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| Program EVALUATION REPORT  New Jersey Natural Gas Energy Efficient Products Program Evaluation- Year 1  **Date:** February 3, 2023 |
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Abstract

This report presents the findings from the Program Year 1 (PY1) Process and Impact Evaluation of New Jersey Natural Gas (NJNG) Energy Efficient Products (EEP) program. The goals of this study were to complete a “snapshot” Process and Impact evaluations for PY1 to get a preliminary understanding of the program implementation process, participation rates, and measure-level impacts and energy savings achieved.

The NJNG PY1 EEP program’s Process and Impact Evaluation included the following research:

* **Document Review:** Review and analysis of available program documentation
* **Interviews:** In-depth telephone interviews with program staff
* **Participant Surveys:** Exploratory participant surveys of an unweighted sample
* **Trade Ally Interviews:** Interview of 7 participating HVAC trade allies.
* **Program Data Analysis:** Review of the EEP database and generation of statistics
* **Evaluability Assessment:** Assessment of available data for an Enhanced Rigor Evaluation[[1]](#footnote-2)
* **Program Comparisons:** Comparison of these findings to similar programs offered in other jurisdictions across the country.

Conclusions & Recommendations

Process Evaluation

**Conclusion 1.** TheEnergy Efficient Products program – inclusive of all the subprograms – reached 39% (13,485 of 34,545 customers) of its participation goal and 62% (75,723 of 121,911 dekatherms) of its savings goal in PY1.

**Recommendation** – Conduct nonparticipant surveys in PY2 to investigate reasons for below-target participation rates for each of the subprograms and to proactively address potential declines in HVAC participation due to economic conditions. Assess program theory leading to participation projections, including the effectiveness of delivery channels and program partners. Also consider any significant known external factors that may be affecting the ability to offer measures (e.g. legislative changes like A-5160).

**Conclusion 2.** Trade allies perceived that demand for HVAC upgrades might be softening due to customer concerns about the economy and rising costs. If the demand for HVAC upgrades is indeed softening, that could impact participation and savings rates in PY2.

**Recommendation** – Consider revisiting the incentive levels in response to inflationary cost increases, subject to measure level cost-effectiveness constraints.

**Conclusion 3.** Exploratory interviews with a small sample of HVAC participants found that most had not participated in any other NJNG programs.

**Conclusion 4.** None of the interviewed trade allies had yet taken advantage of NJNG’s co-op marketing offering, although one of the 7 indicated they had started that process. Only one interviewed trade ally had received marketing materials from NJNG, while all noted they would like to receive program collateral.

**Recommendation** - Investigate ways of leveraging trade ally customer engagement to cross-promote other offerings. For example, consider giving contractors printed or digital collateral on the HVAC subprogram to share with customers, including information on other rebates and incentives.

**Conclusion 5.** Tracking application status was a challenge for some trade allies. Trade allies/contractors generally manage applications for customers. Two (of 7) trade allies regarded the portal as unclear in providing critical information on the status of applications and rebates. Contractors also expressed a desire for more training on the portal relating to applications.

**Recommendation** – In the PY2 process evaluation, investigate trade ally experience with the online portal and processing applications and rebates, and assess the need for training and on which specific areas such training should focus.

**Conclusion 6.** HVAC trade ally satisfaction with EEP overall was moderate. The 8 interviewed trade allies offered several pieces of positive feedback, including ease of communication with NJNG program staff and satisfaction with using the portal. They also described areas where the program could improve and make the process easier for them and their customers, including:

* Clear updates regarding application and rebate status
* Rebate tracking, especially when multiple rebates are being issued at one time
* Training on using the portal and online applications
* Clarity around eligibility requirements

**Recommendation –** Continue the practice of strong communication between program staff and trade allies, which trade allies noted was valuable. Work directly with trade allies to provide training where needed on program processes, including the online portal.

Impact Evaluation

* **Conclusion 7**: Overall,evaluators found that the equipment claimed through an unweighted sample of HVAC & Marketplace applications under the EEP program was **installed and operating** **as intended.**
* **Conclusion 8**: DNV evaluatedboth natural gas and electric savings for the sampled applications. The evaluation found the **natural gas** savings for all projects were **appropriately calculated,** but on the electric side, one measure type’s peak demand savings were inconsistent with the guidance provided in the Coordinated Measure List.
* **Conclusion 9**: The deemed savings values for Combination Boilers in the HVAC subprogram were underestimated in the first three quarters due to an error in the tracking system’s algorithm but corrected in Q4. The total savings for the subprogram were trued in the Annual Progress Report filing in October 2022.
* **Conclusion 10**: The deemed savings values for Community Kits were also updated in Q4. The total savings for the subprogram were trued in the Annual Progress Report.

Executive Summary

The Energy Efficient Products (EEP) program promotes the adoption of energy efficient products and equipment through a range of offerings, including energy-efficient equipment, appliances, and products through various channels. The EEP program was also designed to recognize unique barriers that low- and moderate-income customers face and employ strategies to address those barriers, including no-cost measures and/or enhanced incentives where appropriate.

DNV conducted an initial snapshot impact and process evaluations of NJNG’s EEP program for the period beginning July 1, 2021, and ending June 30, 2022, classified as Program Year 1 (PY1).

Summary of methods

Process evaluation methods

The EEP process evaluation in PY1 was exploratory in nature, with the overarching objective of developing an integrated view of the program while prioritizing resources for more in-depth enhanced process evaluation activities in PY2 and PY3. DNV conducted in-depth interviews (IDIs) with EEP program staff, trade allies, and program participants. DNV interviewed a limited set of program participants from the HVAC and Marketplace subprograms and conducted interviews with a sample of HVAC trade allies.

**Program staff interviews:** DNV conducted in-depth interviews with NJNG residential energy efficiency program implementation staff members in June 2022. The purpose of staff interviews was to learn about and document staff perceptions of the following:

* Respective roles and responsibilities with the programs
* Program design and processes, including marketing and outreach
* How, if at all, has program delivery changed since New Jersey Natural Gas assumed implementation from the Board of Public Utilities in June 2020
* Program metrics and performance against goals
* Challenges and opportunities

During residential program staff interviews, the evaluation team spoke with the three staff members; one worked mostly on residential programs, one with both residential and commercial programs, and one worked on program marketing.

**Participant interviews:** During the interviews with EEP program participants (marketplace and HVAC), evaluators collected critical project and measure-level information about the following to aid the process evaluation:

* Overall experience and satisfaction with the marketplace program
* Familiarity with other energy efficiency programs and measures
* Future plans and expectations for energy-efficiency projects or program participation

**Trade ally interviews:** In August 2022, DNV’s evaluation team completed interviews with seven trade allies (TAs) out of a population of 35 participating trade allies who worked in the HVAC program subprogram, representing an overall response rate of 20%. The purpose of the interviews was to learn trade allies’ perspectives on the following:

* COVID impacts on trade ally and customer experiences
* Communication and engagement with NJNG staff and tools
* Marketing and outreach practices
* Perspective on challenges and opportunities within the program and the overall market

Impact evaluation methods

DNV completed a preliminary engineering analysis review of a sample of participants from the first two quarters of PY1 using desk reviews. A full sample selected using statistical analysis (per guidance from the Statewide Evaluator) from all four quarters is currently being developed.

The DNV evaluation team recruited participants from sampled HVAC and Online Marketplace projects for in-depth interviews. While most of these interviews were phone interviews, the evaluators also used email as a medium to collect relevant project information from customers who preferred this channel. During the interviews, the evaluators collected critical project and measure-level information about the following to aid the impact evaluation process:

* Measure installation and operability
* Verification of selected measure details (e.g., quantity of thermostats, furnace and boiler efficiencies, air conditioner EER and SEER etc.)
* Project completion date confirmation
* Measure operational setpoints and/or controls characteristics

The data collected from the interviews were then incorporated into desk reviews for site-specific evaluation analysis. The evaluators used a combination of tracking data provided by NJNG, files in the iEPM system, and phone interview responses to verify the installation of efficiency measures and obtain key parameters. The evaluators also reviewed reported savings associated with each measure type to verify assumptions against the New Jersey TRM and other industry standards. The evaluators then performed an independent estimation of measure-level savings.

Results and recommendations

Process Evaluation

**Conclusion 1.** TheEnergy Efficient Products program – inclusive of all the subprograms – reached 39% (13,485 of 34,545 customers) of its participation goal and 62% (75,723 of 121,911 dekatherms) of its savings goal in PY1.

