas

- Existing buildings (residential, commercial, industrial, government)
- Efficient Products
  - Lighting & Marketplace
  - HVAC
  - Appliance Rebates
  - Appliance Recycling

NJBPU and Utility Co-Administered Programs

New Jersey Comfort Partners

BPU New Jersey's cleanenergy program™

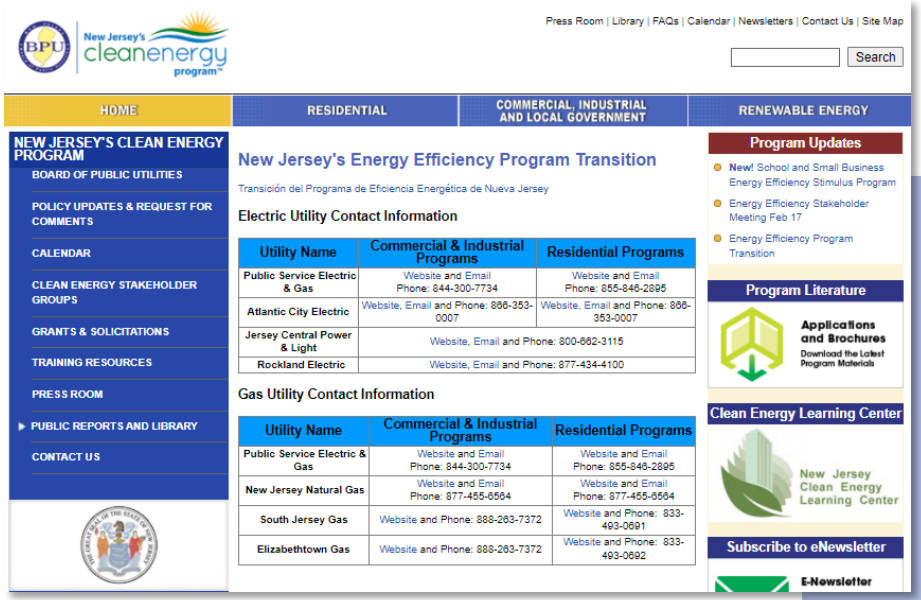
Visit our transition website:

www.NJCleanEnergy.com/TRANSITION

FAQs will be updated regularly

Visit our transition website:

www.NJCleanEnergy.com/TRANSITION



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HOME | RESIDENTIAL | COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT | RENEWABLE ENERGY

NEW JERSEY'S CLEAN ENERGY PROGRAM

- BOARD OF PUBLIC UTILITIES
- POLICY UPDATES & REQUEST FOR COMMENTS
- CALENDAR
- CLEAN ENERGY STAKEHOLDER GROUPS
- GRANTS & SOLICITATIONS
- TRAINING RESOURCES
- PRESS ROOM
- PUBLIC REPORTS AND LIBRARY
- CONTACT US

New Jersey's Energy Efficiency Program Transition

Transición del Programa de Eficiencia Energética de Nueva Jersey

Electric Utility Contact Information

Utility Name	Commercial & Industrial Programs	Residential Programs
Public Service Electric & Gas	Website and Email Phone: 844-300-7734	Website and Email Phone: 855-846-2895
Atlantic City Electric	Website, Email and Phone: 866-353-0007	Website, Email and Phone: 866-353-0007
Jersey Central Power & Light	Website, Email and Phone: 800-662-3115	
Rockland Electric	Website, Email and Phone: 877-434-4100	

Gas Utility Contact Information

Utility Name	Commercial & Industrial Programs	Residential Programs
Public Service Electric & Gas	Website and Email Phone: 844-300-7734	Website and Email Phone: 855-846-2895
New Jersey Natural Gas	Website and Email Phone: 877-455-6564	Website and Email Phone: 877-455-6564
South Jersey Gas	Website and Phone: 888-263-7372	Website and Phone: 833-493-0691
Elizabethtown Gas	Website and Phone: 888-263-7372	Website and Phone: 833-493-0692

Program Updates

- **New!** School and Small Business Energy Efficiency Stimulus Program
- Energy Efficiency Stakeholder Meeting Feb 17
- Energy Efficiency Program Transition

Program Literature

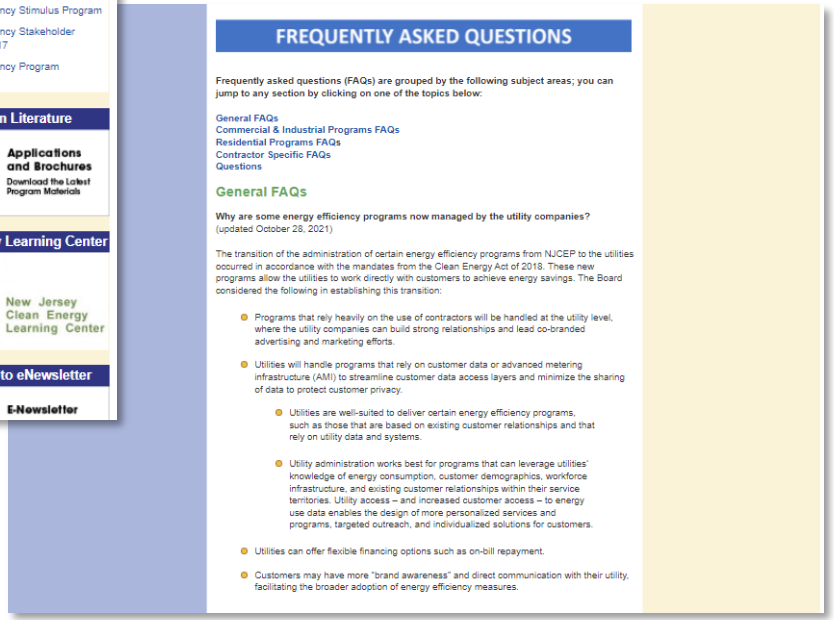
Applications and Brochures
Download the Latest Program Materials

Clean Energy Learning Center

New Jersey Clean Energy Learning Center

Subscribe to eNewsletter

E-Newsletter



FREQUENTLY ASKED QUESTIONS

Frequently asked questions (FAQs) are grouped by the following subject areas; you can jump to any section by clicking on one of the topics below:

General FAQs
Commercial & Industrial Programs FAQs
Residential Programs FAQs
Contractor Specific FAQs
Questions

General FAQs

Why are some energy efficiency programs now managed by the utility companies?
(updated October 28, 2021)

The transition of the administration of certain energy efficiency programs from NJCEP to the utilities occurred in accordance with the mandates from the Clean Energy Act of 2018. These new programs allow the utilities to work directly with customers to achieve energy savings. The Board considered the following in establishing this transition:

- Programs that rely heavily on the use of contractors will be handled at the utility level, where the utility companies can build strong relationships and lead co-branded advertising and marketing efforts.
- Utilities will handle programs that rely on customer data or advanced metering infrastructure (AMI) to streamline customer data access layers and minimize the sharing of data to protect customer privacy.
  - Utilities are well-suited to deliver certain energy efficiency programs, such as those that are based on existing customer relationships and that rely on utility data and systems.
  - Utility administration works best for programs that can leverage utilities' knowledge of energy consumption, customer demographics, workforce infrastructure, and existing customer relationships within their service territories. Utility access – and increased customer access – to energy use data enables the design of more personalized services and programs, targeted outreach, and individualized solutions for customers.
- Utilities can offer flexible financing options such as on-bill repayment.
- Customers may have more "brand awareness" and direct communication with their utility, facilitating the broader adoption of energy efficiency measures.

