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March 31, 2022

Luly E. Massaro, Clerk
Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

**Re: Block Island Utility District d/b/a Block Island Power Company
Demand Side Management Plan 2022 – Docket 5244**

Dear Luly:

As you know, our office represents Block Island Utility District (“BIUD”).

Enclosed for filing in this matter are an original and five (5) copies of BIUD’s Demand Side Management 2022 Plan, along with resumes of Katherine Johnson and Jake Millette who prepared the Plan and will be available to testify and answer any questions regarding the Plan.

If you need any further information, please do not hesitate to contact me.

Very truly yours,



Leah J. Donaldson

Cc: Service List (via electronic mail)



Block Island Utility District
dba Block Island Power Company

Demand Side Management 2022 Plan

Block Island Utility District
100 Ocean Avenue
Block Island New Shoreham, RI 02807
(401) 466-5851

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Block Island Utility District — 2022 Demand Side Management Plan

1. Introduction and Background

Demand side management (DSM) is important because it can provide benefits to both customers as well as the electric grid. The Block Island Utility District (BIUD, the District) is seeking to continue to offer a DSM program to provide its 1,900 customers access to energy efficiency programs that will benefit them and improve the service and reliability of the island's electric grid. A DSM program provides access and incentives for measures that allow customers to optimize their energy usage and reduce their utility bills. Reducing energy usage, particularly during peak seasons or times of day, can also have substantial benefits such as reduced grid maintenance and capital expenditures, reduced peak charges for customers, and greater service reliability.

Block Island is a unique community because of its geographic separation from the mainland and its variable, tourist-driven seasonal usage profile. The community of New Shoreham and the grid that serves it needs to be flexible enough to handle the increased summer population, as well as reliable and resilient enough to provide service to the year-round residents and businesses, even in the face of harsh winter conditions.

Given Block Island's unique size, location, and seasonal usage spike, demand side management is especially important for this community and aligns with many of BIUD's goals outlined in the approved rate case filing (Docket #4975). Specifically, through the implementation of this proposed DSM plan, BIUD aims to empower its customers to make choices that help control their energy usage, reduce energy burden on customers, improve resource allocation, and encourage the adoption of innovative new technologies that maximize the benefits of Block Island's smart meters. By supporting the filing of this proposed DSM plan, the BIUD Board seeks to deliver energy efficiency program benefits to all BIUD customers.

After an initial planning period, the 2020 program (PY2020) officially launched in November 2020. As of February 2022, the program completed a total of 36 home audits and six audits in commercial buildings. The program directly installed energy-savings measures in 32 homes of the audited homes. These direct installations accounted for a total of annual savings of more than 10.3 MWh. This represents an equivalent of 8.1 tons of carbon dioxide or over 18,000 miles driven by an average car. Of the audits performed, all were conducted in person except for one, which was conducted virtually via video conference application. To date, BIUD has not received any applications for energy efficient equipment or weatherization incentives in PY2021.

Summary of Program Activity in 2021-2022

Energy Audits

BIUD worked with its implementation contractor, ENE, to schedule and conduct audits throughout 2021. As of February 2022, the program completed 19 residential audits and six commercial audits in PY2021, compared to 17 and zero, respectively, in PY2020. Overall, the number of completed residential audits increased four-fold in calendar year 2021 compared to 2020 (n=28 and 7, respectively) with one residential audit being completed so far in 2022. The program achieved 42% of its residential goal and 100% of its business goals for conducting energy audits in PY2021. The program is well-positioned to continue this upward trajectory in the next program year.

Due to staff turnover at ENE, only one audit was conducted each month from June through August 2021 and no audits were completed in September 2021. After discussions with BIUD and their hiring of dedicated DSM support staff, ENE was able to increase the frequency of audits in October to December completing a total of 12 residential and six commercial audits during this three-month period.