**Recommendation** – Conduct nonparticipant surveys in PY2 to investigate reasons for below-target participation rates for each of the subprograms and to proactively address potential declines in HVAC participation due to economic conditions. Assess program theory leading to participation projections, including the effectiveness of delivery channels and program partners. Also consider any significant known external factors that may be affecting the ability to offer measures (e.g. legislative changes like A-5160).

**Conclusion 2.** Trade allies perceived the demand for HVAC upgrades might be softening due to customer concerns about the economy and rising costs. If the demand for HVAC upgrades is indeed softening, that could impact participation and savings rates in PY2.

**Recommendation** – Consider revisiting the incentive levels in response to inflationary cost increases, subject to measure level cost-effectiveness constraints.

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* **Conclusion 10**: The deemed savings values for Community Kits were also updated in Q4. The total savings for the subprogram were trued in the Annual Progress Report.

# Introduction

This report provides the results of the impact and process evaluations of the New Jersey Natural Gas’s (NJNG) Energy Efficient Products (EEP) Program for the period beginning July 1, 2021, and ending June 30, 2022, classified as Program Year 1 (PY1).

## Background

Energy Efficient Products is a core Residential Program and provides incentives for energy saving products, appliances, and HVAC equipment. Previously these were part of NJCEP’s WARMAdvantage/COOL Advantage and Appliance Rebates program. Energy Efficient Products program is divided into three subprograms: HVAC, Community Kits and Others (which includes Online Marketplace & Washers/Dryers), as shown in Figure 1‑1.

Figure 1‑1. Diagram of residential program subprograms (EEP light-blue)



## Program design and implementation

The Energy Efficiency Products Program is designed to promote the adoption of efficient products (ENERGY STAR and other high-efficiency electric and gas equipment) for residential customers. At the time of the writing of this workplan, the EEP Program included the following measure groups:

* **HVAC and Water Heating Rebates**: Customers can apply for rebates after purchasing HVAC and water heating equipment. Customers may also qualify for an On-Bill Repayment Program (OBRP) to make these purchases more accessible. Low to Moderate Income customers may be eligible for a supplemental rebate and a longer OBRP repayment term. Qualifying measures include:
  + Furnace
    - >95-96.9% Annual Fuel Utilization Efficiency (AFUE)
    - >97% AFUE
    - Qualifying water heater paired with a qualifying furnace/heating equipment.
  + Boiler
    - Water Boiler
    - Combi Boiler
    - Qualifying water heater paired with a qualifying boiler
  + Air Conditioning, only when paired with qualifying natural gas equipment
  + Water Heater
    - Gas storage tank
    - Indirect, paired with 90% AFUE gas boiler
    - Tankless
  + Smart thermostats only when paired with qualifying natural gas equipment.
* **Appliance (Washer/Dryer) Rebates**: Customers can apply for rebates after purchasing their equipment.
  + Clothes dryer (Minimum 3.48 Combined Energy Factor)
  + Clothes washer[[2]](#footnote-3) (Most Energy Star models)
    - Qualifying front and top-loading models
* **Online marketplace**: A website where customers can purchase items like smart thermostats, faucet aerators, showerheads, conservation kits, and insulation supplies. Featured items are automatically discounted for customers. The website also has other items that do not have discounts applied.

There are several pathways for customers to access these incentives:

* **Downstream (Post Purchase) Rebates.** Rebates are available to customers after they have made their purchase. Applications may be available through contractors, online or in stores to submit electronically or in hard copy with proof of purchase.
* **Online marketplace.** The online marketplace is an easy-to-use source for the online purchase of efficient products and services. Participants can browse energy-efficient measures and purchase through the marketplace with access to instant rebates

The program provides incentives for various products, including energy efficient lighting[[3]](#footnote-4), appliances, heating and cooling equipment, smart thermostats, water-saving measures, weatherization products, and pre-packaged efficiency kits. The program plan indicates that the EEP Program is "designed to provide easy and cost-effective access to energy efficiency measures through customers' preferred channels."

Additional customer engagement channels include:

* **Trade Allies**. The utilities established a network of trade allies to promote certain program components to customers where applicable. The trade ally network consists of qualified installation contractors, plumbers, insulation and seal-up contractors, trade service professionals who meet all applicable statewide requirements for performing the respective service (e.g., HVAC license, insurance requirements, BPI certifications). Trade allies can leverage the program and offer customer rebates through their normal course of business.
* **Community Partners**. The Utilities partner with food banks and other community organizations serving customers in need to help reduce the energy burden of customers with no-cost energy efficient products. Community partners will also aim to raise awareness of other available energy efficiency and energy assistance programs.

The EEP program was also designed to recognize unique barriers that low- and moderate-income customers face and employ strategies to address those barriers, including no-cost measures and/or enhanced incentives where appropriate. The program provides incentives for various products, including appliances, heating and cooling equipment, smart thermostats, water-saving measures, weatherization products, and energy-efficient lighting[[4]](#footnote-5) , as part of energy efficiency kits. Table 1‑1 displays the EEP participation and savings goal for PY1 through PY3. Table 1‑2. PY1 EEP Participation and Savings Goals vs. Achieved

Table 1‑1. Residential EEP triennial goals

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | PY1 | PY2 | PY3 |
| Estimated Participants[[5]](#footnote-6) | 34,545 | 38,150 | 38,907 |
| Projected Net Annual Natural Gas Savings (therms) | 1,219,110 | 1,315,250 | 1,349,170 |

Table 1‑2 displays how PY1 actual participation and savings rates compared to the goals. For PY1, NJNG targeted 34,545 participants[[6]](#footnote-7) for a savings of 121,911 dekatherms. Per the Annual Progress Report for PY1[[7]](#footnote-8) filing, EEP saw 13,485 participants, which is 39% of the annual goal and saved 75,723 dekatherms, 62% of the savings goal. Additionally, NJNG claimed 7,541 dekatherms savings from 1,528 participants in overburdened communities.

Table 1‑2. PY1 EEP Participation and Savings Goals vs. Achieved (dekatherms)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Metric | Subprogram | PY1 Goal | PY1 Actual | % of Goal |
| Participants | HVAC | 6,385 | 2,705 | 42% |
|  | Community Kits | 10,000 | 1,707 | 17% |
|  | Others | 18,160 | 9,073 | 50% |
| Total |  | **34,545** | **13,485** | **39%** |
| Net Annual Gas Savings (dekatherms) | HVAC | 57,524 | 37,001 | 64% |
|  | Community Kits | 11,200 | 9,419 | 84% |
|  | Others | 53,187 | 29,303 | 55% |
| Total |  | **121,911** | **75,723** | **62%** |

The participation and savings for PY1 for all subprograms were below their respective goals (Table 1‑2). HVAC and Others subprogram are the primary drivers for savings, with nearly 66,304 dekatherms (88% of the total program savings) together in PY1. Community Kits subprogram achieved only 17% of the participant goal but 84% of the savings goal. This was due to an oversight in the deemed savings estimate used in the triennium planning model (details in Impact section). The savings for those measures were updated in Q4 based on the Coordinated Measure List[[8]](#footnote-9) developed through a joint-utility discussion.

# Process Evaluation

The initial EEP process evaluation in Program Year 1 (PY1) is exploratory in nature, with the overarching objective of developing an integrated view of the portfolio while prioritizing resources for more in-depth enhanced process evaluation activities in PY2 and PY3. As such, this report describes the results of a preliminary process evaluation encompassed the following research objectives:

* Document the program's goals, theory of change, and key activities
* Understand program administration and implementation processes to identify potential opportunities for improvement and greater customer participation
* Begin to understand barriers to full and partial participation via a limited set of participant interviews
* Assess installation quality
* Review program marketing materials and outreach efforts aimed at drawing prospective customers and trade allies.

## Summary of primary data collection

DNV conducted three sets of in-depth interviews (IDIs) to collect input from EEP program staff, trade allies, and program participants. DNV recruited program participants from the HVAC (8) and Marketplace (7) subprograms and conducted outreach to a sample of HVAC trade allies (7). Recruitment involved scheduling a date and time for the evaluation staff to conduct a phone interview with the participants for all sampled projects.

DNV employed both phone and email to recruit survey respondents and used phone and video conferences to conduct the interviews.