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Current Program Updates

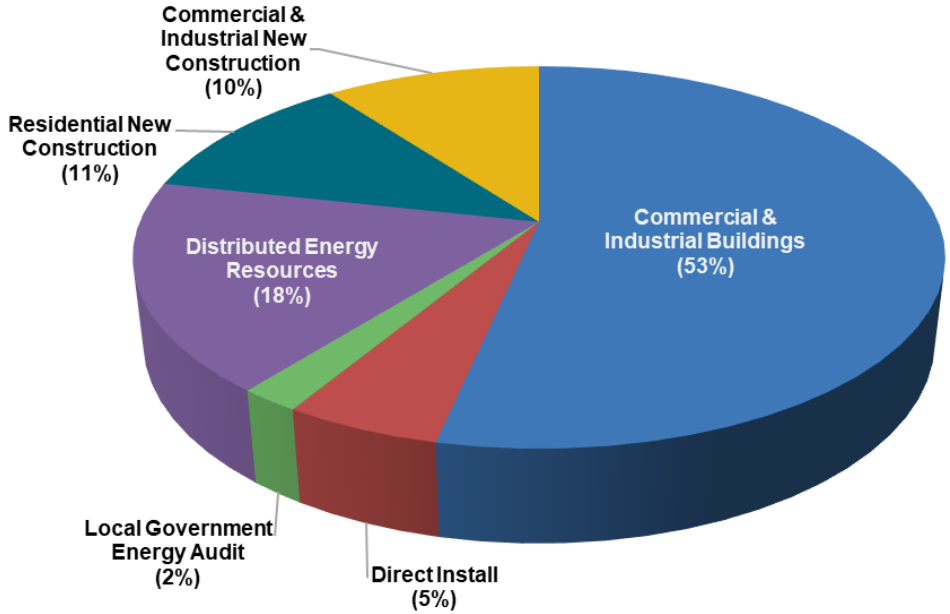
BPU Program Updates: Progress to Goals (PTG) Report as of July 2022 – FY23

Note: The results presented here are preliminary and are subject to change.

Budget Break-down by Program

FY23 TRC Managed Programs

Incentive Budget: $117,415,104



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Energy Efficiency Programs FY23

NJCEP/TRC Managed - Closed/Closing Out, Transitioned to Utilities

- Residential Products & HVAC
- Residential Existing Homes
- C&I Buildings (existing buildings)
  - SmartStart Retrofit
  - Pay for Performance Existing Buildings
- Direct Install

NJCEP/TRC Managed - Open

- New Construction
  - Was: Residential New Construction, SmartStart New Construction, Pay for Performance New Construction, CTEEP New Construction
- Large Energy Users
- Local Government Energy Audit
- Distributed Energy Resources
- School & Small Business Stimulus Program (federally funded)

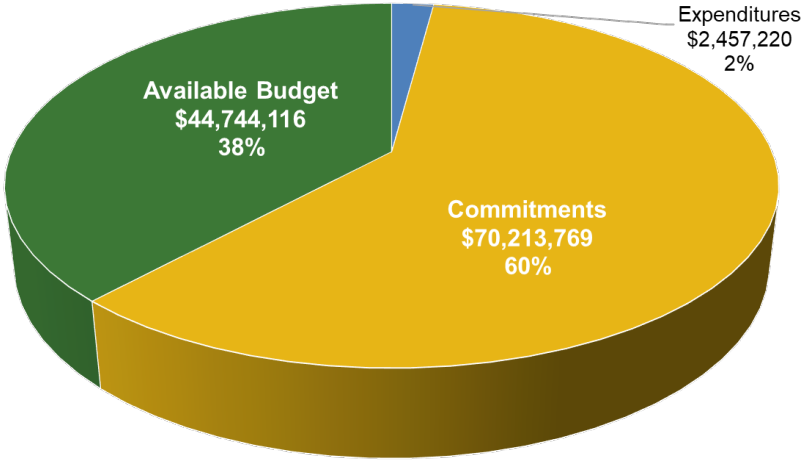
BPU/Utility Managed

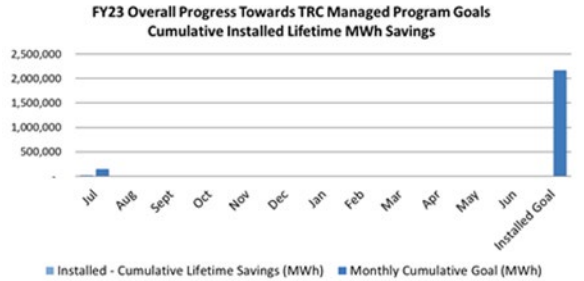
- Comfort Partners

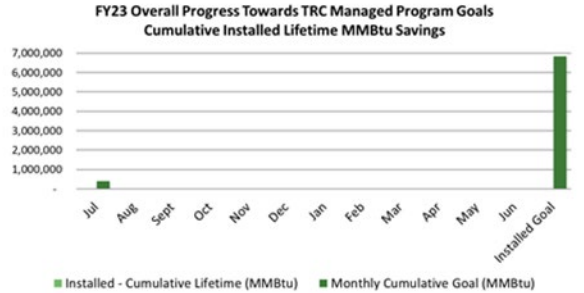
Progress Towards Goals – TRC Managed Programs

FY23 TRC Managed Programs

Incentive Budget: $117,415,104







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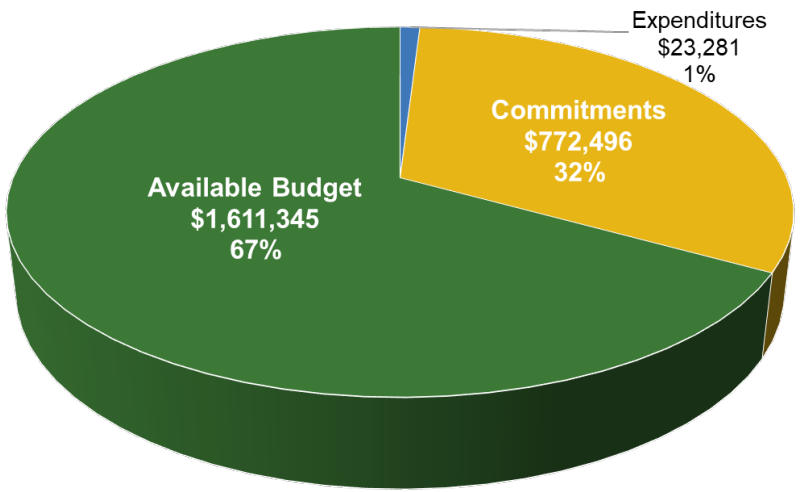
Local Government Energy Audit (LGEA)

FY23 Incentive Budget: $2,407,121



Program Highlights

- Received: 0 applications this month 0 YTD
- Approved: 11 applications this month 11 YTD
- Audited approximately 1,108,688 square feet
- Held 3 Exit Meetings for 36 sites (including additional scopes)
- Delivered Final Audit reports on 23 sites (3 entities)

