Small Business Direct Install
Draft Evaluation Report

Evaluation Cycle 1 – Program Year 1

Prepared for:

Atlantic City Electric

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Abstract

APPRISE Solutions conducted an evaluation of Atlantic City Electric's Small Business Direct Install (SBDI) program for the program year one (July 1st 2021 – June 30th 2022). This report presents our findings from background research. The objective of this PY1 research was to develop a comprehensive understanding of the program and establish a foundation for future evaluations.

The SBDI program did not have participation in PY1 due to the brief time available for program design, planning and coordination with the other utilities, and an initial incentive design that did not perform as expected. Therefore, APPRISE Solutions conducted a process evaluation to develop an understanding of program design, data collection, and initial challenges in program implementation. The report also makes recommendations to improve future participation.

The evaluation included the following activities.

- Document Review: Review and analysis of all available program documentation.
- Interviews: In-depth telephone interviews with the ACE SBDI program manager and TRC managers and staff.
- Evaluability Assessment: Assessment of data expected to be available for an Enhanced Rigor Evaluation.[1]

Key Recommendations

APPRISE Solutions has the following recommendations for ACE and the program implementer, TRC, based on the research presented in this report.

- Data Availability: TRC should include data on energy efficiency (EE) measures that were recommended but not installed in the tracking database so the evaluation can assess missed opportunities and equity (to determine if businesses in Overburdened Communities (OBCs) are installing measures at the same level as those not in OBCs). Note that TRC has responded that it is unlikely and unreasonable that this information can be obtained from Trade Allies and tracked in the data. We will work with TRC and ACE to determine if these data can be obtained through another method.

- Incentive Structure: TRC should determine whether the revised SBDI incentives are generating a substantial increase in program participation. If not, the IOUs should make additional changes to the SBDI incentives to allow for participation to ramp up in time to meet the first triennium's participation goals.

- Outreach: TRC should request information on potential customers from ACE to help with outreach efforts.

- Savings Calculations: The IOUs should revise the gas savings calculation for packaged rooftop units (RTUs). The calculation should use the existing equipment to determine if the RTU is an early replacement. In cases where it is not an early replacement, the

[1] New Jersey Guidelines for Enhanced Rigor Clean Energy Program Utility Evaluations. Statewide Evaluator, July 22, 2022.

savings calculation should use the current Federal minimum standard of 80 percent AFUE.

- Cost-Effectiveness: TRC has added information to the tracking data to assess whether the caps on the amount paid per kWh and Therm result in a program that is cost-effective per the modified NJ Cost Test. They have planned to alert ACE if projects are not passing the modified NJ Cost Test. If this is found, changes should quickly be made to the incentive structure.

- Measures: TRC should implement their planned research on emerging technologies to address changes to codes and standards and program objectives for electrification and decarbonization.

Recommendations for Future Evaluation

APPRISE Solutions has the following recommendations for our future evaluation.

- Trade Ally Interviews: Interview Trade Allies to understand the challenges they face to increased participation and to reaching businesses in Overburdened Communities (OBCs).

- Participant Survey: Survey SBDI participants to develop information on participation challenges and solutions, satisfaction and recommendations, measures installation confirmation, free ridership, spillover, and non-energy impacts.

- Impact Evaluation: After there is SBDI participation, conduct an impact evaluation to verify and update energy savings.

Executive Summary

This PY1[2] evaluation cycle (July 1, 2021-June 30, 2022) report for the Small Business Direct Install (SBDI) program offered by Atlantic City Electric (ACE) presents the findings from initial background research focused on developing a strong understanding of the program and establishing a foundation for future evaluations.

The SBDI program was previously administered by the New Jersey Board of Public Utilities (NJ BPU) and was transitioned to ACE on July 1, 2021. The program offers small businesses and organizations a no-cost audit, incentives, and financing for comprehensive retrofit projects. Measures currently include LED lighting retrofits, HVAC, controls, refrigeration, motors, low-flow devices, pipe wrap, and domestic hot water equipment. TRC is the implementation contractor for ACE's SBDI program.

The SBDI program did not have participation in PY1 due to the brief time available for program design, planning, and coordination with the other utilities, and an initial incentive design that did not perform as expected. Therefore, APPRISE Solutions conducted a process evaluation to document the program design parameters and initial challenges faced with program implementation.

Research Methods

Table ES-1 displays the process evaluation activities completed in PY1 and planned for PY2.

Table ES-1. PY1 Process Objectives Mapped to Activities

Overall Objective	Program Materials Review	Online/Phone Participant Survey	Program Staff Interviews	Contractor Interviews
Document changes from NJ BPU to IOU	PY1		PY1	PY2
Participation		PY2		PY2
End-user satisfaction		PY2		
Program staff satisfaction			PY1	
Implementation team satisfaction			PY1	PY2
Challenges	PY1	PY2	PY1	PY2

[2] For purposes of this document, the numbering of the quarters aligns to these dates: Q1 (7/1/2021 - 9/30/2021); Q2 (10/1/2021 - 12/31/2021); Q3 (1/1/2022 - 3/31/2022); and Q4 (4/1/2022 - 6/30/2022).

An Evaluability Assessment was conducted to assess whether needed data will be available for an Enhanced Rigor Evaluation.[3]

Implementation Challenges

The program team and implementers faced several challenges in the initial implementation of the SBDI program. Key challenges are listed below and additional information on the challenges is presented in Section II of the report.

- Timeline: ACE had a brief time period to develop and implement SBDI prior to the start of PY1.
- Incentive Structure: The new SBDI incentive structure resulted in rebates that were lower than expected, ranging from 20 to 45 percent of project costs, rather than the 70 to 80 percent with the previous program. The incentive structure needed to be revised to encourage participation in SBDI.
- Supply Chain Issues: HVAC equipment is taking six to eight months for shipment, so every project with HVAC measures will need an extension from the standard 120 days provided for project completion.
- Utility Coordination: A great deal of coordination is required across the six IOUs. It can be difficult to align the IOU needs when there are many varying components, including budgets, territories, and savings goals.
- Lighting: The Federal Energy Independence and Security Act (EISA) developed regulations for lighting efficiency that will be enforced beginning in August 2023. Only non-LED lamps will be eligible for the program, and only as early replacement measures with an adjusted measure life of four years, which will reduce the program savings.