## Program staff in-depth interviews

DNV conducted in-depth interviews with NJNG residential energy efficiency program implementation staff members in June 2022. The purpose of staff interviews was to learn about and document staff perceptions of the following:

* Respective roles and responsibilities with the programs
* Program design and processes, including marketing and outreach
* Program metrics and performance against goals
* Challenges and opportunities

During residential program staff interviews, the evaluation team spoke with the Director of SAVEGREEN. His role as a program manager extends back to 2009, when he first began working on NJNG’s SAVEGREEN programs. With 13 years of experience, he expressed a deep understanding of the programs, including the software systems used, and is, therefore, able to provide technical support to other staff on both residential and commercial programs. At a high level, he described his role as being responsible for program development and new technologies. The Residential Supervisor and the Senior Evaluation Measurement & Verification Specialist were also involved in the Program Staff interviews conducted by the evaluation team.

### Program Delivery

Program staff noted that they implement the bulk of the program themselves, using internal NJNG staff and only a few external implementers. One staff member expressed a preference for this internal delivery approach, stating that it fosters an ability to cultivate closer customer relationships, provide information, and address any complaints directly with the customer.

### Program design and processes

The Energy Efficient Products program offers residential customers rebates on energy-efficient products, appliances, and HVAC systems. The program also distributes no-cost energy-saving kits through New Jersey food banks and in partnerships with other community organizations. Program staff indicated that the HVAC pathway was the most active component of EEP in PY1. They described the typical EEP participant as coming into the program through one of the following ways:

* They received direct outreach from NJNG
* They consumed EEP marketing
* A contractor contacted them
* They received a personal referral from friends/family

Once a participant applies, program staff described a straightforward process whereby equipment is installed, a permit check is performed if needed, and the rebate is paid. For customers applying for the On-Bill Repayment Program (OBRP), NJNG requires 12 months of recent on-time payments with NJNG, no bankruptcies within the past seven years and with no more than two instances of issuing payments 30-plus days after the due date[[9]](#footnote-10). Program staff explained that this qualification process, in lieu of a traditional credit check, enables more customers to qualify.

### Program marketing

NJNG actively markets its residential programs. Program staff described various marketing and outreach channels, including direct customer outreach, postcards, mailed letters, email communications, community events, social media campaigns, and contractor education and training. Program staff also described dedicated outreach to disadvantaged communities.

When asked about the effectiveness of the direct outreach efforts (postcards, mailed letters, and emails), staff said email performed best, and that mailed letters performed better than postcards. Staff also reported that messaging focused on rebates had been more effective than messaging around cutting one’s carbon footprint.

### Tracking metrics

One staff member explained that NJNG is bound by the June 10, 2020, BPU order to report program metrics within 75 days[[10]](#footnote-11) of the close of the program year. Program years run from July 1 through June 30. The EEP program tracks program applicants, therms savings (and electric energy savings (kWh) when appropriate), customer information, and measure-level information, and is also required to track the relative participation of overburdened communities. According to the Annual Progress report7, EEP achieved 39% (13,485) of the participation goal and 62% of the natural gas therms savings (75,723 dekatherms). The disparity in achieved savings and participation goal was due to increase in deemed savings estimate from what was used to calculate the triennium goal. For example, the deemed savings value for Community Kits participant increased from 1.6305 therms/kit to 55.1767/kit.

Table 2‑1. Program participation & savings in PY1 at the subprogram level

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Quarter | HVAC | | Community Kits\* | | Others | | Grand Total | |
| Participant | Dekatherm | Participant | Dekatherm | Participant | Dekatherm | Participant | Dekatherm |
| Q1 | 180 | 2,361 | 383 | 2,113 | 836 | 3034.33 | 1,399 | 7,509 |
| Q2 | 623 | 9,069 | 187 | 1,032 | 4431 | 15487 | 5,241 | 25,587 |
| Q3 | 842 | 10,411 | 453 | 2,500 | 2778 | 7435 | 4,073 | 20,346 |
| Q4 | 1,060 | 15,161 | 684 | 3,774 | 1028 | 3347 | 2,772 | 22,282 |
| Total | **2,705** | **37,001** | **1,707** | **9,419** | **9,073** | **29,303** | **13,485** | **75,723** |

\*Year-end trued-up numbers

Table 2‑1 presents actual participation and savings achieved in each subprogram by quarter. The HVAC subprogram saw steady growth through the year with maximum savings in Q4 at 15,161 dekatherms using 1,060 units that were installed. Community kits also had maximum savings in Q4, with 684 kits delivered. Others subprogram, which include Online Marketplace and Washers/Dryers, had maximum savings in Q2, with most of the sales in the Online Marketplace subprogram.

### Challenges and opportunities

Program staff reported that residential programs saw steady participation in PY1. When asked about barriers to customer participation in EEP, program staff mentioned cost and education. One staff member said, “For residential [customers], the cost is always a barrier.” Another explained that it is often easier for contractors to replace failed equipment like-for-like than to upgrade to a different, more efficient model.

Program staff described several features of the EEP program that NJNG designed with the aim to help alleviate the first cost barrier and/or increase participation rates. These features include:

* Enhanced HVAC incentives for qualifying low and moderate-income customers (an additional $200 rebate for each piece of high-efficiency HVAC equipment installed);
* Extension of on-bill financing repayment terms (OBRP) from 7 to 10 years for qualifying low and moderate-income customers;
* The approval process for on-bill Refinancing Program. When assessing approvals for on-bill financing, NJNG considers bill repayment history and lack of bankruptcy in the past 7 years rather than credit score.
* Targeted marketing to overburdened communities, along with streamlined documentation requirements (E.g. self-certification process).
* Updated Spanish-language materials.

Furthermore, program staff described contractor outreach and training to help foster strong partnerships with trade allies helping to deliver these programs.

## Trade Ally IDIs

In August 2022, DNV’s evaluation team completed interviews with seven participating trade allies (TAs) out of a population of 35 who worked in the HVAC subprogram. DNV created three simple TA categories, by total savings achieved through the program, to ensure the evaluation documented the perspectives of a range of trade allies types: small (<1000 therms), medium (>1000, <4000 therms) and large (>4000 therms). The final sample included 1 large, 2 medium and 4 small-volume TAs for a 20% response rate. Due to the small sample size, however, the evaluation team was not able to identify patterns or trends based on the level of trade ally program activity through these interviews.

The purpose of the interviews was to learn trade allies’ perspectives on the following:

* Communication and experience with the online portal
* Effects of COVID-19 on trade ally and customer experiences
* Program process
* Marketing and outreach practices
* Satisfaction with the program overall
* Challenges and opportunities within the program and the HVAC market

### General Information

Most respondents (5 of 7) had been participating in the NJCEP Residential Existing Building Programs[[11]](#footnote-12) for more than 5 years – some more than 10 years. When asked what portion of their HVAC projects they had completed through the NJNG program, trade ally responses ranged from 25% to 75% of total projects.

All respondents reported handling most of the application process for the customer, with minimal customer involvement aside from providing their signature or requesting an application status update from the TA. Respondents were typically involved in the application process from the very beginning of the engagement with the customer, often factoring the potential rebate amounts into the overall project quote. One respondent said, “Our company handles all the application work, [the customer does] the DocuSign, and that’s pretty much it.”

### Communication and Online Portal

Overall, trade allies expressed satisfaction with their communication with NJNG staff. Respondents indicated that it was common to be familiar with NJNG staff and, in some cases, to know them on a first-name basis. Two trade allies expressed a desire for enhanced communication around the status of submitted applications and the timing of rebates.

Trade allies reported mixed levels of familiarity with the online portal, with no clear correlation between familiarity and the volume of projects completed through EEP. Some respondents reported being familiar and happy with how the online portal functions, while others found the status of applications either confusing or unclear. Most (5) respondents appreciated being able to get responsive program staff on the phone to resolve any issues with an application.

### Effects of COVID-19

Interviewed HVAC trade allies stated that COVID did not have noticeable detrimental impacts on business operations during PY1, aside from supply chain issues. In fact, most respondents (5) stated that COVID might have caused an increase in program participation since people were more available, had additional funding and had the time to focus on upgrades needed for their homes. Some respondents (3) noted the supply chain challenges of COVID and stated that the availability of equipment influenced how they built their quotes and which supplier products they would offer to their customers. One respondent commented that COVID “overall amped the participation up a bit,” and another explained that “…COVID stimulus caused an increase in customer participation. Now, [people are being] more reactive… people are skeptical and wary of the economy. Equipment shortages are also impacting customer participation—you can sell a job, but maybe can’t get the equipment quickly enough.”

### Program Processes

While some respondents (4) found the NJNG EEP rebate to be highly influential in guiding homeowners to install efficient equipment in their homes, some noted other contributing factors, such as affinity for enhanced technology, access to financing and rebates, and the desire to reduce their carbon footprint.