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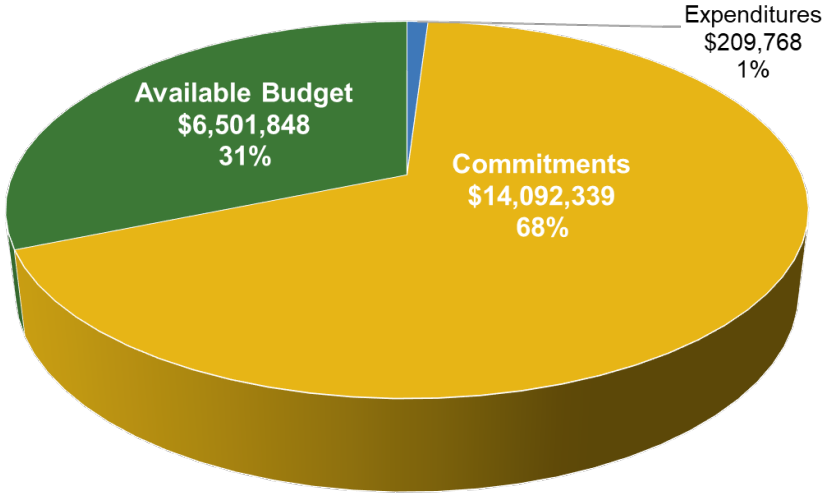
Distributed Energy Resources

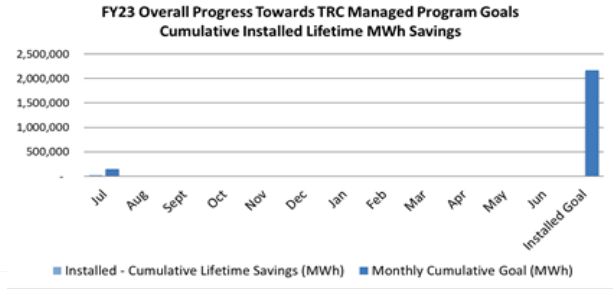
CHP and Fuel Cells

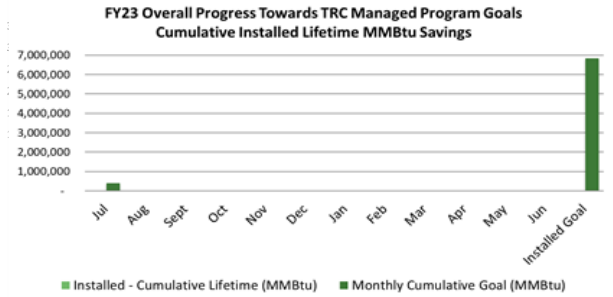
FY23 Incentive Budget: $20,803,955



Program Highlights

- Received: 0 applications this month 0 YTD
- Approved: 1 application this month 1 YTD
- Completed: 0 installations this month 0 YTD





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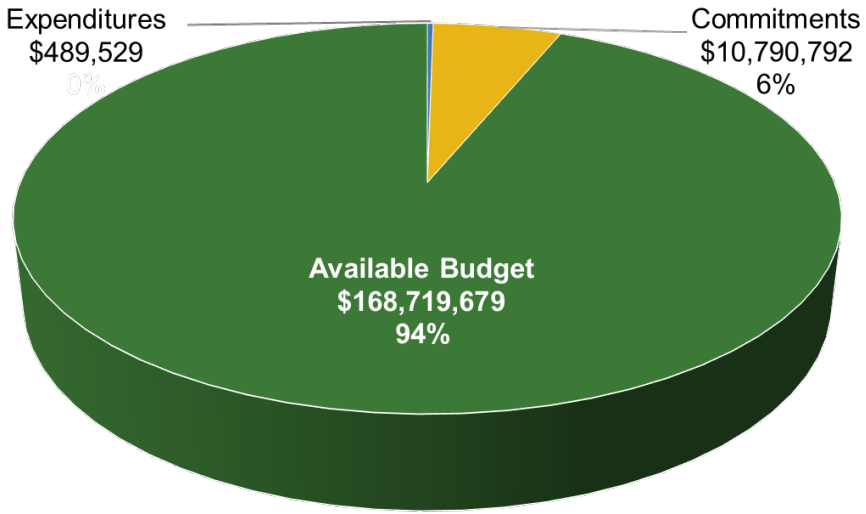
School & Small Business Stimulus Program

FY23 Incentive Budget: $180,000,000



Program Highlights

•	Received:	15 applications this month	15 YTD
•	Approved:	17 application this month	17 YTD
•	Completed:	1 installation this month	1 YTD

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School & Small Business Stimulus Program

	Boards of Education		Women and Minority-Owned Small Businesses	
	Underserved Community	Non-Underserved Community	Underserved Community	Non-Underserved Community
HVAC Projects	Full*	Full*	Available	Available
Plumbing & Appliance Projects	Available	Available	Available	Available

*A full pipeline includes applications that are in the process of submitting additional information required for complete applications.

Incentives for HVAC projects are also available through your utility provider. Utility contact information can be found here.

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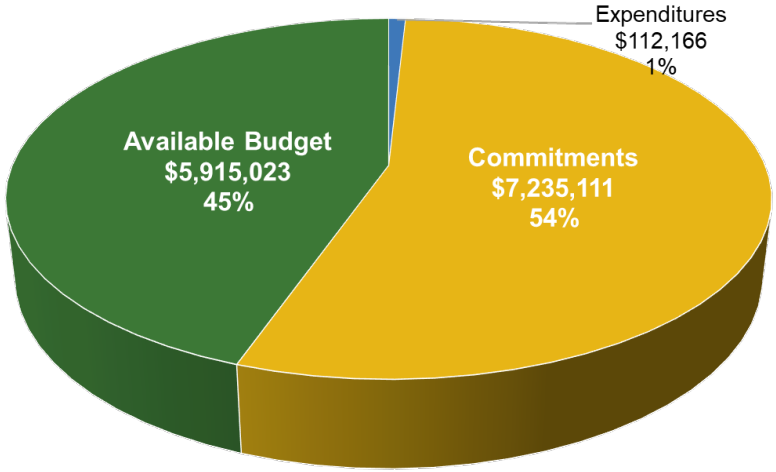
New Construction Programs

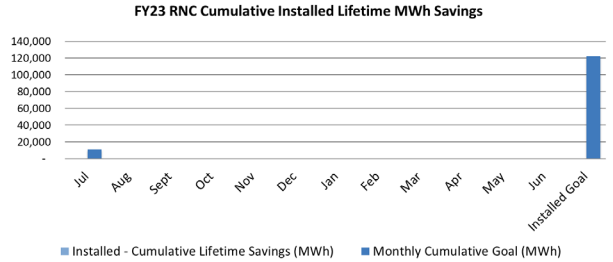
Residential New Construction

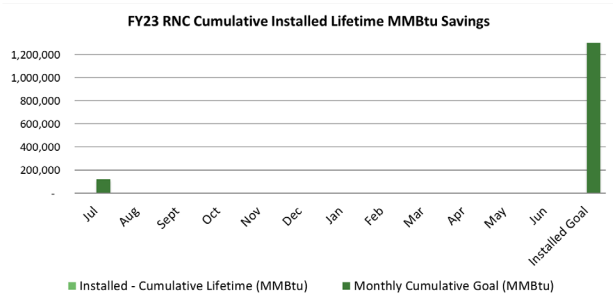
FY23 Incentive Budget: $13,262,300



Program Highlights

- Enrollments Received: 173 enrollments this month 173 YTD
- Projects Approved: 153 projects this month 153 YTD
- Applications Received: 33 applications this month 33 YTD