As a way to increase participation among both residential and commercial customers, ENE worked with BIUD and its energy efficiency consultant, Johnson Consulting Group, to identify additional ways to boost program participation, both in PY2021 and beyond. These activities included the following:

- Reconfigure BIUD website's landing page to prominently feature audit sign up via a highly visible button linking to ENE's audit intake survey;
- Create a bill stuffer advertising the residential audits on one side and the commercial audits on the other;
- Began development of a program material packet to be distributed by Real Estate brokers after a property sale;
- On-island visit from ENE representative to meet business owners for potential commercial audits and to spread the word about the offering; and
- Launch a referral program via high-traffic businesses that are popular with islands residents.

ENE staff visited Block Island on October 18 for a ride-along with the program manager. The goal was to meet civic-minded business owners and generate leads for both commercial and industrial audits. The BIUD General Manager and ENE representative visited multiple businesses, including an island business owner who served on a town board, the President of the Chamber of Commerce, and the Editor in Chief of the island's newspaper. The business owner targeted for partnership on the referral program was off-island. The visit generated the bulk of commercial and residential audits for the remainder of 2021. In November, ENE dedicated two days to audits and three days in December to accommodate the surge in inquiries.

Technical Adjustments

ENE worked with BIUD and Johnson Consulting Group staff to successfully resolve the technical issues associated with calculating the energy savings estimates using the home audit software tool, SnuggPro. The external consultant identified in August 2021 that the SnuggPro tool was using deemed savings values from the Massachusetts Technical Reference Manual (TRM). ENE subsequently updated these savings estimates based on the deemed values from the Rhode Island Technical Reference Manual (TRM) and will continue to use those Rhode Island specific savings values going forward. Additionally, all program savings calculations performed have been done using the Rhode Island TRM values.

Concurrently, ENE also updated the SnuggPro rebate offerings listed on the "Rebate & Incentives" website for Block Island customers to include the independently-run, high-dollar rebate heat pump program sponsored by an island philanthropist. The BIUD team will continue to collaborate with these efforts during the next program year. These efforts will include contacting customers who installed heat pumps to also complete an energy audit, as a way to identify additional energy savings opportunities. BIUD will also look for ways to claim the energy savings from these heat pump installations in the next program year.

Program Plans Going Forward

As a way to address the seasonality of this program, the team will conduct more frequent check-ins with ENE to assess the program progress during the critical months before and after high season in Block Island. During these months February through May, and September through November, we will work with ENE to conduct multi-day site visits targeting critical business owners and influential Island residents. We will also increase the number of days spent on the Island as needed to accommodate a surge in energy audit requests and capitalize on resident and business owner availability, which we have identified as the shoulder seasons given the seasonality of the island.

Ultimately, our goal is to encourage customers to complete these audits and apply for program rebates. Since there are no local HVAC or weatherization contractors on the Island, the stakeholders will work on a strategy to schedule heat pump installations and/or weatherization work in “batches” to encourage more mainland contractors to bid on these projects and complete them in a timely manner.

Increasing the frequency of activities during the off-season and developing working relationships with contractors off-island should lead to increased audits and equipment installations in the next program year. Moreover, many customers use the audit report to serve as a “road map” to future energy investment in their property over a multi-year time period to allow them to save and plan for these upgrades. As the program matures and the pipeline of work grows through increased audit volume, we expect a higher number of weatherization and HVAC upgrades to be completed – especially if we can help attract contractors to the island to service this growing demand.

In combination with the recently adopted rate structure, the District feels that the adoption of heat pumps for heating and cooling needs will be an attractive option for customers that provides significant energy and cost savings. Heat pump technology is an important tool in helping BIUD smooth out the current load curve, minimize increasing summer demand caused by a growing number of air conditioning installations, and can provide opportunities for customers to reduce their overall energy burden. In addition to aligning with the District’s goals for its customers, offering incentives for heat pumps can also help Rhode Island to meet its Greenhouse Gas Emission goals under the Act on Climate while ensuring that New Shoreham residents and businesses receive the same, if not enhanced, opportunities for improved comfort and energy savings as other Rhode Islanders.