[3] New Jersey Guidelines for Enhanced Rigor Clean Energy Program Utility Evaluations. Statewide Evaluator, July 22, 2022.

Key Findings and Recommendations

Table ES-2 summarizes the key findings and recommendations from the research.

Table ES-2. Findings and Recommendations

Focus Area	Finding	Recommendation	Impact
Data Availability	The SBDI data that are expected to be available will not include information on the energy efficiency (EE) measures that the Trade Ally recommended but were not installed.	TRC should include data on EE measures that were recommended but not installed in the tracking database so the evaluation can assess missed opportunities and equity (to determine if businesses in Overburdened Communities (OBCs) have equally comprehensive projects). Note that TRC has responded that it is unlikely and unreasonable that this information can be obtained from Trade Allies and tracked in the data. We will work with TRC and ACE to determine if these data can be obtained through another method.	Ensure sufficient data are available for future process and impact evaluation.
Incentive Structure	The initial incentive structure needed revision to encourage participation, and a revised incentive structure is currently being tested.	TRC should determine whether the revised SBDI incentives are generating a substantial increase in program participation. If not, the IOUs should make additional changes to the SBDI incentives to allow for participation to ramp up in time to meet the first triennium's participation goals.[4]	Meet first triennium's participation goals.
Outreach	Initial webinar attendance has been weak and TRC believes that customer data and contact information could help TRC attract appropriate customers and improve webinar attendance.	TRC should request information on potential customers from ACE to help with outreach efforts.	Meet first triennium's participation goals.
Savings Calculations	The IOUs are using the ASHRAE 2007 baseline of 78% AFUE for the gas side of packaged rooftop units (RTUs). This calculation assumes that the RTU is an early replacement measure.	The IOUs should revise the calculation to use the existing equipment to determine if the RTU is an early replacement. In cases where it is not an early replacement, the savings calculation should use the current Federal minimum standard of 80% AFUE.	Improve the accuracy of the savings projection.

[4] Given the significant changes in program design, TRC expects that there will be an extended learning curve for the Trade Allies. TRC will be tracking the program pipeline, speaking with Trade Allies, and assessing projects as they come in to determine whether the revised tool is meeting expectations. Additionally, there is a process of alignment with the other utilities that needs to be completed before these assessments can be done. Until this alignment is completed, Trade Allies may choose to participate in other utilities' programs.

Focus Area	Finding	Recommendation	Impact
Cost-Effectiveness	Under the new SBDI design, projects are approved based upon measure eligibility, not by meeting a cost-effectiveness minimum, so there is a risk that the program will not be cost-effective.	• TRC has added information to the tracking data to assess whether the caps on the amount paid per kWh and Therm result in a program that is cost-effective per the modified NJ Cost Test. They have planned to alert ACE if projects are not passing the modified NJ Cost Test. If this is found, changes should quickly be made to the incentive structure.	Pass the NJ Cost Test.
Measures	Changes to codes and standards as well as electrification and decarbonization goals will drive a need for approving new SBDI measures.	TRC should implement their planned research on emerging technologies to address changes to codes and standards and program objectives for electrification and decarbonization.	Meet savings targets.
Evaluation	Limited evaluation was conducted for PY1 because no jobs were completed.	PY2 evaluation should include Trade Ally interviews, a participant survey, and an impact evaluation.	Obtain information needed to assess and improve the program.

1. Introduction

The Clean Energy Act of 2018 (CEA) called for a significant overhaul of New Jersey's energy systems while growing the economy, building sustainable infrastructure, creating well-paying local jobs, reducing carbon emissions, and improving public health. The CEA required each New Jersey investor-owned gas and electric utility (IOU) to develop energy efficiency (EE) programs in their service territories. In response to the passage of this Act, administration of most EE programs was transitioned from the BPU to the IOUs and additional new EE programs were designed and implemented beginning in July 2021.

The Small Business Direct Install (SBDI) program is one of the programs that transitioned from the Board of Public Utilities (BPU) to Atlantic City Electric (ACE) on July 1, 2021. SBDI provides EE services to small businesses, nonprofit organizations, municipalities, schools, and faith-based organizations. The program furnishes a percentage of the up-front costs to install recommended EE measures and a repayment option for the customer's contribution. The incentives cover a variety of equipment, including the following.

- Lighting retrofits, including fixtures, sensors, and controls
- Heating, ventilation, and air conditioning (HVAC) systems, including programmable thermostats and other controls
- Commercial refrigeration equipment
- Motors

The program did not have participation in PY1 due to the brief time available for program design, planning and coordination with the other IOUs, and an initial incentive design that did not perform as expected. Therefore, we conducted an initial Process Evaluation to achieve the objectives summarized in Table 1.1.

Table 1.1. Evaluation Objectives and Activities

Overall Objective	Program Materials Review	Benchmarking Analysis	Program Staff and Implementer Interviews	Program Database Review
Document program design parameters and compare to other successful programs	X	X	X	X
Assess the planned availability of program data for future evaluations			X	X
Understand initial challenges in program implementation		X	X	
Make recommendations to address challenges	X	X	X	X

1.1 Conclusions and Recommendations

The program faced participation challenges that resulted from implementing a complicated program with changes to the incentive structure that caused large, unexpected reductions in the program benefits. In response. the IOUs worked together to develop a revised incentive structure that was only implemented at the beginning of PY2. It is not yet clear if this revised structure is sufficient to overcome the participation challenges that were faced in PY1. The program will need to confirm that the revised incentive structure leads to the expected benefits and participation or quickly revise the incentive structure again. This assessment and potential re-design will need to be expedited to reach the first triennium's participation goals, as supply challenges will extend the time needed for project completion.