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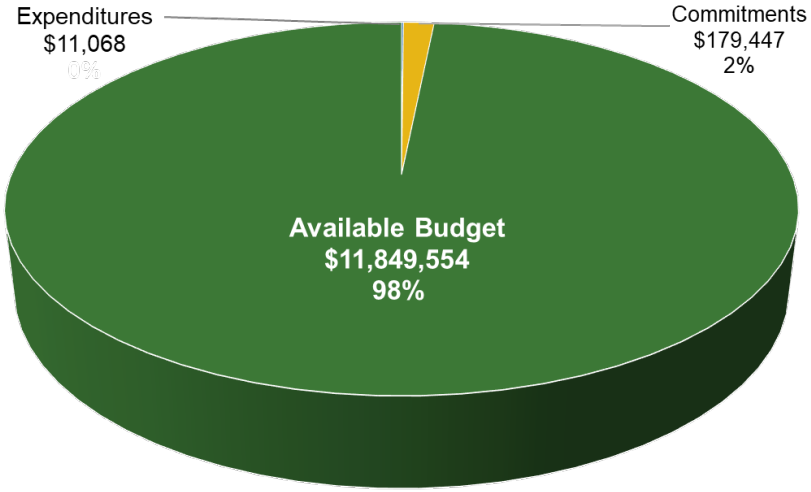
New Construction Programs (cont.)

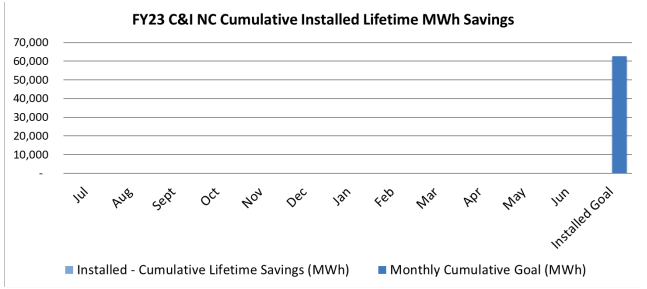
C&I New Construction: P4P NC & C&I NC

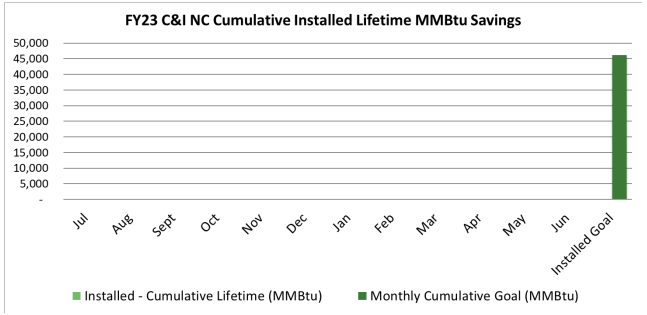
FY23 Incentive Budget: $12,040,069



Program Highlights

•	Received:	7 enrollments this month	7 YTD
•	Approved:	12 projects this month	12 YTD
•	Paid:	3 applications this month	3 YTD

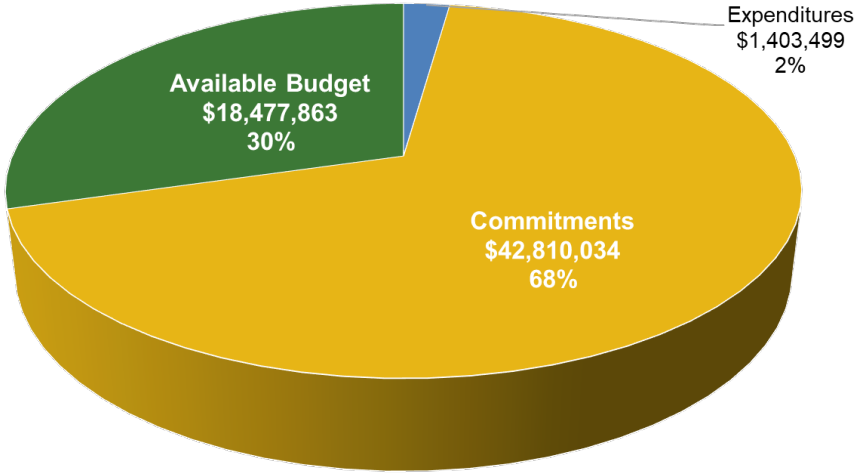


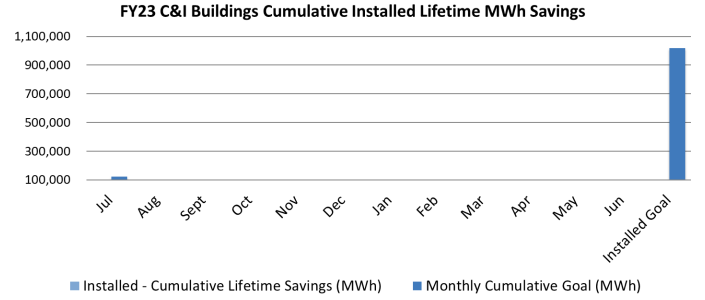


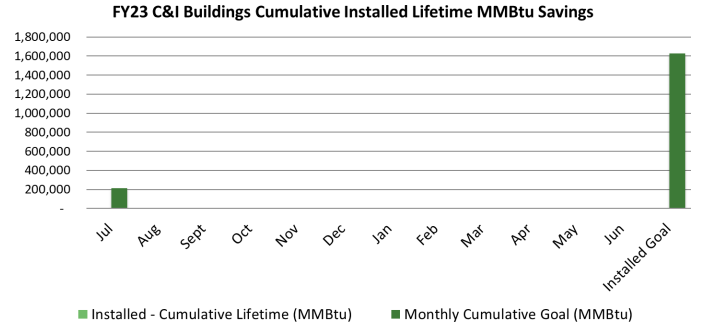
Commercial & Industrial Buildings Program

C&I Buildings: Retrofit, CTEEP, P4P EB, LEUP

FY23 Incentive Budget: $62,691,396







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C&I Buildings – Program Highlights

Large Energy User Program

• Received:	2 applications this month	2 YTD
• Approved:	0 Final Energy Efficiency Plans this month	0 YTD
• Paid:	0 applications this month	0 YTD

Retrofit *(Close-Out Program: transitioning to Utilities)*

• Received:	0 applications this month	0 YTD
• Approved:	1 application this month	1 YTD
• Paid:	0 applications this month	0 YTD

Pay for Performance Existing Buildings *(Close-Out Program: transitioning to Utilities)*

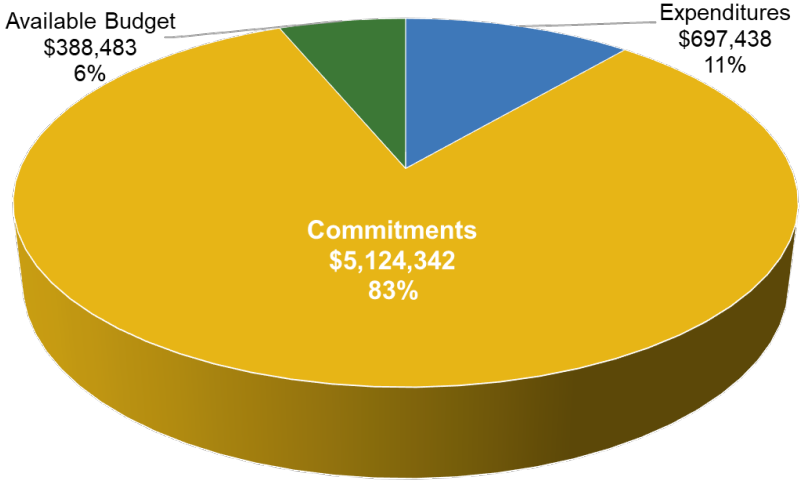
• Received:	0 applications this month	0 YTD
• Approved:	2 Energy Reduction Plans	2 YTD
• Completed:	0 projects this month	0 YTD