Block Island Utility District respectfully requests that the Public Utilities Commission (PUC) approve this 2022 Demand Side Management plan and its associated use of ratepayer funds, in its entirety, as outlined next.

2. DSM Categories, Proposed Budget Allocation, Cost Recovery, and Estimated Benefits

The proposed budget for the Block Island DSM programs is broken into three major categories — Assessment and Installation; Inspection and Program Administration; Customer Outreach.

In the Assessments & Installation category, BIUD would offer four programs: Residential energy assessments and weatherization; Residential HVAC and water heating; Business energy assessments, lighting, and weatherization; and Business HVAC and water heating. The distinction between Residential and Business programs will allow BIUD to track the distribution of costs and benefits within and between the two distinct customer segments. This budget

category, overall, contains the full costs of energy assessments at homes and businesses, including the direct installation of measures such as LED lightbulbs, smart power strips, and low-flow showerheads, as well as rebates for additional measures such as weatherization and efficient HVAC equipment. As a result, the bulk of the proposed DSM budget exists within this category.

The Inspection and Program Administration category includes the cost of inspections for any residential weatherization and/or HVAC measures installed through the DSM programs, as well as any business direct install measures, weatherization, or other energy efficiency measures installed through the programs. It is important to verify the proper installation of high impact measures so customers will reap their full benefits. Further, to support insightful reporting to the Public Utilities Commission, inspection and verification is expected to enhance the accuracy of energy savings calculations, in addition to ensuring customer satisfaction and realization of expected energy savings. The District is committed to working with vendors and other partners to find ways to drive these costs down as much as is feasible in future program years, through more efficient program delivery, engaging more local service providers, or other ways that may present themselves as the programs mature.

The efficiency consultant assists the District in administering the DSM programs, managing the tracking and reporting of data, and making suggestions for future program development. This consultant also assists the District in developing a cost-effectiveness framework and evaluating program performance, consistent with Docket # 4600 principles and directives.

Lastly, the Customer Outreach budget category covers the costs of promoting the DSM programs. The proposed spending on program outreach will encourage BIUD customers to participate in the DSM programs and will inform them on how to participate and what benefits can be expected.

Using the *Block Island Saves* results, the average participating BIUD customer saved 2.84 MWh of electricity, 2.46 MMBtu of oil, and 1.24 MMBtu of propane annually through that program.¹ Based on the estimated participation numbers for the proposed 2022 DSM plan, the District estimates that this plan could deliver approximate annual savings of 128 MWh of electricity, 111 MMBtu of oil, and 56 MMBtu of propane. Actual savings numbers will depend on the exact measures installed by customers and the specific fuel types they utilize, among other factors, but this provides some scope as to the significant energy benefits BIUD customers can realize through this plan.

¹ The 2022 plan is based on savings estimates from the *Block Island Saves* pilot, given the limited participation in PY2021. While the program installed many direct installation measures in PY2021, no participants implemented HVAC or weatherization measures, which would account for substantial program savings. Because of this, the results from the pilot remain the best estimate of likely savings once the program is running as planned.

A. Proposed 2022 Budget Allocations

Table 2.1: Proposed 2022 DSM Plan Budget Allocations

Budget Category	Proposed Budget	Notes
<i>Assessment & Installation</i>		
Residential Assessments and Weatherization	\$51,425.00	Energy Assessments & Weatherization
Residential HVAC & Water Heating	\$5,675.00	Programmable Thermostats; Heat Pump Water Heaters; Heat Pump Heating & Cooling Systems; Weatherization Bonus
Business Assessments, Lighting, and Weatherization	\$27,600.00	Energy Assessments; Lighting Measures, and Weatherization
Business HVAC & Water Heating	\$4,900.00	Programmable Thermostats; Heat Pump Water Heaters; Heat Pump Heating & Cooling Systems
Total	\$89,600.00	
<i>Inspection and Program Administration</i>		
Inspection Services	\$8,100.00	Inspections for Residential Weatherization; Business Direct Install Measures; Lighting, and Weatherization
Program Administration	\$19,840.00	Efficiency Consultant Services
Total	\$27,940.00	
<i>Customer Outreach</i>		
Total	\$2,000.00	Advertising in Local Publications, Bill Inserts, Online, and in Community Bulletin
Total Budget	\$119,540.00	

BIUD would like to continue the budget flexibility by being able to adjust our budget, if needed, during a program year. BIUD recognizes the Commission’s authority in reviewing and approving the incentive levels and budgets for the DSM program each year. We will make these modifications to increase program flexibility and customer outcomes without eroding that authority in any way.