When asked about program challenges, four of the eight interviewed trade allies said there were no challenges and that the program works well. Two trade allies cited access to the website and/or obtaining timeline information from the portal, and two said the qualifications for rebate eligibility were sometimes unclear or outdated.

The evaluation team asked trade allies what, if any, types of training they would like to see from NJNG. Three of the seven mentioned technical training topics, such as duct design and quality installation. Two respondents said training on the website and/or portal would be helpful, two wanted more information on rebate eligibility requirements, and one cited bill repayment training, including the respective roles of customers vs. trade allies.

### Marketing and Outreach

HVAC trade allies reported using a variety of marketing and outreach strategies, with 4 of 7 listing multiple methods and channels such as email, text, direct mail, radio, and social media campaigns. Two said they rely mostly on word-of-mouth, referrals, and maintaining a strong reputation over time. Two of the respondents reported employing a professional marketing firm.

When asked if they had participated in co-op marketing with NJNG, only one trade ally said they were in the process of beginning co-op marketing; five respondents said no, and one did not know. When asked if they a) had received any marketing materials from NJNG and b) if they were interested in receiving materials, only one reported receiving marketing materials, while 6 said they had not. All 6 out of the 7 respondents who had not received any marketing materials from NJNG said they would be interested in receiving them. There was no consistent theme around what types of materials they would find helpful; trade allies made a few suggestions, including an explanation of how the program works, including eligibility requirements; “tri-folds” containing program information; and having NJNG send homeowners a list of participating contractors.

### Trade Ally Satisfaction with EEP

When asked to rate their satisfaction with the program overall on a scale of 0-10, where zero was “not at all satisfied” and 10 was “very satisfied,” 4 trade allies gave a score between 6-7.5, 2 gave a rating of 8, and the remaining respondent gave a rating of 10. Three of the 7 respondents described challenges with the program (the other 4 said they did not experience any challenges).

Challenges cited by trade allies revolved around:

* Timeline and uncertain status of applications
* Rebate tracking
* Clarity around eligibility requirements

Trade allies suggested the following actions that NJNG can take to better support them:

* Training on the application process and online tools (e.g., the DocuSign process)
* Provide more clarity on status updates and what that means for a timeline for the customer
* Clearer process of assigning rebate checks to customers (when multiple applications are grouped into one payment delivery).

### Challenges and Opportunities

Five trade allies stated that most of their customers want to adopt energy efficiency in their homes but often lack the financial resources to do so. Two trade allies said price sensitivity is increasing among their customers and noted inflation as a factor influencing consumer decision-making. One trade ally perceived the incentive offerings as not robust enough for customers to warrant additional expenditure on the highest efficiency equipment.

This trade ally said, “People are eager to be energy efficient but don’t always want to make the investment to do so. Increased costs are causing people to be more hesitant to spend the extra money, and sometimes the additional incentive still doesn’t even make up for it. Have to spend an extra 5k to get a $300 rebate. There’s a lot of hesitation there.”

When asked about opportunities for increasing program participation, respondents mentioned customer education, raising awareness of incentives, and properly structured incentive offerings that keep pace with inflation. Trade allies also offered suggested program adjustments that would benefit both the contractor and the customer, such as faster turnaround time and improved tracking of application and rebate status.

## Exploratory participant IDIs

During the interviews with EEP program participants (Marketplace and HVAC), evaluators collected critical project and measure-level information about the following to aid the process evaluation:

* Overall experience and satisfaction with the marketplace program
* Familiarity with other energy efficiency programs and measures
* Future plans and expectations for energy-efficiency projects or program participation

**Please note that the findings from these interviews are anecdotal and not necessarily representative of the broader participant population.**

### EEP HVAC

In July and August of 2022, DNV’s evaluation team completed 8 exploratory interviews with participants in the HVAC subprogram.

Key findings from these interviews include the following:

* Most respondents (5 of 8) learned about the HVAC program from contractors and were interested in participating in the program to secure a rebate for their equipment upgrade. Others found through word of mouth and online.
* Seven of the eight respondents had not participated in any other NJNG energy efficiency programs; one respondent upgraded their water heater after participating in the HVAC program. Another respondent replaced windows and doors, not through the program, after EEP participation for HVAC. Both of these respondents indicated these replacements were due to normal “wear and tear” on their existing equipment.
* Respondents were asked whether they were satisfied with six different aspects of the program (application process, waiting time to receive the product, availability of products, process for applying for the rebate/OBRP, rebate amount, and EE Products program as a whole). While most respondents (6 of 8) stated that they were “satisfied” with the EE Products program as a whole, some respondents (4 of 8) also stated that the rebate amount, although satisfactory, “could have been more.” Only one respondent was dissatisfied with the rebate amount. Most respondents (6) said they were satisfied with the wait time to receive products.
* Most respondents (5 of 8) indicated they have no concrete plans to make any additional energy-efficient home improvements in the next 12 months.
* Only one respondent offered specific feedback for NJNG, requesting enhanced information pertaining to the financing process. This respondent said, “[NJNG] should offer the opportunity to keep track of my balance of the loan so I can pay it off early instead of having to constantly leave a message to get my balance."

### EEP Marketplace

In July and August 2022, DNV’s evaluation team completed exploratory interviews with 7 marketplace participants, all of whom purchased smart thermostats.

Some of the key findings of the marketplace participant interview process include the following:

* Participants learned about the NJNG program through NJNG pamphlets, NJNG email, and Word of mouth.
* Most respondents (4) participated in the program to receive a rebated smart thermostat.
* Five of the seven respondents had not participated in any other NJNG energy efficiency programs. Of these five, two indicated an interest in participating in other programs if they were a good fit.
* Two respondents made additional energy efficiency improvements to their homes after participating in the marketplace program – both respondents upgraded their HVAC system.
* Respondents rated their satisfaction on a scale of 0 to 10 with four different aspects of the program (process for purchasing products, wait time to receive the product, availability of the product, and rebate amount). Aside from one respondent rating the “availability of products” aspect a 7, all other scores were between 8 and 10.
* Most respondents (5) did not express a strong interest in additional energy-efficient products they’d like to be made available. All respondents (7) indicated that they did not have any concrete plans for energy-efficient upgrades in the next 12 months.

## Conclusions & Recommendations

Based on the results of this evaluation, our key process findings and recommendations for the Energy Efficient Products program are presented below.

**Conclusion 1.** TheEnergy Efficient Products program – inclusive of all the subprograms – reached 39% (13,485 of 34,545 customers) of its participation goal and 62% (75,723 of 121,911 dekatherms) of its savings goal in PY1.

**Recommendation** – Conduct nonparticipant surveys in PY2 to investigate reasons for below-target participation rates for each of the subprograms and to proactively address potential declines in HVAC participation due to economic conditions. Assess program theory leading to participation projections, including the effectiveness of delivery channels and program partners. Also consider any significant known external factors that may be affecting the ability to offer measures (e.g. legislative changes like A-5160).

**Conclusion 2.** Trade allies perceived that demand for HVAC upgrades might be softening due to customer concerns about the economy and rising costs. If the demand for HVAC upgrades is indeed softening, that could impact participation and savings rates in PY2.

**Recommendation** – Consider revisiting the incentive levels in response to inflationary cost increases, subject to measure level cost-effectiveness constraints.

**Conclusion 3.** Exploratory interviews with a small sample of HVAC participants found that most had not participated in any other NJNG programs.

**Conclusion 4.** None of the interviewed trade allies had yet taken advantage of NJNG’s co-op marketing offering, although one of the 7 indicated they had started that process. Only one interviewed trade ally had received marketing materials from NJNG, while all noted they would like to receive program collateral.

**Recommendation** - Investigate ways of leveraging trade ally customer engagement to cross-promote other offerings. For example, consider giving contractors printed or digital collateral on the HVAC subprogram to share with customers, which also includes information on other rebates and incentives.

**Conclusion 5.** Tracking application status was a challenge for some trade allies. Trade allies/contractors generally manage applications for customers. Two (of 7) trade allies regarded the portal as unclear in providing critical information on the status of applications and rebates. Contractors also expressed a desire for more training on the portal relating to applications.

**Recommendation** – In the PY2 process evaluation, investigate trade ally experience with the online portal and processing applications and rebates, and assess the need for training and on which specific areas such training should focus.