CTEEP *(Close-Out Program: transitioning to Utilities)*

• Received:	0 new enrollments this month	0 YTD
• Approved:	0 applications this month	0 YTD
• Paid:	1 application this month	1 YTD
• Held:	0 scoping session meetings with customers this month	0 YTD

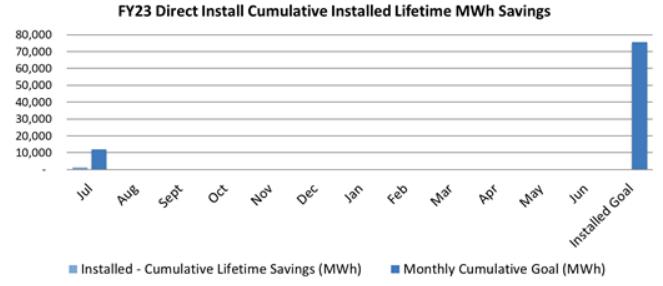
Direct Install *(Close-out Program: transitioning to Utilities)*

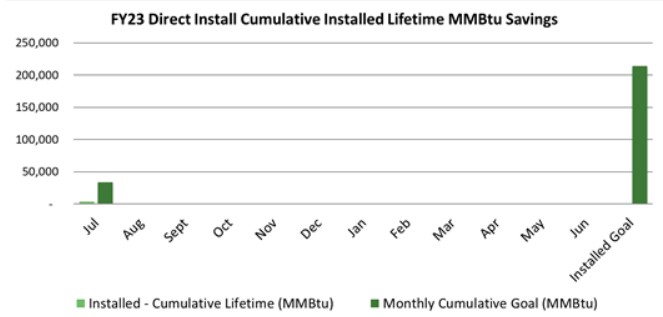
FY23 Incentive Budget: $6,210,263



Program Highlights

- Received: 0 enrollments this month 0 YTD
- Paid: 19 applications this month 19 YTD





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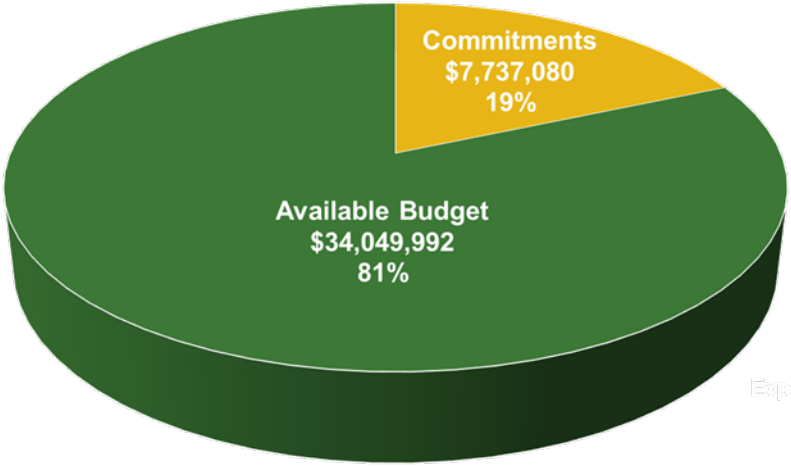
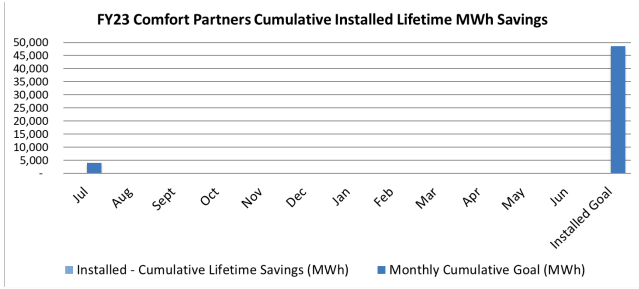
Comfort Partners
BPU/Utility Managed

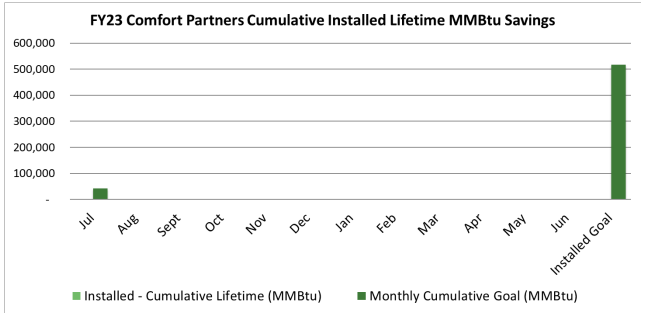
FY23 Incentive Budget: $41,787,072



Program Highlights

- Completed: 215 projects this month 215 YTD





Utility Updates
NJ Energy Efficiency Stakeholder Meeting

August 18, 2022

Reminders

- All of the utilities have launched the programs transitioning from NJCEP
- Reach out to utilities where you may be interested in doing business.
  - Explore the information they have posted and reach out if you have questions.
  - Sign up for any contractor updates if that is available.
  - Build your understanding of utility specific elements (e.g. financing options, online forms)
  - Some programs have specific contractor requirements and may require Participating Contractor Agreement
- Contact info for all utilities is captured NJCEP Transition page

Utilities appreciate your patience during this transition
Committed to updating FAQs and materials to provide clarity to customers and contractors

Program Updates

- Recurring joint utility calls booked to provide program updates and secure feedback on programs
  - HPwES contractors – generally held 3rd Thursday of every other month
    - Call held earlier today.
    - Included preliminary discussion of pending new minimum efficiency standards for January 1, 2023
  - HVAC contractors-
    - Next meeting to be booked this fall
    - Reach out to your utility if you are interested in attending future meetings
  - Contractors do not need to wait for meetings if they have questions

Joint Petition- Budget Constraints

- Utilities have been working to resolve constraints among Lead and Partner utility budgets that presented challenges in supporting the market during this Triennial.
- On November 8th, the utilities submitted a joint letter petition with a proposal to allow for more flexibility for utilities to implement solutions that can help keep markets open and allow Lead Utilities to implement their approved Program Plans
  - Would allow a Lead Utility with available budget to cover a Partner Utility's fuel if a Partner Utility is not able to support the funding request within the existing flexibility provisions
  - Seeking interim approval to help address existing budget constraints for certain programs in some territories
- On August 17th, the Board approved the settlement with Board staff and Rate Counsel
  - Agreement will provide more flexibility to keep programs open when budget constraints are encountered

New Construction Program Update

New Construction Program Update

- Stakeholder Meeting held July 22nd, recording on website: NJCleanEnergy.com/Policy-Updates
- Comments received (deadline July 29th)
- Currently reviewing all comments

Next steps

- Finalize program design
- Release for public comment as Compliance Filing update