BIUD would like to continue the using the following budget transfer procedures:

Transfers within a Sector:

For transfers of less than 20% of the originating program’s budget, BIUD can transfer funds from one program to another program in the same sector.

For transfers of 20% or more of the originating program’s budget, BIUD can transfer funds from one program to another program in the same sector with the Division’s prior approval. Upon seeking the Division’s approval, the Company shall simultaneously notify OER.

For all transfers in a sector, BIUD will reflect changes in any applicable report (mid-year or year-end) following the transfer.

For any transfers involving Regional Greenhouse Gas Inventory (RGGI) funds, BIUD may do so within the above limits and with prior written approval from the Office of Energy Resources (OER).

Transfers between Sectors:

BIUD can transfer funds from one sector to another sector with the Division's prior approval. Upon seeking the Division's approval, the Company shall simultaneously notify OER. If a transfer reduces the originating sector's budget by more than 20% in aggregate over the course of the program year, the transfer will also require PUC approval.

For all transfers between sectors, BIUD will reflect changes in any applicable report (mid-year or year-end) following the transfer.

For any transfers involving Regional Greenhouse Gas Inventory (RGGI) funds, BIUD may do so within the above limits and with prior written approval from the Office of Energy Resources (OER).

B. Cost Recovery and Other Funding Sources

BIUD, in Docket # 4975, was approved for a new rate design with implications for the demand side management plan and its budget. In that rate case, BIUD proposed a three-tier rate structure with peak, shoulder, and off-peak rates for all customer classes as well as an efficiency surcharge.

As outlined in that rate case, BIUD estimates it will generate approximate revenues of \$60,000 from the efficiency surcharge during the calendar year, which will support DSM program implementation in 2022. The breakdown of efficiency surcharge collection provided in Docket # 4975 remains unchanged and estimates collections as follows:

The Office of Energy Resources (OER) remains committed to supporting the BIUD DSM program with Regional Greenhouse Gas Initiative (RGGI) proceeds. For program year 2022, \$60,000 of RGGI support will be provided to BIUD to support the deployment of its DSM program and supplement the ratepayer collections.

C. Rollover Funding

BIUD faced an unexpected challenge that negatively affected overall program participation in PY2021. The staff turnover at ENE halted program operations during the critical Spring months. Therefore, the program participation was lower than anticipated in the Spring of 2021.

There is now a surplus of \$36,811. These funds will be used to reduce the rates in the 2022-23 program year. We feel the current budget will still allow us to increase program participation in several ways. These strategies may include: increasing the incentive level to complete weatherization projects; increasing rebate or incentive levels to encourage program participation; increasing the ENE program budget to increase the number of days spent on the Island during the critical shoulder months or providing contractor bonuses to encourage them to install the rebated measures for BIUD customers. BIUD will identify and implement those approaches that are most likely to increase overall program participation, are responsive to customer demand, and create a project pipeline for subsequent program years.

BIUD is not proposing any changes to the rate structure. The proposed rates for the 2022-23 program year are shown below.

May	June	July	August	September	October
\$0.0022	\$0.0022	\$0.0055	\$0.0055	\$0.0022	\$0.0022

See Schedules 1 and 2 for detailed support of year-to-year rate comparison.

3. Detailed Program Descriptions

A. Residential Offerings:

Refer to Table 2.1 for *full program budget*; residential subsection reproduced below.