Table 1.2 summarizes the key findings and recommendations from the research.

Table 1.2. Findings and Recommendations

Focus Area	Finding	Recommendation	Impact
Data Availability	The SBDI data that are expected to be available will not include information on the EE measures that the Trade Ally recommended but were not installed.	TRC should include data on EE measures that were recommended but not installed in the tracking database so the evaluation can assess missed opportunities and equity (to determine if businesses in Overburdened Communities (OBCs) have equally comprehensive projects). Note that TRC has responded that it is unlikely and unreasonable that this information can be obtained from Trade Allies and tracked in the data. We will work with TRC and ACE to determine if these data can be obtained through another method.	Ensure sufficient data are available for future process and impact evaluation.
Incentive Structure	The initial incentive structure needed revision to encourage participation, and a revised incentive structure is currently being tested.	TRC should determine whether the revised SBDI incentives are generating a substantial increase in program participation. If not, the IOUs should make additional changes to the SBDI incentives to allow for participation to ramp up in time to meet the first triennium's participation goals.	Meet first triennium's participation goals.
Outreach	Initial webinar attendance has been weak and TRC believes that customer data and contact information could help TRC attract appropriate customers and improve webinar attendance.	TRC should request information on potential customers from ACE to help with outreach efforts.	Meet first triennium's participation goals.

Focus Area	Finding	Recommendation	Impact
Savings Calculations	The IOUs are using the ASHRAE 2007 baseline of 78% AFUE for the gas side of packaged rooftop units (RTUs). This calculation assumes that the RTU is an early replacement measure.	The IOUs should revise the calculation to use the existing equipment to determine if the RTU is an early replacement. In cases where it is not an early replacement, the savings calculation should use the current Federal minimum standard of 80% AFUE.	Improve the accuracy of the savings projection.
Cost-Effectiveness	Under the new SBDI design, projects are approved based upon measure eligibility, not by meeting a cost-effectiveness minimum, so there is a risk that the program will not be cost-effective.	TRC has added information to the tracking data to assess whether the caps on the amount paid per kWh and Therm result in a program that is cost-effective per the modified NJ Cost Test. They have planned to alert ACE if projects are not passing the modified NJ Cost Test. If this is found, changes should quickly be made to the incentive structure.	Pass the NJ Cost Test.
Measures	Changes to codes and standards as well as electrification and decarbonization goals will drive a need for approving new SBDI measures.	TRC should implement their planned research on emerging technologies to address changes to codes and standards and program objectives for electrification and decarbonization.	Meet savings targets.
Evaluation	Limited evaluation was conducted for PY1 because no jobs were completed.	PY2 evaluation should include Trade Ally interviews, a participant survey, and an impact evaluation.	Obtain information needed to assess and improve the program.

1.2 Report Contents

This report provides information to assess program design and implementation and make recommendations for program refinement. The following sections are included in the report.

- Section 2.1: Benchmarking: This section provides Process Evaluation findings from other SBDI programs that have been implemented around the country.
- Section 2.2: Evaluability: This section provides an overview of program data availability and an assessment of any gaps in data needed to complete an “Enhanced Rigor” evaluation.[5]

[5] New Jersey Guidelines for Enhanced Rigor Clean Energy Program Utility Evaluations. Statewide Evaluator, July 22, 2022.

- Section 2.3: Process Evaluation: This section provides a review of ACE's SBDI design and implementation based on review of program documents and interviews with program actors. It also provides a summary of findings and recommendations from the research.

2. Evaluation Analysis

2.1 Benchmarking

This section provides benchmarking for Process Evaluation research on SBDI programs. No comparisons can be made to ACE's SBDI because there were no ACE SBDI participants in PY1.

Table 1.1 SBDI Benchmarking

SBDI Program Design Benchmarking									
Utility	**PSO**	**Con Edison**	**PECO**	**DTE**	**BGE**	**Delmarva Power**	**PE**	**Pepco**	**SMECO**
State	OK	NY	PA	MI	MD	MD	MD	MD	MD
Evaluation Year	2020	2019	2021-2022	2020	2020	2020	2020	2020	2020
Participants	412	3,096	87	--	--	--	--	--	--
Program components	Lighting and refrigeration	Lighting, HVAC, hot water conservation, and refrigeration	Lighting, HVAC, water heating, and refrigeration	Lighting, refrigeration, and HVAC	Lighting, HVAC, and refrigeration	Lighting, HVAC, water heating, kitchen equipment	HVAC, lighting, and refrigeration	Lighting, HVAC, water heating, kitchen equipment	Lighting, refrigeration, and HVAC
Incentive structure	70% of installation costs	Up to 70% of total cost	--	--	Up to 70% of total cost	Up to 70% of total cost	Up to 80% of total cost	Up to 70% of total cost	Up to 80% of project costs
Average incentive	$15,000	--	--	--	--	--	--	--	--
Eligibility	Annual use ≤ 220,000 kWh Use a PSO-approved service provider	Average peak demand < 300 MW	--	Annual energy bill ≤ $60,000	BGE service territory with rate schedule G and GS	MD commercial customer with average monthly electricity use of ≤ 100 kW	Commercial accounts with average annual demand < 100 kW	MD commercial customer with average monthly electricity use of ≤ 100 kW	SMECO commercial customers with a monthly demand of ≤ 60 kW

SBDI Process Evaluation Benchmarking		
Utility	**PSO (n=43)**	**DTE (n=39)**
State	Oklahoma	Michigan
Evaluation Year	2020	2020
Program Awareness	Contractors and vendors were the most frequent source of program awareness and the most important source of influence on customers' decision to participate.	--