**Conclusion 6.** HVAC trade ally satisfaction with EEP overall was moderate. The 8 interviewed trade allies offered several pieces of positive feedback, including ease of communication with NJNG program staff and satisfaction with using the portal. They also described areas where the program could improve and make the process easier for them and their customers, including:

* Clear updates regarding application and rebate status
* Rebate tracking, especially when multiple rebates are being issued at one time
* Training on using the portal and online applications
* Clarity around eligibility requirements

**Recommendation –** Continue the practice of strong communication between program staff and trade allies, which trade allies noted was valuable. Work directly with trade allies to provide training where needed on program processes, including the online portal.

# Impact Evaluation

This section outlines the techniques used by the evaluators to collect relevant project-level data, a description of how the data was used to verify measure-level savings and key drivers for differences in impacts leading to program-level findings and recommendations.

## Program population review

DNV has received program tracking data from the following data sources.

1. NJNG energy program tracking system (iEPM system),
2. NJNG quarterly reported data and reports (Q1-Q3).
3. Annual Progress Report for PY1

Data from the iEPM system was downloaded directly from the web source at the end of each quarter. The download includes data for all customer information entered into the system. DNV completed a preliminary engineering analysis review of a sample of participants from HVAC and Online Marketplace subprograms for the first two quarters in the PY1 population. A full sample selected using statistical analysis (per statewide evaluator guidance) from all four quarters is currently being developed, and the results will be presented in the next evaluation report.

### Q4 updates to deemed savings estimate

In Q4, NJNG updated savings for a few measures in two subprograms, as explained below.

#### Community Kits:

As mentioned in the Process section, deemed gas savings value for the Community kits subprogram was updated from 1.6305 therms/kit to 55.1767/kit based on the Coordinated Measure List8. Note that the total reported[[12]](#footnote-13) savings for the subprogram in quarters Q1, Q2 and Q3 were 0, 30, and 74 dekatherms, respectively. After the update, the trued-up value for Q4 is 9,253 therms which brings the total annual savings of this subprogram to 9,419 dekatherms. The actual savings were 2,113 (Q1), 1,032 (Q2), 2,500 (Q3) and 3,774 (Q4) in PY1. Table 3‑1 shows the products included and measure level savings and each kit's pack size (quantity) for gas measures.

Table 3‑1 Community Kits Measures and Savings estimates (gas measures only)

|  |  |  |
| --- | --- | --- |
| Measure | Pack Size | Total Savings  (Therms) |
| Foodbank Kit - 1.5 GPM Chrome Shower Head | 1 | 16.8700 |
| Foodbank Kit - EFI Outlet Gasket | 10 | 6.088 |
| Foodbank Kit - 1.5 gpm Aerator | 2 | 31.1600 |
| Foodbank Kit - Frost King 17' Wht V-Seal M13W | 1 | 1.0587 |
| Total Deemed Savings Estimate for each kit | | **55.1767** |

#### HVAC

Deemed savings estimate for Combination Boiler was underestimated in the first three quarters due to an error in the iEPM system’s algorithm. But this was updated in Q4/Annual Filing and corrected for future participation. Table 3‑2 shows the actual Vs. reported estimates for the HVAC program in PY1. As the data shows, the participation grew steadily for this program in PY1, with maximum savings in Q4 at 15,161 dekatherms (41% of the total savings in the subprogram).

Table 3‑2 Actual & Reported program participation & savings in PY1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Quarter | Actual | | Reported | |
| Participants | Dekatherms | Participants | Dekatherms |
| Q1 | 180 | 2,361 | 162 | 1,960 |
| Q2 | 623 | 9,069 | 527 | 7,810 |
| Q3 | 842 | 10,411 | 1,156 | 9,484 |
| Q4 | 1,060 | 15,161 | 860 | 17,747\* |
| Total | **2,705** | **37,001** | **2,705** | **37,001** |

*\*Year-end trued-up value*

## Participant interviews

DNV evaluation team recruited randomly sampled HVAC and Online Marketplace project participants using the contact information in the tracking database. For all sampled HVAC and Online Marketplace projects, recruitment involved scheduling a date and time for evaluation engineers to conduct a phone interview with the participants. During the interviews, the evaluators collected critical project and measure-level information about the following to aid the impact evaluation process:

* Measure installation and operability
* Verification of selected measure details (e.g., quantity of thermostats, furnace and boiler efficiencies, air conditioner EER and SEER etc.)
* Project completion date confirmation
* Measure operational setpoints and/or controls characteristics

The evaluators also used email as a medium to collect relevant project information from customers who preferred this channel over a phone interview. For sites for which backup sites were available, evaluators made a minimum of five calls (at different times of the day and week) before the evaluators replaced the unresponsive site with a backup site.

## Desk review analysis

This report utilized a “desk review” approach for site-specific evaluation analysis. The evaluators used a combination of tracking data provided by NJNG, files available in the iEPM system and the phone interview responses provided by participants to verify the installation of efficiency measures and obtain key measure parameters that affected the energy savings associated with the project. The evaluators also reviewed reported savings associated with each measure type to verify assumptions against the New Jersey TRM and other industry standards valid at the time of implementation. The evaluators then performed an independent estimation of measure-level savings with revised inputs per phone interview responses or measured savings algorithm guidance provided by the New Jersey EM&V working group, where necessary, to estimate the evaluated savings.

## Overview of impacts

This section provides impact evaluation results for the HVAC and Online Marketplace subprogram.

**Note that the results presented in this section are not representative of the program population (unweighted).**

### HVAC measure groups

This section provides results achieved for the HVAC projects under the EEP Program, which had a completed desk review of 8 unique applications. Overall, evaluators found that the equipment claimed through HVAC under the EEP program was installed and operating as intended. DNV attempted to contact 19 customers and completed 8 with a response rate of

DNV evaluated both natural gas and electric[[13]](#footnote-14) savings calculations, and Table 3‑3, Table 3‑4 and Table 3‑5provide the per unit natural gas therms, peak kW and annual kWh savings by measure, respectively. The evaluated per-unit savings in these tables were estimated based on guidance provided in the Coordinated Measure List [[14]](#footnote-15) and NJTRM 2021[[15]](#footnote-16).

The sample included Combination Boilers, Boiler, Central AC and Furnace measures from 8 unique applications. Two applications included savings from multiple measure types.

In the Desk reviews, DNV collected information from the customers/participants about:

* Installation Dates & Operability
* Measure Quantity
* Measure type
* Control Setpoints (if any)
* Make & Model Numbers

Combination Boiler savings were underestimated in the first three quarters of the PY1 due to an error in the MMBTU to Therms conversion factor. But NJNG corrected the conversion factor and updated the savings for Combination Boiler projects in the Annual filing16.

Table 3‑3. Unweighted gross impact results by measure (annual natural gas therms savings)

|  |  |  |
| --- | --- | --- |
| Measure Name | Q4 Reported[[16]](#footnote-17) Per-unit Savings (therms) | Evaluated Per-unit Savings  (therms) |
| Combination Boiler | 227.09 | 227.09 |
| Boiler | 198.88 | 198.88 |
| Furnace | 143.03 | 143.03 |

Table 3‑4. Unweighted gross impact results by measure (peak kW savings)

|  |  |  |
| --- | --- | --- |
| Measure Name | Tracking Per-unit Savings (kW) | Evaluated Per-unit Savings (kW) |
| Central Air Conditioner | 0.385 | 0.368 |

Table 3‑5. Unweighted gross impact results by measure (annual kWh savings)

|  |  |  |
| --- | --- | --- |
| Measure Name | Tracking Per-unit Savings (kWh) | Evaluated Per-unit Savings (kWh) |
| Central Air Conditioner | 277.79 | 277.79 |

Table 3‑6 shows key contributing factors to HVAC gross impacts variance along with related recommendations.

Table 3‑6. Key contributors to gross impact variance and recommendations

|  |  |  |
| --- | --- | --- |
| Measure Name | Summary of Savings Difference | Recommendation |
| Combination Boiler | Annual natural gas MMBtu savings were calculated accurately in the tracking system but were not converted to therms savings appropriately in the first three-quarters of the PY1. This discrepancy resulted in higher underestimated natural gas savings. But the savings were corrected for each application, and Program Savings were updated in the annual filing. | None. **Corrective action has been implemented** by NJNG in Q4 and is reflected in the Annual Progress Report filing. |
| Central Air Conditioner | Reported peak kW savings estimations utilize a baseline EER value of 11.2, while the 2020 NJTRM provides a recommendation of 11.3 for baseline EER. This discrepancy resulted in a slightly lower evaluated peak demand savings. | In tracking savings calculations, update the baseline EER for central air conditioners to 11.3 per 2020 NJTRM. |

### Online Marketplace

This section provides results achieved for the Online Marketplace projects under the Energy Efficiency Products Program, which had a completed desk review of 7 unique applications. Thermostats were the only measure category in the selected sample. Two of the applications included multiple units installed with a total of 10 thermostats across the sample. The desk reviews included data collection on installation quantity, dates, nameplate information, quantity and other relevant information similar to the HVAC subprogram.