Table 3.1 Assessment and Installation Category — Residential Programs

Program	Proposed Budget	Estimated Quantities & Notes
Residential Assessments and Weatherization	\$51,425.00	45 Energy Assessments & 8 Weatherization
Residential HVAC	\$5,675.00	45 Programmable Thermostats; 6 Heat Pump Water Heaters; 3 Heat Pump Heating & Cooling Systems; 2 Weatherization Bonus

i. Home Energy Assessments

- Residential energy assessments with no-cost direct install measures are critical for households to reduce energy use, lower their energy costs, and identify opportunities for additional, deeper savings. The home energy assessment is a focal point of the proposed DSM plan as it allows for the comprehensive evaluation of the residential building stock, direct installation of energy saving measures (e.g., LED light bulbs, smart power strips) and the opportunity to identify deeper savings opportunities such as weatherization or HVAC equipment upgrades. Assessments often serve as the initial contact point for customers and what the District hopes is the start of an ongoing, beneficial relationship with the customer as they become more aware of their energy use and seek to make continual energy improvements to their home.
- Each home energy assessment, conducted by a BPI-certified energy assessor, will include a whole-home evaluation and a number of direct install measures (outlined in the following section) that the assessor will install during the visit. At the conclusion of the assessment, the customer will receive a home energy action plan outlining additional energy savings measures they can implement, the estimated costs, and BIUD incentives associated with those measures, as well as information and tips on how to better manage their energy use and reduce costs. These comprehensive assessments are provided to the customer free of charge and are open to all residential BIUD customers.

ii. Direct Install Measures

As part of the Home Energy Assessments, each energy assessor will install a number of energy saving measures in each home, as needed, at no cost to the customer. The proposed 2022 DSM plan proposes the following direct install measures:

Table 3.2 Proposed Direct Install Measures and Incentives

Measure	Estimated Quantities	Incentive Level	Notes
LED Lightbulbs	540	Free	No limit; expect 12 per assessment
Smart Power Strips	90	Free	Maximum of 2 per assessment
Low-Flow Shower Heads	45	Free	Expect 1 per assessment
Aerator Faucets	68	Free	Expect 1.5 per assessment

LED Lightbulbs — installed in place of existing incandescent or CFL bulbs throughout the home; any number of bulbs can be replaced during the assessment.

Smart Power Strips — up to two (2) smart power strips that help reduce electricity usage of devices that would otherwise be constantly using electricity.

Faucets and Showerheads — Low-flow showerheads and aerator faucets that help reduce water and energy usage; any number can be installed throughout the home during the assessment.

These low-cost measures are proven energy saving devices that provide immediate benefits to customers who have a home energy assessment completed.

iii. Weatherization Measures

One of the outcomes BIUD expects to achieve with its proposed DSM program is to educate customers about the benefits of weatherization and to properly incentivize them to undertake these measures. Residential customers with weatherization opportunities will learn of these opportunities through the home energy action plan provided at the conclusion of the assessment, as well as given information about potential costs and incentive levels that BIUD offers.

Weatherization benefits include increased comfort to occupants year-round — warmer in the winter and cooler in the summer — as well as reduced energy usage and costs. Many homeowners deal with high energy bills year-round without realizing that proper weatherization techniques can meaningfully reduce their bills. The proposed DSM plan offers the following options as part of the weatherization program:

Table 3.3 Proposed Weatherization Measures and Incentive Levels

Measure	Incentive Level	Notes
Air Sealing	Up to 10 labor hours free (\$800 value) plus 40% off further sealing, up to \$2,000 in total weatherization costs	Based on pilot rebate levels and expected home energy assessment numbers
Duct Sealing		
Insulation		
Pipe Insulation		
Weatherization Bonus	\$250	For customers who insulate and install a heat pump system

Air Sealing — Sealing air leaks in and around windows and doors to reduce the loss of heated or conditioned air.

Duct Sealing — Sealing of leaks around ductwork to ensure that all heated or conditioned air enters the living spaces and is not lost in the walls/ceilings or to the outside.

Pipe Insulation — Improving insulation around water pipes to reduce heat loss and protect against pipe freezing during the winter months.