SBDI Process Evaluation Benchmarking		
Utility	**PSO (n=43)**	**DTE (n=39)**
Program Satisfaction	83% "Very Satisfied" with the program overall. 76% would either not change anything about the program (68%) or did now know what they would change about the program (8%).	86% Overall "Direct Install" Component Satisfaction. Driving factors of high satisfaction include the quality of work performed and the implementation contractor's ability to answer questions.
Other Satisfaction	High level of satisfaction with all aspects of the program. Program components with the highest satisfaction levels were "time from applying to project complete" (95% very satisfied), "professionalism of energy consultant" (92% very satisfied), and "assessment of facility" (86% very satisfied). Components with the lowest satisfaction levels were "program materials" (76% very satisfied), "incentive compared to total project cost" (78% very satisfied), and "explanation of program rules and processes" (81% very satisfied).	DI customer satisfaction mostly high across all delivery components. Program components with the highest satisfaction levels (using a 0-10 scale) were "quality of work performed" (100% with a 9-10 satisfaction level), "time to schedule the consultation" (100% with a 9-10 satisfaction level), "time to complete the consultation" (90% with a 9-10 satisfaction level). Components with the lowest satisfaction levels were "energy saving items installed" (25% with a 0-5 satisfaction level), "ease of signing up" (11% with a 0-5 satisfaction level), and "usefulness of the energy savings report" (7% with a 0-5 satisfaction level).
Participant Barriers	None outlined – the program was able to "maintain strong participation in 2020."	Drivers of low satisfaction include energy savings items installed and the amount of time taken to receive a rebate. Customers who had low satisfaction for energy savings items installed (n=3) cited measures not working properly or not being installed. A few customers cited disappointment in the energy savings over time and dissatisfaction with the ease of signing up.
Participant Recommendations	Increasing communication from PSO and providing additional information about other rebate programs.	Customers are looking for a more comprehensive energy assessment to gain deeper energy savings: the evaluator recommended that DTE offer improved energy audits that extend past lighting opportunities. Customers expressed disappointment in savings over time: evaluator recommended that DTE can better set expectations on the savings the customer will see over the first few months of installation, as

SBDI Process Evaluation Benchmarking		
Utility	**PSO (n=43)**	**DTE (n=39)**
		well as provide education on how to track savings over time.
Contractor Barriers	Trade ally interviews and survey responses indicate a lack of awareness or understanding of non-lighting energy efficiency rebates that are available for PSO Business Customers.	--
Contractor Recommendations	Create targeted marketing for specific program measures or to highlight certain types of energy projects.	--

2.2 Evaluability

This section provides a review of SBDI data that are expected to be available and an assessment of any projected gaps in data needed to complete an "Enhanced Rigor" impact evaluation as specified by the New Jersey Statewide Evaluator (SWE)[6] in the future. Because the SBDI database has not yet been developed, this assessment is based upon review of the SBDI data collection tool developed by TRC, a general description of what is expected to be included in the SBDI database, and discussion with TRC about other available data. We will review data beginning in the first quarter of PY2, discuss any deficiencies with TRC and ACE managers, and request changes and/or additions as needed.

SBDI program data that are needed for the evaluation are summarized in Table 2.2.

Table 2.2 SBDI Program Data Assessment

Type	Variables	Use	Expected Availability
Participant	Contact name, address, phone number, email address, account number	Participant Surveys	SBDI Database
Partial Participant	Contact name, address, phone number, email address, account number	Partial Participant Interviews	FSG Pipeline Reporting
Program Dates	Assessment date, contract date, approval date, installation date, approval date, payment date	Process Analysis Impact Analysis	SBDI Database
Facility Data	Facility type, heating fuel, HVAC type, square footage, average monthly peak demand, operating hours	TRM Update	SBDI Database
Baseline Equipment	Equipment location, age, baseline efficiency	TRM Update	SBDI Database

[6] New Jersey Guidelines for Enhanced Rigor Clean Energy Program Utility Evaluations. Statewide Evaluator, July 22, 2022.

Type	Variables	Use	Expected Availability
Partner Utility Data	Utility name, customer account number	Impact Analysis	SBDI Database
Trade Ally Data	Company name, contact name, phone number, email address	Trade Ally Interviews	SBDI Database
Recommended Measures	All recommended measures, gas savings, electric savings, demand savings	Missed Opportunities	Not Available
Installed Measures	Installed measures, gas savings, electric savings, demand savings	Impact Analysis	SBDI Database
Installed Measure Characteristics	Installed measure location, capacity, efficiency, hours of use	TRM Update	SBDI Database
Incentives	Gas incentive amount, electric incentive amount, financing amount	Cost-effectiveness	SBDI Database
Energy Savings	Annual and lifetime gas savings, annual and lifetime electric savings, demand savings	Realization Rate, TRM Update	SBDI Database
Energy Usage	Monthly electric and gas electric usage	Impact Analysis	Utility Request

Monthly energy usage data are needed to develop a weather-normalized, comparison group adjusted estimate of savings that result from SBDI.

- Electric Data: ACE can provide these data.
- Gas Data: The utilities will need to agree to provide energy usage data for the partner utilities.

Based on the assessment, the only key data that will not be available are EE measures that the Trade Ally recommended that were not installed.

2.3 Process Evaluation

The Process Evaluation aimed to develop a complete understanding of the SBDI program, initial challenges faced, and make recommendations for overcoming those challenges.

2.3.1 Process Evaluation Overview and Methodology

The ACE PY1 SBDI Process Evaluation research included document review and in-depth interviews, as summarized in Table 2.3.

Table 3.3 SBDI Program Data Assessment

Task	Material or Interview Subject	Information
Document Review Review and analysis of all available program documentation.	Sample Weekly Update Meeting Agenda	Example of collaboration between ICF and TRC on outreach and marketing
	SBDI Trade Ally Application	Application required for contractors to become SBDI approved Trade Allies
	SBDI Trade Ally Agreement	Agreement required for contractors to sign to become SBDI approved Trade Allies
	SBDI Trade Ally Directory	List of Trade Allies approved to perform work in the SBDI program
	SBDI Energy Assessment Tool	Excel tool used by Trade Allies to collect data, develop work scopes, and create contracts for service delivery
Interviews In-depth telephone interviews with program managers and implementers.	ACE SBDI Manager (3 Managers/Staff Interviewed)	SBDI design, marketing, participation, and challenges
	TRC SBDI Manager & Staff (3 Managers/Staff Interviewed)	TRC responsibilities, program design, participation, Trade Allies, data management, and challenges
	TRC Outreach Manager (1 Manager Interviewed)	Coordination with ICF (marketing implementer) and outreach approach and implementation challenges

2.3.2 Process Evaluation Results

This section provides a summary of findings from the Process Evaluation research.