Benchmarking

Benchmarking Timeline

3Q22
- Approval
- Discuss data access with utilities

4Q22
- CRM vendor selection

1Q23
- Outreach to building associations
- Benchmarker training & certification

2Q23
- Outreach continues
- Start administrative rule development

3Q23
- Notify owners by July 1st
- Help desk available

4Q23
- Oct 1st submission deadline

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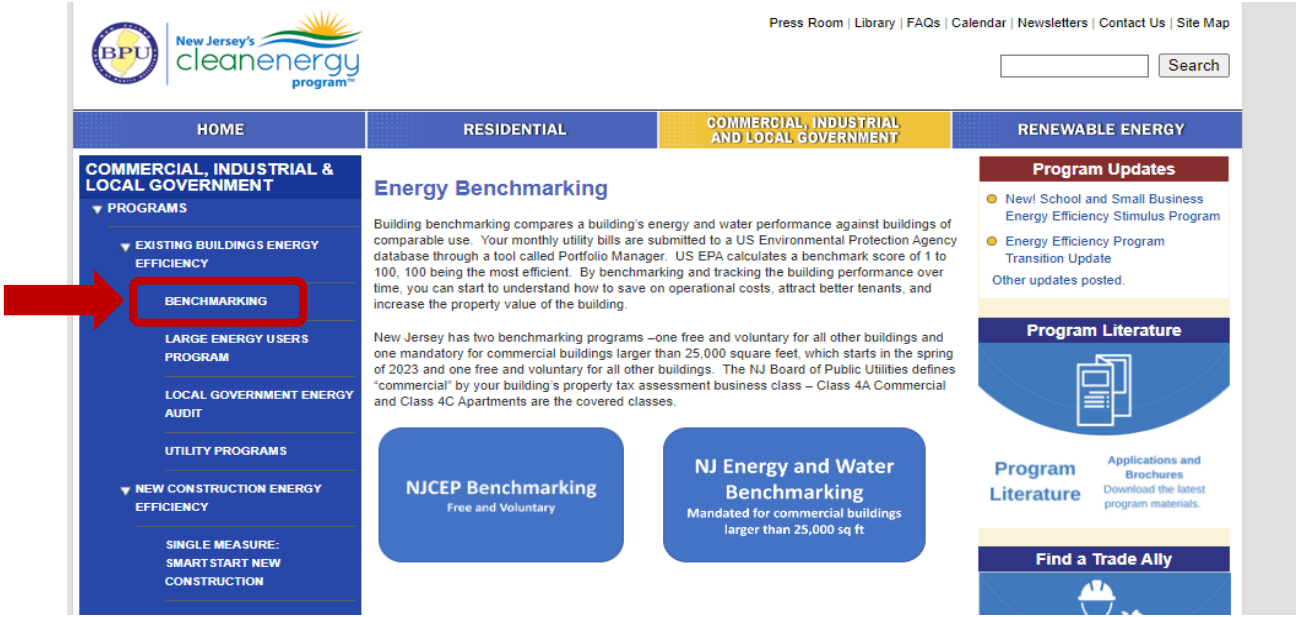
Benchmarking

Updated website: NJCleanEnergy.com/Energy-Benchmarking



Benchmarking

NJCEP Benchmarking

If you are seeking to voluntarily benchmark your building and you are not covered by the Clean Energy Act requirement, you may use this free benchmarking service. If you are not sure whether you are covered by the CEA requirement, please check here first.

Our program representatives will track and score your actual energy usage based on your industry type and provide a detailed report along with valuable information on implementing energy-efficient technologies, including available financial incentives to lower project costs.

Sample Benchmarking Reports

- · Energy Benchmark Report Example Elementary
- · Energy Benchmark Example Office Building

Please complete this short Utility Data Release Form so that we may access your energy usage directly from your energy providers.

You may complete the e-form or the regular form version of the application.

Electronic Forms

Select your building type from the list below:

Not sure which sector to select? View descriptions

Commercial (under 25,000 sq ft)
- Data Center
- Supermarket
- Retail
- Office Building
- Other

Industrial
- Automobile Assembly
- Cement Manufacturing
- Chemical Pharmaceutical
- Corn Milling
- Other
- Warehousing

Institutional
- K-12 Schools
- Municipalities
- House of Worship
- Office Building
- Wastewater Treatment Plant
- Other

Higher-Education
- Dormitories
- Office Building
- Other

Hospital
- Acute Care
- Children's Hospital
- Office Building
- Outpatient Healthcare
- Other

Multifamily-Building
- Multifamily

Hospitality
- Hotels
- Restaurants
- Other

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Benchmarking

NJ Energy and Water Benchmarking

Mandatory for Commercial Buildings Over 25,000 Square Feet

On May 23, 2018, Governor Phil Murphy signed the Clean Energy Act into law as L. 2018, c. 17 ("CEA"). The Clean Energy Act of 2018 mandates the following:

- No later than five years after the date of enactment of P.L. 2018, c.17 (C.48:3-87.8 et al.), the board shall require the owner or operator of each commercial building over 25,000 square feet in the State to benchmark energy and water use for the prior calendar year using the United States Environmental Protection Agency's Portfolio Manager tool.

The 2019 New Jersey Energy Master Plan ("EMP") includes Goal 3.3.2, to "Establish transparent benchmarking and energy labeling," which lists building energy use benchmarking as a critical component in promoting market-driven increases in energy efficiency. Benchmarking allows commercial building owners and operators to measure and analyze their respective facilities' energy and water use and compare their performance to similar buildings. Owners and operators can then assess opportunities for performance improvements that reduce their respective building's energy use and costs.

Pursuant to the Open Public Meetings Act, N.J.S.A. 10:4-6 et seq., the New Jersey Board of Public Utilities ("NJBPU" or "Board") gave proper notice and held a Stakeholder Meeting on January 6, 2022 to discuss the New Jersey 2021 Building Energy and Water Benchmarking Straw Proposal, which was released to the public on December 16, 2021. Written comments on this Straw Proposal were due to the Board on January 20, 2022 at 5 p.m. Staff has reviewed stakeholder comments and is currently preparing recommendations for the Board.

Benchmarking Timeline

Date	Item	Materials
Dec 16, 2021	Straw Proposal released	Public Notice Straw Proposal
Jan 06, 2022	Stakeholder Meeting held	Presentation Webinar Recording
Jan 20, 2022	Deadline for submission of comments on Straw Proposal	NJBPU Public Comments
May 23, 2023	CEA benchmarking requirement for all applicable commercial buildings takes effect	

Engagement

Sign up for the Energy Efficiency listserv to receive updates on the Benchmarking Program

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Working Group Updates

Working Groups

Four Energy Efficiency Working Groups were identified in the June 10, 2020 Board Order to refine the programs through the transition. The current working groups are as follows:

- **Workforce Development Working Group**
- **Equity Working Group** (Comfort Partners Committee and Multifamily Committee)
- **Marketing Working Group**
- **Evaluation, Measurement, and Verification Working Group** (Technical Reference Manual Committee and NJ Cost Test Committee)

Workforce Development Working Group

- Develop recommendations for establishing coordinated and collaborative workforce development and job training pathways statewide
- Focus on providing economic opportunities for underrepresented and socially or economically disadvantaged individuals

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Equity Working Group

- Develop recommendations to integrate equity metrics and approaches in energy efficiency and peak demand reduction programs
- Collaborate with Supplier Diversity Development Council to encourage supplier diversity
- Encourage contractor coaching/mentoring of diverse enterprises