Insulation — Installing improved insulation in the walls, ceilings, and floors of the home to improve the building envelope, leading to increased comfort as heated or conditioned air remains in the home rather than escaping outside.

An additional feature for residential customers is a weatherization bonus. Customers can receive an additional \$250 rebate if they bundle insulation work alongside the installation of a heat pump heating and cooling system. BIUD is proposing to offer this bonus incentive because of the benefits that come from weatherizing a home properly, especially in conjunction with efficient operation of a heat pump system.

iv. HVAC Measures

The home energy action plan will also provide information to customers about opportunities to upgrade inefficient heating and cooling equipment in the home. The HVAC offerings aim to promote the adoption of high-efficiency heat pump systems for heating and cooling as well as heat pump water heaters. Electrifying heating and cooling is an important step in reducing greenhouse gas emissions and is supported by the District’s recently proposed three-tier rate structure, which includes a lower winter electricity price that makes the adoption of electric heating measures more cost effective for customers. Additionally, the adoption of programmable thermostats gives residents the ability to better control and monitor their energy usage and save money.

It is proposed that incentives for the following equipment, at the following level, be offered as part of the Residential HVAC program:

Table 3.4 Proposed HVAC and Water Heater Measures and Incentives

Equipment	Rating	Estimated Quantity	Proposed Rebate	Notes
Central Heat Pump	SEER >15; HSPF 9	1	\$250 per ton	Seasonal Energy Efficiency Rating (SEER) measures air conditioning and heat pump cooling efficiency. A SEER rating is a maximum efficiency rating, similar to the miles per gallon for a car. Heating Seasonal Performance Factor (HSPF) is used to measure the efficiency of heat pumps and the higher the HSPF the more efficient the system.
Ducted or Mixed Ducted Mini-Split Heat Pump	SEER >15; HSPF 9	1	\$250 per ton	
Ductless Mini-Split Heat Pump	SEER 15; HSPF 10	1	\$150 per ton	
Heat Pump Water Heaters	ENERGY STAR < 55 gallon should have a minimum UEF of 2.00	4	\$300 rebate	Uniform Energy Factor (UEF) is a new metric for determining the energy efficiency of a water heater utilized by the Department of Energy. The higher the UEF, the greater the equipment’s efficiency and the lower the energy bill.
	ENERGY STAR >55 gallon should have a minimum UEF of 2.70	2	\$150 rebate	Uniform Energy Factor (UEF) is a new metric for determining the energy efficiency of a water heater utilized by the Department of Energy. The higher the UEF, the greater the equipment’s efficiency and the lower the energy bill.
Programmable Thermostats		45	\$25 Rebate	
*Rebate not to exceed \$750 per customer for this program (excluding thermostats).				

Block Island Utility District wants to promote the adoption of high-efficiency electric heat pumps through an incentive structure that will be based on a per-ton amount. This structure is more flexible than a flat rate amount and allows the incentive to vary appropriately with the proper sizing of heat pump systems to various home configurations and sizes. Additionally, in conjunction with BIUD's three-tier rate structure with lower winter electric rates, the District anticipates that the combined new rate structure and DSM incentives will drive adoption of heat pump technologies which will save customers energy and money.

Qualifying units must meet the SEER and/or HSPF ratings specified for each system type, which align with the efficiency ratings contained in the Northeast Energy Efficiency Partnerships (NEEP) cold climate heat pump specification list and is considered the industry standard for this technology.

As mentioned previously, there is a local philanthropist who is offering grants for installing residential heat pumps. Given the common goals between this offering and BIUD's program, BIUD is trying to collaborate with this individual and support the grant offering with energy assessments and inspection activities. Moreover, given the geographic isolation of the island and the lack of local contractors able to perform this work, the District intends to work alongside its vendors and the philanthropist's team to engage with contractors on the mainland in an effort to broaden the network of providers who are aware of and can service energy efficiency demand on Block Island. As of February 2022, the philanthropist has helped support 52 heat pump installations via a cash payment of up to \$6,000 per installation, and with closer collaboration moving forward, BIUD anticipates being able to provide energy audits, inspection services, and rebates to future beneficiaries of this service. The program expects to be able to claim savings from this collaboration through these support services as well as encouraging trade allies that there is a critical mass of heat pump installation projects on the island to make trips cost-effective.