2.3.2.1 Program Design

SBDI provides EE services to small businesses, nonprofit organizations, municipalities, schools, and faith-based organizations. The program aims to assist these types of customers who

typically lack the time, knowledge, or financial resources to pursue EE measures. SBDI furnishes a percentage of the up-front costs to install recommended EE measures and a repayment option for the customer's contribution.

An energy assessment is provided at no cost to the customer and provides recommendations on EE measures to reduce energy usage and costs. This program currently offers the following measures summarized in Table 2.4.

Table 4.4 SBDI Measures

End Use	Measures
Lighting	Fixtures, sensors, and controls
Heating, Ventilation, and Air Conditioning	Systems, programmable thermostats, and controls
Hot Water	Equipment, pipe wraps, and low-flow devices
Other	Variable frequency drives Commercial kitchen equipment, refrigeration Motors

The key changes made to the program when it transitioned to the utilities are summarized below.

- Trade Ally Network: The previous program required contractors to bid into the program, and only a limited number were selected to participate. There were eight participating Trade Allies. Extensive requirements for contractor participation included several certifications, an investigation of the contractor's business history, and use of the prevailing wage.

  The Trade Allies worked as subcontractors to the implementation contractor, which allowed the implementer to have more control. The Trade Allies were obligated to meet their goals and it was not as difficult to obtain consistency across them.

  When the program transitioned to the utilities, they opened the program to any contractor who met the requirements (insurance, licenses, and experience), submitted the paperwork, and attended training. ACE has 12 participating Trade Allies, including the eight that worked under the previous program.

- Incentive Structure: The previous program had a flat set of 70 to 80 percent incentives, with a sliding scale for cost-effectiveness. The utilities moved to a more dynamic incentive scale that was developed by the joint utility working group, based on measure composition and lighting tiers. More comprehensive jobs receive higher incentives and there is a mechanism to check for cost-effectiveness.

- Measure Cost: The previous program required contractors to charge customers a fixed cost for the measures. This meant that all Trade Allies would offer the same deal to participating customers. The new program provides an open market model where labor and material charges are determined by the Trade Allies. Different Trade Allies can offer different work scopes and pricing.

- Customer Focus: TRC reports that ACE has increased flexibility and reduced documentation requirements to focus more on what the customer needs and how the program can provide the most benefit, and to reduce the burden on the Trade Allies.

- Evaluation: The program previously was not evaluated. TRC now has a performance contract with penalties. There is an increased focus on ensuring that projects move forward so that savings can be achieved and on improving the process moving forward.

Goals and Resources

Table 2.5 displays the participation and savings goals, as well as the projected expenditures based on ACE's SBDI plan. While the table shows projected participation of 414 customers over the first triennium, ACE is now forecasting 650 participants, as the initial plan underestimated the SBDI potential and TRC assumed a higher level of participation based on their past program experience.

TRC does not believe that 650 participants over the first triennium is a challenging goal, based on historical information about ACE's service territory. However, there are many unknowns, and the estimates are based on the historical design of the program, average incentives, and average savings. TRC was completing 1,500 to 2,000 SBDI jobs annually throughout the state in the previous program.

Projects are now taking eight months to install because of the HVAC lead time with the current supply chain issues and COVID. TRC plans to line up as many projects as possible in PY2 and complete as many installs as possible in PY3.

Table 5.5 SBDI Goals and Resources

Metric	PY1	PY2	PY3
Participants	45	180	189
Net Annual Natural Gas Savings (Therms)	62,140	248,559	260,987
Net Lifetime Natural Gas Savings (Therms)	932,098	3,728,392	3,914,812
Net Lifetime Natural Gas Savings (Therms) Qualifying Small Commercial Customers	932,098	3,728,392	3,914,812

Metric	PY1	PY2	PY3
Net Annual Electric Savings (kWh)	2,090,841	8,363,365	8,781,533
Net Lifetime Electric Savings (kWh)	31,362,618	125,450,472	131,722,996
Net Lifetime Electric Savings (kWh) Qualifying Small Commercial Customers	31,362,618	125,450,472	131,722,996
Net Annual Peak Demand Savings (kW)	58	232	243
Net Lifetime Peak Demand Savings (kW)	868	3,473	3,646
Projected Expenditures	$3,229,980	$12,377,929	$12,441,519

Administration

TRC is the SBDI program administrator and is responsible for day-to-day operation of the program, including database management, Trade Ally recruitment and management, measure inclusion, outreach, and verification and measurement. TRC ran the Commercial and Industrial EE programs for the BPU for many years and has extensive experience with SBDI both in NJ and in other states.

Contractors must register to become approved Trade Allies to participate in ACE's SBDI program. The process includes submitting an application, W-9 form, NJ Business Registration Certificate, licenses, and certificate of insurance. The application includes references, lists of licenses and certifications, planned measures, and counties they intend to serve. Trade Allies must agree to follow program guidelines, including reporting and verification, participate in an orientation, and remain in good standing with ACE.

TRC contracted with Facility Solutions Group (FSG) to help them manage and implement SBDI. FSG can perform assessments and work as an intermediary between TRC and the Trade Ally network. FSG works directly with each Trade Ally on how to submit an application in the platform, outreach tactics, and ethics in working with NJ applicants. This is to develop consistent best practices for each Trade Ally. TRC had worked with FSG in New York in this capacity with good results.

Eligibility

Non-residential customers are eligible for SBDI based upon peak demand. The incentive level varies for qualified locations and types of organizations.