Overall, evaluators found that the equipment claimed through HVAC under the EE products program was installed and operating as intended, with the exception of the following:

* One program participant out of seven purchased two smart thermostats in November 2021 but had not installed them at their residence yet. They also mentioned that they were planning to move out of State and would install the thermostat at their new location and not at their current New Jersey residence.
* One program participant purchased two smart thermostats out of 10 in November 2021 but installed only one at their residence. They confirmed that they required only one for their residence and had no plans of installing the second thermostat purchased in the near future.

Table 3‑7 and Table 3‑8 provide the per unit natural gas Therms, peak kW and annual kWh savings by measure, respectively. The evaluated per-unit savings in these tables were estimated based on guidance provided in the Coordinated Measure List 14 and NJTRM 202115.

Table 3‑7. Unweighted gross impact results by measure (annual natural gas therms savings)

|  |  |  |
| --- | --- | --- |
| Measure Name | Q4 Reported Per-unit Savings (therms) | Evaluated Per-unit Savings (therms) |
| Smart Thermostats | 40.37 | 40.37 |

Table 3‑8. Unweighted gross impact results by measure (annual kWh savings)

|  |  |  |
| --- | --- | --- |
| Measure Name | Tracking Per-unit Savings (kWh) | Evaluated Per-unit Savings (kWh) |
| Smart Thermostats | 142.45 | 142.45 |

## Conclusions and recommendations

Based on the results of this evaluation, our key impact findings and recommendations for the EEP program are stated below

* **Conclusion 7**: Overall,evaluators found that the equipment claimed through an unweighted sample of HVAC applications under the EEP program was **installed and operating** **as intended. However, under the marketplace pathway, evaluators identified that two out of ten smart thermostats incentivized by the program were not installed by the program participants.**
* **Conclusion 8**: DNV evaluatedboth natural gas and electric savings for the sampled applications. The evaluation found the **natural gas** savings for all projects were **appropriately calculated,** but on the electric side, one measure type’s peak demand savings were inconsistent with the guidance provided in the Coordinated Measure List.
* **Conclusion 9**: The deemed savings values for Combination Boilers in the HVAC subprogram were underestimated in the first three quarters due to an error in the tracking system’s algorithm but corrected in Q4. The total savings for the subprogram were trued in the Annual Progress Report filing in October 2022.
* **Conclusion 10**: The deemed savings values for Community Kits were also updated in Q4. The total savings for the subprogram were trued in the Annual Progress Report.
* **Recommendation**: Consider reviewing the future subprogram participant and savings goals based on the updated deemed savings estimates for the Community Kits & HVAC subprogram.

# Program Comparison

This section reviews Process and Impact Evaluation findings from a sampling of other Energy Efficient Products programs around the country. Table 4‑1 through Table 4‑6 display process and impact evaluation findings from a sampling of other programs similar to HVAC, Community Kits and Others (Online Marketplace) around the country and compares them to each subprogram in NJNG’s EEP. As noted earlier, this is an initial 'snapshot' evaluation, and the current evaluation did not include a full participant survey. Therefore, participant survey results, NTG and realization rates for NJNG are not reported for NJNG in this report, but they will be part of the next round of evaluation.

## HVAC

Table 4‑1 HVAC and similar programs from other states, Process findings

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| State/Region | IN | OK | PA | CA | ID | NJNG |
| PY | 2020 | 2020 | 2021-2022 | 2019-2020 | 2019-2020 | 2021/2022 |
| FR | Electric-40%  Gas-41% | 33% | 50% | NR | 12% | NR |
| SP | Electric-1%  Gas- <1% | 49% | 1% | NR | 0% | NR |
| NTG | Electric- 60%  Gas-59% | 82% | 52% | 55% | 89% | NR |
| Participants | 12,819 | 285 | 3,117 | 297 | 874 | 2,705 |
| Participant Rate\* | NA | 53 | 156 | 658 | 3,458 | NR |
| Participant Satisfaction | 79% (Satisfied) | 75% (Satisfied) | NR | NR | NR | NR |
| Program Marketing | billboards and bill inserts, in-store promotion | Previous experience in EE programs | NR | NR | NR | email, text, direct mail, radio, and social media campaigns, Word of mouth |
| Implementation Strategy/Program Design | Downstream | Midstream | Downstream | Downstream | Downstream | Downstream |

\* Participation rate refers to number of participants per 100,000 customers in sector

Table 4‑2 HVAC and similar programs from other states, Impact findings

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| State/Region | IN | OK | PA | CA | ID | NJNG |
| PY | 2020 | 2020 | 2021-2022 | 2019-2020 | 2019-2020 | 2021/2022 |
| Total Savings claimed | Reported: Electric-2,384,913 (kWh/year)  Gas-1,974,633 (therms/year) | Reported: 1,034,508 (kWh/year) | Reported: 1,917,000 (kWh/year) | Reported: 844,869 (kWh/year) | Reported: 807,803 (kWh/year) | 37,001 dekatherms/year |
| Energy Realization Rate (RR) | Electric-41%  Gas-54% | 51% | 134% | 99% | 100% | NR |
| Demand Realization Rate (RR) | Electric-109% | 96% | 121% | NR | NR | NR |
| Measure Mix | Furnace w/ ECM, Air Conditioner, Air Conditioner Tune-up, ASHP, Smart Thermostat, Water Heater, Boiler | Split System air conditioner, air source heat pumps, refrigerant flow heat pumps | Mini-splits, ASHP, smart thermostat, GSHP, CAC, Furnace Fan | Ductless heat pump, air source heat pump, duct sealing, smart thermostat, central air conditioner | Thermostats, ductless heat pump, duct sealing and insulation, Furnace fan, evaporative cooler, central air conditioner | Furnace, Instantaneous Water Heaters (WH), Smart Thermostats, Combination Boiler, Gas Storage Tank Power Vented Water Heater (HVAC), Indirect Fired Storage Tank WH |
| Savings Methodology | Engineering Modelling | TRM Deemed | TRM Algorithm | Other | Other | TRM Deemed |

## Community Kits

Table 4‑3 Community Kits and similar programs from other states, Process findings

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| State/Region | MO\*\* | PA | CA | ID | WA | NJNG |
| PY | 2018 | 2021-2022 | 2019-2020 | 2019-2020 | 2019-2020 | 2021/2022 |
| FR | 17.1% | 22.0% | NA | 18.0% | 10.8% | NR |
| SP | 2.1% | 14.0% | NA | 3.0% | 2.0% | NR |
| NTG | 85.0% | 92.0% | 56.8% | 87.0% | 91.2% | NR |
| Participants | 16,957 | 154,791 | 1,267 | 390 | 6,625 | 1,707 |
| Participant Rate\* | NR | 7,740 | 2,806 | 1,543 | 5230 | NR |
| Participant Satisfaction | 100% (Satisfied) | NR | 84% (Satisfied) | 88% (Satisfied) | 92% (Satisfied) | NR |
| Program Marketing | school-based delivery and multifamily kits to property managers | NR | website and bill/bill insert | website and bill insert | website, bill/bill insert, newsletter, etc | email, text, direct mail, radio, and social media campaigns, Word of mouth |
| Implementation Strategy/Program Design | Direct Install | Direct Install | Direct Install | Direct Install | Direct Install | Direct Install |

\* Participation rate refers to number of participants per 100,000 customers in sector

\*\* Includes school kits and Multifamily kits

Table 4‑4 Community Kits and similar programs from other states, Impact findings

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| State/Region | MO\*\* | PA | CA | ID | WA | NJNG |
| PY | 2018 | 2021-2022 | 2019-2020 | 2019-2020 | 2019-2020 | 2021/2022 |
| Total Savings claimed | Reported: 5,915,000 (kWh/year) | Reported: 30,799,000 (kWh/year) | Reported: 359,163 (kWh/year) | Reported: 113,625 (kWh/year) | Reported: 853,656 (kWh/year) | 9,419 (dekatherms/year) |
| Energy Realization Rate (RR) | 100% | 76% | 93% | 55% | 85% | NR |
| Demand Realization Rate (RR) | NR | NR | NR | NR | NR | NR |
| Measure Mix | LED, showerhead, aerator, water heater pipe wrap, furnace filter alarm | LED, showerhead, aerator, LED night light, furnace whistle, CFL | LED, showerhead & aerator | LED, showerhead & aerator | LED, showerhead & aerator | LED, Showerhead, Outlet Gasket, Aerator & V-Seal |
| Savings Methodology | TRM Deemed | TRM Deemed | TRM Deemed | TRM Deemed | TRM Deemed | TRM Deemed |