Comfort Partners Committee: Oversee Comfort Partners Program and utilities' day-to-day operations

Multifamily Committee: Design and manage delivery of multifamily sector with goals of equitable access and adequate program support

Marketing Working Group

- Promote the programs, overall state brand (utilized by all program administrators), and the larger benefits of participation in EE and PDR programs. Engage in a collaborative effort in branding, messaging, and promotion of all utility- and State-led programs, including in the provision of program materials in Spanish and languages other than English. Staff shall leverage State resources to promote general awareness of EE and other clean energy opportunities in NJ while the utilities shall market specific programs and initiatives to customers in a more targeted fashion

Evaluation, Measurement, & Verification Working Group

- Provide guidance and input on the planning and monitoring of EM&V plans (including activities, methodologies, budgets, priorities), policies, procedures, guidelines, requirements for program administrators (including data to be tracked and reported, such as GHG emissions reductions, BTU savings, local worker job-hours, supplier diversity), methods to account for strategic electrification, and schedules.
- Provide recommendations on development of a standard, transparent, and replicable approach for EM&V across the state, according to which the State and utilities will be held to the same accountability standards such as the frequency and transparency of reporting and vendor procurement requirements.
- Share associated data, track best practices from other jurisdictions, emerging EM&V approaches and facilitate the necessary stakeholder processes related to the State's EM&V policies.

Rutgers New Jersey Energy Code Compliance Study

Results Presentation

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AGENDA

- Project Objectives
- Residential compliance
- Commercial compliance
- Discussion and Q&A

Project overview & objectives

- **Primary Objective: Assess impacts of code compliance and the potential for enhanced savings** across New Jersey residential and commercial business sector
  - Residential compliance against IECC 2015
  - Commercial compliance against ASHRAE 90.1-2013
- Where possible, assess compliance by size, type, code category, measure, and program participation
- Assess building department protocols and practices to identify opportunities for targeted code support activities to improve compliance
- Identify/quantify opportunities for energy savings from increased compliance

Residential Code Compliance

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Methodology

Data Sources

- Self-report web survey of occupants in homes built under IECC 2015, primarily in 2018 and 2019
- Building department records for both respondent and non-respondent homes

Sample

- 131 Non-program
- 53 Program

Analysis

- Assessed measure-level prescriptive code compliance; pass-fail
- Created models of average homes (detached, duplex/townhouse, apartment)
  - Consumption compliance; partial credit
  - Energy Use Intensity (EUI) & Gross Technical Potential (GTP)

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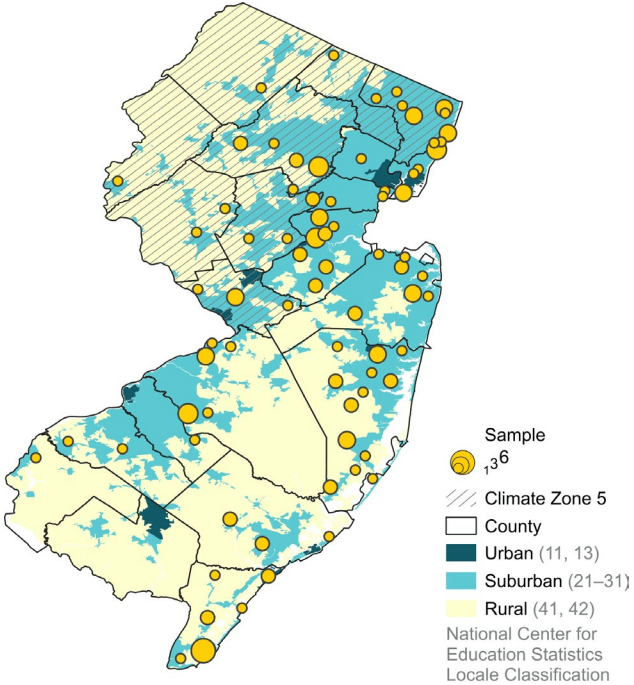
Geographic Distribution of Non-Program Homes



- Broad geographic distribution of sites in the sample
- 131 total sites
  - 66 in CZ4, 65 in CZ5
- 85% suburban, 11% rural, and 5% urban
- 96 single-family detached homes, 9 duplexes, 19 townhomes, 7 multifamily units (2-4 units in size)

Prescriptive Code Compliance

Pass-Fail, % Passing Homes. Sorted by decreasing measure impact

Measure	Single-Family Detached				Attached/MF 2–4			
	Non-Program		Program		Non-Program		Program	
	CZ 4	CZ 5	CZ 4	CZ 5	CZ 4	CZ 5	CZ 4	CZ 5
Sites	~26†	~23†	15	5	~6†	~5†	27	6
Exterior Walls	28%	46%	13%	20%	0%	17%	44%	50%
Windows & Skylight (U)	96%	88%	100%	100%	100%	80%	100%	100%
Mechanical Vent.	0%	0%	7%	25%	–	0%	19%	0%
Ducts	88%	80%	100%	100%	100%	100%	92%	83%
Flat Ceilings	20%	17%	33%	60%	0%	17%	28%	50%
Air Leakage	83%	60%	53%	80%	50%	100%	37%	33%
Framed Floors	100%	83%	100%	100%	100%	100%	100%	80%
Cond. Basement Walls	50%	29%	14%	50%	50%	100%	0%	0%
Slabs	80%	100%	100%	100%	50%	100%	100%	80%

† Approximate number of homes represented in average home model. Exact count varies by measure.

Considerable "R-17" & R-15. Code is R-20

R-38. Code is R-49 or R-38 if energy truss

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Consumption Compliance

Average %, with partial credit. Sorted by decreasing measure impact

Measure	Single-Family Detached				Attached/MF 2–4			
	Non-Program		Program		Non-Program		Program	
	CZ 4	CZ 5	CZ 4	CZ 5	CZ 4	CZ 5	CZ 4	CZ 5
Sites	~26†	~23†	15	5	~6†	~5†	27	6
Exterior Walls	81%	89%	85%	86%	77%	86%	85%	98%
Windows & Skylight (U)	100%	100%	100%	100%	100%	100%	100%	100%
Mechanical Vent.	95%	99%	95%	100%	94%	99%	94%	98%
Ducts	79%*	81%	100%	100%	100%	100%	98%	100%
Flat Ceilings	63%*	59%*	94%	100%	63%*	59%	95%	97%
Air Leakage	85%	88%	77%	97%	85%	89%	64%	62%
Framed Floors	93%	77%	100%	99%	87%	78%	100%	95%
Cond. Basement Walls	60%*	58%	87%	78%	67%	56%	98%	89%
Slabs	97%	100%	97%	99%	100%	100%	99%	99%
TOTAL	85%	85%	92%	96%	87%	88%	92%	94%

Small impact from marginally non-compliant exhaust fans

Walls & ceilings still modest compliance

† Approximate number of homes represented in average home model. Exact count varies by measure.
* Potentially significant difference. Due to the nature of the data collection and small sample sizes, it is not possible to offer firm declarations of statistical significance. However, the Z-scores for these values are potentially distinct from those of the corresponding program homes at the 90% confidence level