Alongside the incentive for heat pump-based heating and cooling systems, the District also proposes incentives for heat pump water heaters. Given the smaller variation in equipment size, associated energy savings expected, and to align closely with other Rhode Island efficiency programs, BIUD will be offering flat rate incentives of \$300 and \$150 for heat pump water heaters, based on size. Units 55 gallons and smaller use less energy than larger units and thus provide a greater opportunity for energy savings. Therefore, BIUD proposes to provide a higher incentive for these units compared to units over 55 gallons in size. Qualifying units will have a minimum uniform energy factor (UEF) of 2.0 for the smaller units and a minimum UEF of 2.7 for the larger systems. ENERGY STAR heat pump water heaters can save the average household \$330 per year and 2,690 kWh compared to a standard electric hot water heater, so these units represent a great opportunity for savings.

Because heat pump technology is still new for many customers and because the pilot program on Block Island did not include heating and cooling heat pump systems as part of the incentive structure, the District proposes capping the incentive level at \$750 per customer for these measures initially. BIUD wants to strike a balance between providing a reasonable incentive to drive adoption of this technology alongside the ability to provide some incentive to a larger number of customers who may be interested in taking advantage of this opportunity. Because there is not reliable historical data from the pilot program for these measures, setting a cap will help the District to serve both of these goals.

The District will also incentivize programmable thermostats through the residential HVAC and water heater program. Programmable thermostats are a useful piece of technology to help

manage a home’s energy usage efficiently and conveniently. BIUD is proposing a rebate of up to \$25 to customers who purchase a programmable thermostat.

Customers who install weatherization or HVAC measures will be given their rebate after work has been completed and inspected. BIUD will offer rebate forms to customers both online and in person at the BIUD office and will require customers to provide proper documentation from the contractor who performed the job, in the form of a receipt or work order. Customers submitting rebates for eligible thermostats need only provide a purchase receipt as proper documentation with their rebate form. If a customer has any problems or questions regarding a rebate form, their contractor may be able to help complete relevant fields, and customers can always reach out to BIUD staff for assistance during business hours.

B. Business Offerings:

Refer to Table 2.1 for *full program budget*; business subsection reproduced next.

Table 3.5 Assessment and Installation — Business Budgets

Program	Proposed Budget	Notes
Business Assessments, Lighting, and Weatherization	\$27,600.00	Energy Assessments; Additional Lighting Measures; and Weatherization
Business HVAC & Water Heating	\$4,900.00	Programmable Thermostats; Heat Pump Water Heaters; Heat Pump Heating & Cooling Systems

i. Business Energy Assessments

As with the residential offerings, the initial no-cost energy assessment for business and commercial customers is a foundational focus of the proposed business DSM programs. Comprehensive evaluations of the commercial spaces of New Shoreham will be conducted by a qualified energy assessor who will also directly install measures that provide immediate savings and deliver a comprehensive energy action plan to the customer with recommendations for additional savings measures. Providing these free, no-obligation energy assessments also allows BIUD to establish an ongoing relationship with business customers as they pursue energy efficiency improvements.

Each business energy assessment, conducted by an energy assessor, will include a whole- business evaluation of the electrical equipment and thermal systems as well as directly installing screw-in LED lightbulbs, as appropriate. At the conclusion of the assessment, the customer will receive a business energy action plan outlining additional energy savings measures they can implement, the estimated costs, and BIUD incentives or rebates associated with those measures, as well as information and tips on how to better manage their energy use and reduce costs. These comprehensive assessments are provided to the customer free of charge and are open to all BIUD business customers.