- Tier 1: Customers are eligible for the higher Tier 1 incentives based on the following criteria.
    - Average individual facility peak electrical demand up to 100 kW.
    - Average individual facility peak electrical demand up to 200 kW, and meeting one of the following criteria.
        - Urban Enterprise Zone location
        - Opportunity Zone location
        - Owned or operated by local government
        - K-12 public schools
- Tier 2: Customers are eligible for the lower Tier 2 incentives based on the following criteria.
    - Average individual facility peak electrical demand 101-200 kW.
    - Peak demand may be increased by ACE to ensure the program is properly addressing the market in ACE's territory.

Incentives

Incentives are provided for eligible measures installed by customers served by ACE or a natural gas utility, but not for deliverable fuels or for electric equipment served by municipal electric utilities.

The program intends to provide an incentive of up to 70 to 80 percent of measure cost based on the measure composition and program tier. The incentive structure was changed with the new utility implementation. However, upon the initial utility redesign, the program was providing a much lower incentive than under the previous state program.

This revision to the SBDI incentive structure resulted in little to no participation in PY1. Upon receiving feedback from contractors, the utilities undertook a lengthy process to adjust the incentives. When they re-ran sample projects through this new structure, the majority of the projects had a significant increase in the total incentive.

The utilities began working on the incentive revisions in March 2022 and the new incentives went live in July 2022, at the start of PY2. Trade Allies were trained on the revisions.

The incentives vary by measure mix and customer tier. Higher incentives are paid when a lower percentage of savings are attributable to lighting. The new tool has a pop-up instruction that tells the contractors when they should change the efficiency level to obtain a higher incentive.

At the time of evaluation interviews with ACE and TRC, the new tool had just been released and the Trade Allies were still assessing the impact of these changes. Many contractors had projects that failed to be adopted and were putting their projects in the new tool to determine how the incentive changed and whether they should return to these customers with more viable projects.

Incentives offset customer costs but can be signed over to the contractor so that the customer only pays the net cost and does not wait for repayment of the incentive.

Financing

ACE was finalizing the SBDI financing with a third-party vendor at the time of the research. The vendor will facilitate all aspects of the financing and ACE will buy down the interest rate. Loans will be offered from $2,500 to $75,000 with no interest and a five-year term. They will not be provided as on-bill financing.

Assessments and Installation

There are many potential avenues for customers to participate in the program. Trade Allies reach out to customers, customers may call or email based on the website, energy managers look into incentives for their stores, and mechanical contractors who receive emergency calls for replacements may recruit customers into the program. The Trade Allies have historically been a main participation driver.

If a customer reaches out to TRC about participation, TRC will send the customer to FSG and then FSG will select a Trade Ally for referral based on the performance of the Trade Allies. The performance metrics are how engaged the contractor is in the program, customer complaints or feedback, spending and savings, and following program guidelines. FSG is obligated to meet the SBDI goals, so it is in their best interest to provide the referrals to the Trade Allies. FSG is required to track referrals and the number they refer to each Trade Ally.

The SBDI program intent is to provide a complete, no-cost, no obligation assessment of all equipment. The customer then works with the Trade Ally to select measures based on their constraints. The assessment report is required to include a complete inventory of all qualified energy consuming equipment and a proposed comprehensive solution. TRC reported that they will request additional information from the Trade Ally if they receive an assessment that only proposes lighting with no explanation of why no other measures are included in the work scope. TRC reviews this in detail in the program training and refresher training.

TRC developed an SBDI tool based on the previous state program, with ACE branding and the new incentive structure. This tool is based upon TRC's work around the country on direct install programs and is revised for each client based on the specific program, budget, and savings goals.

The SBDI tool creates a scope of work and measure acceptance form based on the contractor's inputs. The Trade Ally reviews this information with the customer, and both the customer and the Trade Ally sign the form. The Trade Ally returns at a later point to finalize the design and agree on an approach. There is an additional measure acceptance form developed for the final set of measures that are agreed upon.

TRC does not encourage customers to have assessments and bids by more than one Trade Ally because they can get two different job scopes and costs, and this can be detrimental to the Trade Ally network. If someone asks if they had the right to have an assessment by more than one Trade Ally, they will let the customer know that they can do this. This goal is to streamline the program and reduce confusion.

Data Management

The Trade Ally collects all information needed on existing equipment and proposed replacements in the SBDI energy assessment tool that TRC developed. ACE has contracted with ANB Systems to develop their internal data system to manage their EE program data. ANB's eTrack+ is a workflow management system that ACE's parent company, Exelon, has used for EE programs in other states. TRC is working with ANB to prepare the system for the SBDI data. They plan to include all fields relevant for savings calculations for each measure type. They have not prioritized this development because SBDI has not completed projects, and given supply chain issues at the time, they don't expect to have completed projects to import into eTrack until the first or second quarter of 2023.

eTrack only accepts data on installed projects and measures. If Trade Allies submit information on projects that were cancelled, this information would be available for the evaluation. Information on recommended measures that were not installed will not be available. FSG will consolidate Trade Ally pipeline reports for TRC so they have a better understanding of how projects are developing.[7]

Quality Control

ACE developed a quality control statement of work with TRC. Ten percent of jobs must be inspected and requirements for follow-up are based on the level of investment.

TRC's comprehensive review includes the following steps.

- Each job receives an initial review that checks that each measure meets the eligibility requirements, the calculations are correct, and the savings are correct. This review on the front end is important because it eliminates hurdles on the back end.

- This same complete review is conducted on the back end. The job may change because a fixture or specific piece of equipment is not available, so this check ensures that the final project meets the criteria and that the incentives are correct.

[7] The eTrack system is not yet ready for SBDI, so the details on data availability are unclear.

- TRC's quality assurance manager reviews all projects, ensures that everything from the site detail and customer data matches the application, that the job meets the program criteria, that the specs are in the tool, and conducts a savings analysis.