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Conclusions

- Overall consumption compliance ranges from 85% to 96%
- Walls in all home categories would benefit from additional insulation
- Non-program ceilings would benefit from additional insulation
- Compliance with mandatory air leakage requirements could be increased for all homes
- Up to 205 billion BTUs could be saved statewide with increased code compliance.
  - This represents 123% of the 2019 RNC program goals.
- Average HERS scores for non-program prototype models were between 72 and 73, depending on building type
  - Comparable MA average HERS score is 59; NY is 54

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Commercial Code Compliance

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Commercial methodology and approach

- Assessed commercial new construction code compliance for a sample of NJ buildings permitted under ASHRAE 90.1-2013
  1. Initial population estimate from Dodge database
  2. Developed sample to select buildings (two-stage sample to select municipalities and then buildings)
  3. Recruited 47 buildings through direct requests to building departments for construction drawings
  4. Reviewed construction drawings to collect measure-level performance observations
  5. Analyzed data to aggregate results by site and across several stratifications
- Conducted in-depth interviews with building departments and design community representatives in New Jersey to inform new construction processes and practices (n=14)
- Modeled energy savings from increased compliance from select building types.
  - Alignment with DOE prototype models

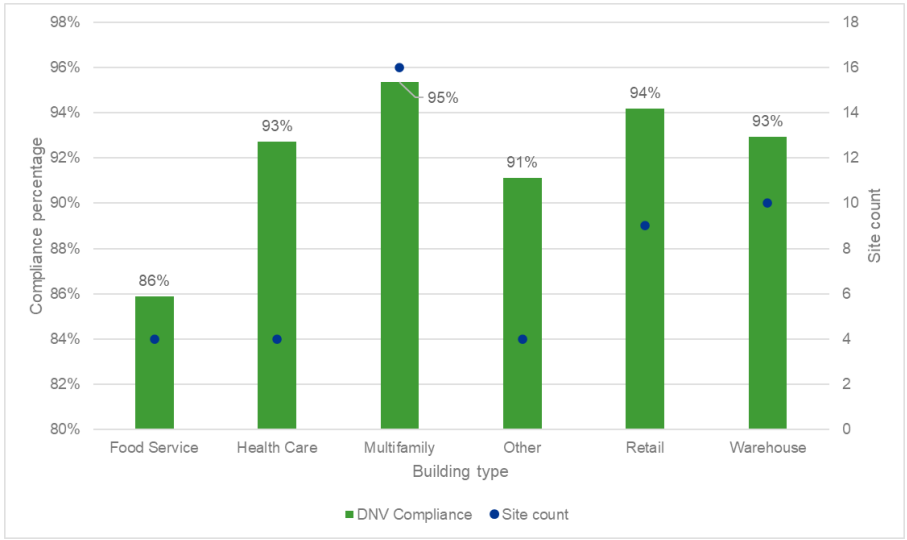
Overall compliance

- For overall results, we calculated two compliance methods
  - **PNNL method** – method originally developed by DOE's Pacific Northwest National Laboratory (PNNL) to assess prescriptive compliance. Developed originally for IECC 2009, adapted by DNV for ASHRAE 90.1-2013. Measures are either fully compliant (100%) or not compliant (0%), no partial credit.
  - **DNV method** – this method leverages the same prescriptive measures as the PNNL method, but differs in that it awards partial credit for measures that are not fully compliant.
- The DNV method is a better representation of building approaches used in New Jersey commercial new construction. We show both methods here for overall compliance, but we present only the DNV method in the following slides.

Compliance Method	Compliance %	Lower bound @ 90% confidence	Upper bound @ 90% confidence	Benchmark comparison (MA 2018 Study)
DNV	94%	92%	96%	94%
PNNL	87%	84%	90%	88%

Compliance by building type

Building Type	Site count	DNV compliance	Lower bound @ 90% confidence	Upper bound @ 90% confidence
Food Service	4	86%	84%	88%
Health Care	4	93%	91%	94%
Multifamily	16	95%	93%	98%
Other	4	91%	90%	92%
Retail	9	94%	92%	96%
Warehouse	10	93%	89%	97%
Total	**47**	**94%**	**92%**	**96%**



Key Takeaways:

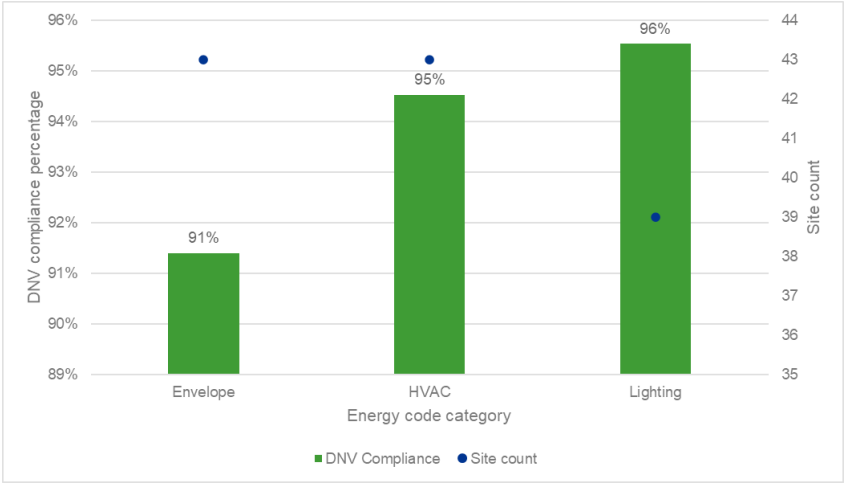
- Multifamily sites had the highest compliance
- Food service (restaurants) lower compliance across all three categories (envelope, HVAC, lighting)
- Warehouses had the widest range in compliance

By compliance category

Building category	Site count	DNV Compliance	Lower bound @ 90% confidence	Upper bound @ 90% confidence
Envelope	43	91%	90%	93%
HVAC	43	95%	91%	98%
Lighting	39	96%	92%	99%

Key Takeaways:

- Lighting compliance highest – nearly all sites met lighting power density requirements
- Most HVAC equipment meets code efficiency requirements
- Envelope insulation levels most common area of non-compliance



Commercial conclusions and recommendations

- Overall, **new commercial buildings in New Jersey meet ~94% of the code requirements** based on a prescriptive assessment (DNV method)
- Opportunities for improved prescriptive compliance aligned with code official interview findings:
  - **Envelope and HVAC insulation levels** – interviewees cited poor documentation of the building envelope and lack of understanding regarding duct/piping insulation requirements
  - **Controls** for lighting and HVAC systems not easily verifiable on drawings and by code officials
- **Targeted energy code training, education, and support** can help both code officials and design professionals in improving compliance
  - Lack of knowledge of updated code requirements commonly cited by both code officials and design professional interviewees
  - Interviewee perspective: Unless buildings are pursuing advanced building certification (LEED, etc.), most buildings strive to just meet code, not exceed it

Discussion and Q&A

Thank you

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Clean Energy Conference

General Q&A

To submit questions in advance for next month:
EnergyEfficiency@bpu.nj.gov

Items of Interest

Next Meetings

Energy Efficiency Stakeholder Meetings

NJCleanEnergy.com/StakeholderGroups/Energy-Efficiency

3rd Thursday of the Month, 1-2:30pm

September 15, 2022
October 20, 2022
November 17, 2022
December 15, 2022

More Information

VISIT

NJCleanEnergy.com

NJCleanEnergy.com/StakeholderGroups/Energy-Efficiency

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866.NJ.SMART (657.6278)

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