\*\* Includes school kits and Multifamily kits

## Others (Online Marketplace-OLM)

Table 4‑5 OLM and similar programs from other states, Process findings

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| State/Region | IN | IN | NY | IL | NJNG |
| PY | 2021 | 2021 | 2019 | 2020 | 2021/2022 |
| FR | Electric- 37%  Gas-16% | 4% | 37% | NR | NR |
| SP | Electric-7%  Gas-7% | 0% | 6% | NR | NR |
| NTG | Electric-70%  Gas-91% | 96% | 69% | 63%-80%  (based on the measure) | NR |
| Participants | 9,517 | 1,689 | 304,411 | NR | 9,073 |
| Participant Rate\* | NR | NR | 11000 | 116,888 | NR |
| Participant Satisfaction | 70% (Very Satisfied) | 77% (Satisfied) | 82% | NR | NR |
| Program Marketing | email/print outreach, website, Word of mouth, etc | NR | Email campaign (76%), bill insert (14%), website (10%) | Email, Word of mouth, website etc. | email, text, direct mail, radio, and social media campaigns, Word of mouth |
| Implementation Strategy/Program Design | Online | Online | Online | Online | Online |
| Savings Methodology | TRM Algorithm | TRM Deemed | TRM Deemed | TRM Deemed | TRM Deemed |

\* Participation rate refers to number of participants per 100,000 customers in sector

Table 4‑6 Online Marketplace and similar programs from other states, Impact findings

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| State/Region | IN | IN | NY | IL | NJNG |
| PY | 2021 | 2021 | 2019 | 2020 | 2021/2022 |
| Total Savings claimed | Reported: Electric-3,638,617 (kWh/year) Gas-119,027 (therms/year) | Reported: 277,604 (kWh/year) | NA | Reported: Electric-43,012,184 (kWh/year) Gas-3,358,910 (therms/year) | 29,303 (dekatherms/year) |
| Energy Realization Rate (RR) | Electric-41%  Gas-42% | 29% | NA | 100% | NR |
| Demand Realization Rate (RR) | Electric-48.24% | 32% | NA | 95% | NR |
| Measure Mix | Stand-alone, bathroom kit, home office/back to school | Bathroom aerator, kitchen aerator, showerheads, advanced power strip, smart thermostat | LED, thermostats, power strips, faucet aerators | HVAC, Freezer, Air purifier, Clothes Washer, Dehumidifier, Refrigerator etc. | Smart Thermostat, Temp sensor, Gasket, Aerator, kits |

###### PROGRAM STAFF IDI QUESTIONS

General Information

1. Can you explain what your role and responsibilities are for this program and also for your company?
2. Is there anything, in particular, you are interested in having the evaluators study?

Communication and Structure

1. [If not already mentioned] What are the goals of the program? How are they set? [PROBE: segment targets, measure targets, ee savings, geographic targets, customer satisfaction, etc.]
2. What metrics do you use to measure the success of the program?
   1. Are there any metrics you would like to see incorporated into measuring and reporting on this program?
3. How is the program currently progressing against its goals? How have they performed historically?
   1. Are you considering any revision to program goals?
4. How are program tracking metrics shared? What is the frequency and format of this reporting?
5. What data tracking systems are used for tracking program outreach? Participation? Savings? Project status? How are those integrated, if at all?
6. How, if at all, has the COVID-19 pandemic affected participation in the program? (PROBE: Effects on participation, marketing, deployment of program specifics, events/engagement)

Program Process

1. [FOR REBATES] Can you describe the participation process for the program from the customer’s perspective, from first contact through rebate payment (or program completion)? At what stage of participation/customer decision making do you typically get involved?
2. Have you received any feedback on the participation process from customers?
3. How do you decide what energy savings measures are included in the program?
4. What other measures, if any, have you thought about including in the program?

Marketing and Outreach

1. How is the program currently marketed? What types of outreach activities does your team do?
2. Do you conduct any community outreach or engagement? What do you do? [PROBES: how do they elicit input, WHO do they elicit it from, do they make any special efforts to engage LI or minorities (certain programs target LI customers)?]
3. How do you measure/judge the effectiveness of program marketing? What metrics does the team capture and how are they used? Do you have specific goals?
4. Is there any cross marketing between other programs?
5. What do you believe are the most persuasive marketing messages/themes for your program? How is this different for different customers and measures?
6. Is there a particular time/event that is the most effective moment to market your program? How is this different for different customers and measures?

Barriers to participation

1. What do you see as some of the main barriers to getting a customer to participate in the program?
   1. Do you have any plans on how to address these barriers?

Opportunities

1. Are there any interesting trends you’ve encountered in how the program is implemented, or what kinds of feedback customers provide about their experience?
2. Do you see other opportunities for program growth? If there was one thing you would add or change about the program, what would it be?
3. Trade Ally Feedback

General Information

1. Please describe your role and responsibilities with your company.
2. According to our records, you have delivered services for NJNG’s **[PROGRAM]** program. Is this correct?
3. How long have you been participating in these programs? About how many projects have you completed since July 2021 or how many projects are you currently working on?
4. Please describe your responsibilities with the **[PROGRAM]** program. **[PROBE:** application, equipment, inspections, reporting, training/certification, etc.]
5. Thinking back over the last year (since July 2021) and your experience working with this program, how have your expectations aligned with your experience?

Communication and Structure

1. How, if at all, has the COVID-19 pandemic affected ***customer*** participation in the program? **[PROBE:** Effects on participation, contractor availability, supply chain issues, etc.]
   1. How has the COVID-19 pandemic affected ***your organization’s*** involvement and/or activity in the program(s)?
2. How frequently do you communicate with the NJNG program staff? **[PROBE:** In what format?] Does this communication structure work well for your team?
   1. Is there anything additional that NJNG can do to support your efforts?
3. Have you accessed NJNG’s contractor portal?
   1. **[IF YES]** What works well in the portal?
   2. **[IF YES]** What could be improved in the portal?

Program Process

1. Can you describe the participation process for the program from the customer’s perspective, from first contact through rebate payment (or program completion)? At what stage of participation/customer decision making do you typically get involved?
2. How influential do you think NJNG incentives are for participants in their decision to upgrade to energy efficient equipment?
3. What type of training would you like to see NJNG offer for trade allies? What specific type of training?
   1. What topics should be included?

Marketing and Outreach

1. Does your company include information about the **[PROGRAM]** program in your marketing efforts?
   1. Please describe your approach to marketing and outreach.
   2. What types of outreach activities does your team do?
   3. Do you participate in co-op marketing with NJNG?
2. What do you believe are the most persuasive marketing messages/themes to encourage program participation?
3. Are different marketing messages and/or channels tailored to different customers and/or measures?
4. Has NJNG provided you with any marketing materials or other collateral? **[IF NOT ANSWERED IN Q34]** Do you use the collateral? **[IF YES]** How so? **[IF NO]** Would you be interested in receiving marketing materials from NJNG to use in your outreach to customers?
   1. Are there any additional materials they could provide that would be useful?

Program Experience

1. On a scale of 0-10 (0 being ***not at all satisfied*** and 10 being ***very satisfied***), how satisfied are you your overall program experience with New Jersey Natural Gas? Why did you give that rating?
2. Is there any additional information that would be useful for you in your work with this program?
3. Is there anything NJNG can do to make your job easier? What other suggestions do you have on how the program could be improved?
4. What, if any, are the barriers or challenges you experience while working on the **[PROGRAM]** program?

Opportunities

1. Are there any notable trends you’ve seen in the market with respect to customer attitudes and behavior around energy efficiency?
2. Are there any notable trends you’ve seen in customer attitudes around the program?
3. Do you see other opportunities for increasing program participation?

If there was one thing you would add or change about the program, what would it be?