- Ten percent of jobs and all projects with an incentive over $25,000 were planned for inspections pre and post. However, TRC expects that based on the revised incentive structure, all projects will have an incentive over this threshold. After initial inspections are completed, TRC will reassess the inspection criteria with ACE. Because it's a new program, TRC believes that it is beneficial to show the contractors that there is an extensive review, and then ratchet back the inspections as appropriate.

- After the final incentive is determined, TRC bills ACE for the project. ACE validates the savings through their data system and then releases payment, upon which TRC pays the Trade Ally.

2.3.2.2 Program Implementation

TRC is responsible for SBDI implementation. This section reviews program implementation to date, including marketing, Trade Ally recruitment, and program participation.

Marketing and Outreach

ICF is ACE's marketing vendor, and they facilitate marketing for all EE programs, including the email system, advertisement buys, and the design work. TRC coordinates with ICF on marketing and outreach, shares draft content, and reviews marketing materials. TRC conducts in-person events and outreach to customers.

Most of the outreach is awareness of the portfolio of programs, not specific to SBDI or any other individual program. The outreach team uses calling campaigns, email campaigns, event campaigns, road circuit campaigns (cold calling on businesses and contractors), virtual and in-person meetings and presentations, and partner organization campaigns to connect with local business, trade/professional organizations, and Trade Allies.

TRC conducted campaigns targeted to OBCs as identified by the NJ Department of Environmental Protection to target customers and recruit Trade Allies from those communities. OBCs are the primary geographical location of road circuit campaigns that accompany cold calling on businesses and contractors. The outreach specialist makes site visit to targeted contractors located in these OBCs for Trade Ally recruitment. If he sees an ACE business customer who may be a good target, he will provide an SBDI fact sheet.

Outreach has included attendance at events, including the NJ Chamber of Commerce's ReNew Jersey Conference, Cape May County Chamber of Commerce Business at the Beach event, and NJ Emergency Preparedness Conference at ACE's invitation to staff booths that come with ACE's sponsorship. These invitations were forwarded by ACE's Government and External Affairs representatives. TRC attended some of these events, TRC's subcontractors have attended some events, and FSG has attended many of these events.

ICF has updated the ACE website to incorporate the information for SBDI on how to become a Trade Ally, how to participate, and incentives. They will also include case studies. Outreach

refers customers and contractors to the website, rather than sending information, to ensure all documents are the most recent public versions. ICF is currently developing the materials in Spanish. As they continue to conduct partner outreach, they will determine if there is a need for materials in other languages.

TRC performed Trade Ally recruitment webinars and several webinars based on market segments (one to two webinars per month). These included municipal and school buildings, retail and small business, office buildings, grocery and retail, and warehouses. All email blasts are sent by ICF to track and limit the number of marketing emails that are sent to customers based on company policy. TRC reported that participation at the market webinars has been very weak. They believe that customer data and contact information would help TRC attract appropriate customers and improve webinar attendance.

TRC provides a list of contacts to augment ICF's generated list, especially for Trade Ally recruitment webinars. TRC supplied two large contractor lists for ICF to use for eblast for Trade Ally recruitment and training webinars, which were well attended. TRC also provides some lists for customer specific outreach such as warehouses, grocery stores, and office space.

After the webinar invitation emails are sent out, TRC receives a list of the customers who opened the emails. TRC reaches out to provide information about the program and create awareness. This is a general introduction to the programs that are applicable to the group they are reaching out to. ICF is working on ideas for increasing webinar attendance.

Another form of outreach is the Trade Ally engagement. ACE, through ICF, has placed the Trade Allies' information on the SBDI webpage with their logo and contact information. There is a lot of weight on the Trade Ally network to engage applicants and get message out.

Outreach to chambers of commerce has resulted in many assessments. They have used this approach to drive participation town by town, as they have found that the best approach is to saturate a municipality with the information. They can work with a mayor and get major support for the program. The mayor lets the constituents understand that their utility bills are funding the program, and they build trust. TRC's knowledge of ACE's service territory has helped with the marketing plan, such as understanding the types of businesses and best times of year to reach them.

ACE works with some of their key accounts and external affairs staff. They don't participate in direct outreach, but they do refer customers to programs. TRC was connected with ACE's large customer representatives and government and external affairs staff who provided marketing opportunities.

Trade Ally Recruitment

TRC worked with FSG to onboard 11 additional Trade Allies (for a total of 12 Trade Allies.) FSG does Trade Ally engagement, recruitment, and ensures that if they don't have the criteria in hand, they can get in the position to meet the criteria. They forward the information to TRC to review applications, insurance, and references.

Trade Allies are required to participate in the same approval process for each program. TRC lets the contractors submit the information once and just fill out the application for each program. Most SBDI contractors participate in Prescriptive / Custom program.

TRC worked with FSG to provide a slide deck with training on the assessment tool, the process of developing a project, the expectations for the work, and the ethics of doing the job. TRC sends the message that all of the Trade Allies are on the same team, have the same goals to meet, and that it will be easier to hit the goals if they work together. They think this message will be accepted over time.

SBDI managers believe that more Trade Allies will be needed to complete 650 jobs in the first triennium, and FSG is actively recruiting additional Trade Allies.

Participation

ACE's EE programs were launched on July 1, 2021. ACE only had a few days to start implementing the programs and still needed to develop SBDI terms and conditions and train the Trade Allies, so the SBDI program only hit the market in January 2022.

They quickly saw that the design changes were not well received. There was anecdotal feedback that the structure wasn't meeting expectations. ACE was then able to make changes and now expects the program to ramp up.

2.3.2.3 Challenges

Several challenges were faced in SBDI design and implementation.

- Timeline: ACE had a brief time period to develop and implement SBDI prior to the start of PY1. As a result, the SBDI program only hit the market in January 2022.

- Incentive Structure: The SBDI incentive structure resulted in rebates that were lower than expected, ranging from 20 to 45 percent of project costs, rather than the 70 to 80 percent with the previous program. The structure needed to be revised to encourage participation in SBDI.

  There is a concern about whether additional changes will be needed. ACE plans to evaluate the need for additional changes based on the commitments that they see and promptly make changes if needed.

- Marketing Budget: ACE's marketing budget was limited for PY1 but is higher and deemed sufficient for PY2.

- Program Financing: The lack of project financing has been a challenge but should be resolved soon, as ACE is about to finalize a contract with a third-party financing corporation.

- COVID: New waves of the pandemic provide additional uncertainty for businesses which may mean a hesitancy to invest in EE.

- Supply Chain Issues: HVAC equipment is taking six to eight months for shipment, so every project will need an extension from the standard 120 days provided for project completion.

- Equipment Availability: HVAC manufacturers are contemplating a retreat from high-efficiency equipment because it has been difficult to sell.

- Service Territory: ACE serves a rural area, which is not preferred by contractors. Additionally, TRC perceives that there is a skeptical client base.

- Trade Ally Consistency: TRC reported that developing alignment and consistency across the Trade Allies is a significant challenge. This challenge has increased compared to the previous state program, as the new structure provides increased flexibility for the Trade Allies.

- Utility Coordination: A great deal of coordination is required across the six utilities. It can be difficult to align what each utility needs based on so many varying components, including budgets, territories, and savings goals.

- State Consistency: Despite the coordination, each utility is running their own program, with different implementation contractors developing their own tools and calculations. While the utilities said that all programs would have an open Trade Ally network with fair market pricing, one utility has a contractor that is performing all assessments and setting pricing based on the previous state pricing. TRC is working with as many Trade Allies as possible, which is more complicated.

- Lighting: The Federal Energy Independence and Security Act (EISA) developed regulations for lighting efficiency that will be enforced beginning in August 2023. Only non-LED lamps will be eligible for the program, and only as early replacement measures with an adjusted measure life of four years, which will reduce the program savings.

- Cost-Effectiveness: Under the new SBDI design, projects are approved based upon measure eligibility, not by meeting a cost-effectiveness minimum, so there is a risk that the program will not be cost-effective. Some of this concern is mitigated by the caps on the amount paid per kWh or Therm saved. However, this is an indirect measure, because it is not tied to the modified NJ Cost Test.

2.3.3 Key Findings and Recommendations

This section summarizes the key findings and recommendations from the research.

Key Recommendations

- Data Availability: We reviewed the SBDI tracking tool and discussed planned data availability with TRC. The SBDI data that are expected to be available do not include information on the EE measures that the Trade Ally recommended but were not installed. These data are needed to assess missed opportunities and equity (to determine if businesses in OBCs have equally comprehensive projects).

- We will review data beginning in the first quarter of PY2, discuss any deficiencies with TRC and ACE managers, and request changes and/or additions as needed.

  Recommendation: TRC should include data on EE measures that were recommended but not installed in the tracking database. Note that TRC has responded that it is unlikely and unreasonable that this information can be obtained from Trade Allies and tracked in the data. We will work with TRC and ACE to determine if these data can be obtained through another method.

- Incentive Structure: The program intends to provide an incentive of up to 70 to 80 percent of measure cost based on the measure composition and program tier. When the incentive structure was changed with the program transition, the incentive was greatly reduced as compared to the previous state program. As a result, there was little to no participation in PY1. Upon receiving feedback from contractors, the IOUs undertook a lengthy process to adjust the incentives. This revision is projected to significantly increase the incentives. Initial feedback on the revised incentives is positive, but it is too soon to determine whether it is sufficient to encourage participation.

  Recommendation: TRC should determine whether the revised SBDI incentives are generating a substantial increase in program participation. If not, the IOUs should make additional changes to the SBDI incentives to allow for participation to ramp up in time to meet the first triennium's participation goals.

- Outreach: Initial webinar attendance has been weak and TRC believes that customer data and contact information could help TRC attract appropriate customers and improve webinar attendance.

  Recommendation: TRC should request information on potential customers from ACE to help with outreach efforts.

- Savings Calculations: The IOUs are using the ASHRAE 2007 baseline of 78% AFUE for the gas side of packaged RTUs. This calculation assumes that the RTU is an early replacement measure.

  Recommendation: The IOUs should revise the gas savings calculation for packaged RTUs. The calculation should use the existing equipment to determine if the RTU is an early replacement. In cases where it is not an early replacement, the savings calculation should use the current Federal minimum standard of 80 percent AFUE.

- Cost-Effectiveness: Under the new SBDI design, projects are approved based upon measure eligibility, not by meeting a cost-effectiveness minimum, so there is a risk that the program will not be cost-effective. Some of this concern is mitigated by the caps on the amount paid per kWh or Therm saved and additional information that TRC added to the tool.

- *Recommendation: TRC has planned to alert ACE if projects are not passing the modified NJ Cost Test. If this is found, changes should quickly be made to the incentive structure.*

- Measures: The Federal Energy Independence and Security Act (EISA) developed regulations for lighting efficiency that will be enforced beginning in August 2023. Only non-LED lamps will be eligible for the program, and only as early replacement measures with an adjusted measure life of four years, which will reduce the program savings. Such changes to codes and standards, as well as electrification and decarbonization goals, will drive a need for approving new SBDI measures.

  Recommendation: TRC should implement their planned research on emerging technologies to address changes to codes and standards and program objectives for electrification and decarbonization.

Recommendations for Future Evaluation

APPRISE Solutions has the following recommendations for our future evaluation.

- Trade Ally Interviews: Interview Trade Allies to understand the challenges they face to increased participation and to reaching businesses in Overburdened Communities (OBCs).

- Participant Survey: Survey SBDI participants to develop information on participation challenges and solutions, satisfaction and recommendations, measures installation confirmation, free ridership, spillover, and non-energy impacts.

- Impact Evaluation: After there is SBDI participation, conduct an impact evaluation to verify and update energy savings.

APPRISE Solutions prepared this report for Atlantic City Electric. Any errors or omissions in this report are the responsibility of APPRISE Solutions. Further, the statements, findings, conclusions, and recommendations are solely those of analysts from APPRISE Solutions and do not necessarily reflect the views of Atlantic City Electric.

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