1. Participant Feedback

###### PARTICIPANT IDI QUESTIONS

PROGRAM AWARENESS & Expectations

1. How did you learn about the program?
2. What benefits were you hoping to get from your participation in the program?

EE Products Participation Details

1. Which energy-saving equipment did you purchase? **[LIST EACH PRODUCT NAMED]**
2. **[ASK FOR EACH PRODUCT LISTED IN Q3]** How was the **[NAME EQUIPMENT LISTED IN Q3]** energy-saving equipment you purchased installed?
   1. By a contractor
   2. I installed it myself
3. Did you install this equipment at your home address?
   1. Yes
   2. No
4. **[IF Q5 = NO]** Which, if any, did you install somewhere else?
5. Since the time they were installed, have you removed any of these items from any of the locations where they were installed?
   1. Which item (s) did you remove?
      1. Why was/were the **[MEASURE TYPE(S) MENTIONED IN 6a]** removed?

PROGRAM EXPERIENCE

1. Have you participated in any other energy efficiency programs provided by NJNG?
   1. **[IF YES]** Which other programs have you participated in?
2. After installing your product or products through the program, did you make any additional energy efficiency improvements to your home?
   1. What additional energy efficiency improvements did you make?
   2. What prompted you to make these additional energy efficiency improvements?

SATISFACTION

Now I’d like to ask a few questions about how satisfied you were with different aspects of the program. For all of these questions, please answer on a scale of 0 to 10, where 0 is ***not at all satisfied*** and 10 is ***very dissatisfied***.

1. How satisfied or dissatisfied were you with the…?
   1. Process for purchasing products
   2. Wait time to receive your product(s)
   3. Availability of products
   4. If applicable, process for applying for the rebate and/or OBRP?
   5. Rebate amount
   6. EE Products program as a whole

**[ASK Q4 FOR EACH PROGRAM ASPECT THAT THE RESPONDENT RATES 5 OR LESS]**

1. Why do you say that?
2. Are there any additional energy efficient products you would like to see included in the program?
3. Do you plan to make new energy efficient improvements in your home in the next 12 months?
   1. What improvements do you plan to make?
4. Do you have any additional comments about your experience with the program?

Thank you very much for taking the time to speak with me today.

1. Contractor Feedback

**Trade Ally Interview Guide**

General Information

1. Please describe your role and responsibilities with your company.
2. According to our records, you have delivered services for NJNG’s **[PROGRAM]** program. Is this correct?
3. How long have you been participating in these programs? About how many projects have you completed since July 2021 or how many projects are you currently working on?
4. Please describe your responsibilities with the **[PROGRAM]** program. **[PROBE:** application, equipment, inspections, reporting, training/certification, etc.]
5. Thinking back over the last year (since July 2021) and your experience working with this program, how have your expectations aligned with your experience?

Communication and Structure

1. How, if at all, has the COVID-19 pandemic affected ***customer*** participation in the program? **[PROBE:** Effects on participation, contractor availability, supply chain issues, etc.]
   1. How has the COVID-19 pandemic affected ***your organization’s*** involvement and/or activity in the program(s)?
2. How frequently do you communicate with the NJNG program staff? **[PROBE:** In what format?] Does this communication structure work well for your team?
   1. Is there anything additional that NJNG can do to support your efforts?
3. Have you accessed NJNG’s contractor portal?
   1. **[IF YES]** What works well in the portal?
   2. **[IF YES]** What could be improved in the portal?

Program Process

1. Can you describe the participation process for the program from the customer’s perspective, from first contact through rebate payment (or program completion)? At what stage of participation/customer decision making do you typically get involved?
2. How influential do you think NJNG incentives are for participants in their decision to upgrade to energy efficient equipment?
3. What type of training would you like to see NJNG offer for trade allies? What specific type of training?
   1. What topics should be included?

Marketing and Outreach

1. Does your company include information about the **[PROGRAM]** program in your marketing efforts?
   1. Please describe your approach to marketing and outreach.
   2. What types of outreach activities does your team do?
   3. Do you participate in co-op marketing with NJNG?
2. What do you believe are the most persuasive marketing messages/themes to encourage program participation?
3. Are different marketing messages and/or channels tailored to different customers and/or measures?
4. Has NJNG provided you with any marketing materials or other collateral? **[IF NOT ANSWERED IN Q34]** Do you use the collateral? **[IF YES]** How so? **[IF NO]** Would you be interested in receiving marketing materials from NJNG to use in your outreach to customers?
   1. Are there any additional materials they could provide that would be useful?

Program Experience

1. On a scale of 0-10 (0 being ***not at all satisfied*** and 10 being ***very satisfied***), how satisfied are you your overall program experience with New Jersey Natural Gas? Why did you give that rating?
2. Is there any additional information that would be useful for you in your work with this program?
3. Is there anything NJNG can do to make your job easier? What other suggestions do you have on how the program could be improved?
4. What, if any, are the barriers or challenges you experience while working on the **[PROGRAM]** program?

Opportunities

1. Are there any notable trends you’ve seen in the market with respect to customer attitudes and behavior around energy efficiency?
2. Are there any notable trends you’ve seen in customer attitudes around the program?
3. Do you see other opportunities for increasing program participation?
4. If there was one thing you would add or change about the program, what would it be?
5. Quality Control Inspection Results

DNV

DNV is a global quality assurance and risk management company. Driven by our purpose of safeguarding life, property and the environment, we enable our customers to advance the safety and sustainability of their business. We provide classification, technical assurance, software and independent expert advisory services to the maritime, oil & gas, power and renewables industries. We also provide certification, supply chain and data management services to customers across a wide range of industries. Operating in more than 100 countries, our experts are dedicated to helping customers make the world safer, smarter and greener

1. New Jersey Guidelines for Enhanced Rigor Clean Energy Program Utility Evaluations. Statewide Evaluator, July 22, 2022. [↑](#footnote-ref-2)
2. Rebated only when the customer has a gas fueled water heater. [↑](#footnote-ref-3)
3. NJNG is only offering lighting as part of energy conservation kits that may be purchased through their online marketplace or distributed at no charge to customers in need and/or when partnering with community groups or schools. [↑](#footnote-ref-4)
4. NJNG is only offering lighting as part of energy conservation kits that may be purchased through their online marketplace or distributed at no charge to customers in need and/or when partnering with community groups or schools. [↑](#footnote-ref-5)
5. For HVAC it is the sum of HVAC units, for rebated products and online marketplace it’s the quantity of units rebated and sold respectively, for community kits it’s the per kit delivered. [↑](#footnote-ref-6)
6. The SAVEGREEN Project Program Plan (NJNG) -12/21/2020 (approved in 3/22) estimated 93,820 participants and 1,245,514 therms but these estimates were updated by NJNG in the PY1 Q1 progress report filing. [↑](#footnote-ref-7)
7. https://www.njcleanenergy.com/files/file/UTILITY%20REPORTING/4Q%20FY22/NJNG%20-%20NJ%20Annual%20Report-Executive%20Summary%20-%2010\_17\_22.pdf [↑](#footnote-ref-8)
8. https://www.njcleanenergy.com/files/file/BPU/2022/10.14/NJ%20Coordinated%20Measures%20List%20-%20EMV%207\_22\_22.xlsx [↑](#footnote-ref-9)
9. https://savegreenproject.com/resources#how-to-qualify [↑](#footnote-ref-10)
10. For PY1 filing, the utilities have been given an extension of 30 days and the annual progress report was filed on October 17, 2022. [↑](#footnote-ref-11)
11. Previously through NJCEP’s WARMAdvantage/CoolAdvantage, Appliance Rebates and Retail Lighting programs [↑](#footnote-ref-12)
12. https://www.njcleanenergy.com/main/public-reports-and-library/financial-reports/clean-energy-program-financial-reports [↑](#footnote-ref-13)
13. Note that NJNG provides incentives for electric measures directly to customers but the shared costs for those electric measures from other Utilities are transferred to the respective utility through the Statewide Coordinator System (SWC). SWC is still under development. The electric utilities have not claimed these savings in PY1. The savings will be rolled over into utilities’ PY2 estimates. NJNG is currently in the process of QC of that data and plans to deliver it the respective utilities by Spring 2023. [↑](#footnote-ref-14)
14. The Coordinated Measure List is a compendium of protocols from FY20 Protocols, FY21 Amendment, and TRMs from neighboring states. The program evaluators used this list to review savings calculations for evaluated energy efficiency programs [↑](#footnote-ref-15)
15. <https://njcleanenergy.com/files/file/Library/FY21/FY21%20Savings%20Protocols.pdf> [↑](#footnote-ref-16)
16. Annual Progress Report for Program Year 2022 of NJNG report. [↑](#footnote-ref-17)