The District estimates six business assessments will be conducted in the upcoming program year and that from those assessments’ customers will pursue some additional deeper efficiency measures, be that additional lighting, weatherization, or HVAC upgrades. The District has set a budget that anticipates that half of the business customers will pursue additional measures of some kind.

ii. Direct Install and Other Lighting Measures

Table 3.6 Proposed Business Direct Install and Other Lighting Measures and Incentives

Measure	Estimated Quantities	Incentive Level	Notes
Screw-in LED Lightbulbs	60	Free	No limit; expect 10 per assessment
LED fixture upgrades	12	75% of costs covered	Expect an average of 2 per assessment
Lighting controls	6		Expect an average of 1 per assessment
Occupancy sensors	12		Expect an average of 2 per assessment

As part of the business energy assessments, each energy assessor will install screw-in LED lightbulbs in as many fixtures as needed throughout the property. BIUD recognizes that many business environments have different lighting needs from residential customers, and screw-in LED lightbulbs may not upgrade the entirety of the lighting for a given business, and therefore it is proposed that incentives for additional lighting measures be offered as well. Upgraded fixtures, lighting controls, and lighting sensors (such as occupancy sensors) will be listed on the energy action plan as an additional energy saving measure that customers can pursue, and approved equipment will be incentivized at 75% of total cost.

iii. Weatherization Measures

One of the outcomes BIUD expects to achieve with its proposed DSM plan is to educate customers about the benefits of weatherization and to properly incentivize them to undertake these measures. Business customers with weatherization opportunities will learn of these opportunities through the energy action plan provided at the conclusion of the energy assessment.

Weatherization benefits include increased comfort to occupants year-round - warmer in the winter and cooler in the summer - as well as reduced energy usage and costs. Many business owners deal with high energy bills year-round without realizing that proper weatherization techniques can meaningfully reduce their bills. The proposed DSM plan offers the following options as part of the business weatherization program:

Table 3.7 Proposed Business Weatherization Measures and Incentive Levels

Measure	Incentive Level	Notes
Air Sealing	Up to \$1,200 in free air sealing plus 40% off further sealing, up to \$4,200 in total weatherization costs or up to \$3,000 in insulation costs	Based on prior rebate levels and expected business energy assessment numbers
Duct Sealing		
Insulation		
Pipe Insulation		

Air Sealing — Sealing air leaks in and around windows and doors to reduce the loss of heated or conditioned air to the outside.

Duct Sealing — Sealing leaks around ductwork to ensure that all heated or conditioned air enters the living spaces and is not lost in the walls/ceilings or outside.

Pipe Insulation — Improving insulation around water pipes to reduce heat loss and protect against pipe freezing during the winter months.

Insulation — Installing improved insulation in the walls, ceilings, and floors of the business to improve the building envelope, leading to increased comfort as heated or conditioned air remains in the home rather than escaping outside.

iv. Business HVAC Measures

Business customers have more varied building uses and often utilize larger equipment to support their operations. In order to ensure that the business customers of BIUD have opportunities to upgrade to more efficient equipment where appropriate, incentives for the following measures are proposed:

Table 3.8 Proposed Business HVAC and Water Heater Measures and Incentives

Equipment	Rating	Proposed Rebate	Notes
Central Heat Pump	SEER >15; HSPF >9	\$250 per ton	Seasonal Energy Efficiency Rating (SEER) measures air conditioning and heat pump cooling efficiency. A SEER rating is a maximum efficiency rating, similar to the miles per gallon for a car. Heating Seasonal Performance Factor (HSPF) is used to measure the efficiency of heat pumps and the higher the HSPF the more efficient the system.
Ducted or Mixed Ducted Mini-Split Heat Pump	SEER >15; HSPF >9	\$250 per ton	
Ductless Mini-Split Heat Pump	SEER >15; HSPF >10	\$150 per ton	
Heat Pump Water Heaters	ENERGY STAR ≤ 55 gallon should have a minimum UEF of 2.00	\$300 rebate	Uniform Energy Factor (UEF) is a new metric for determining the energy efficiency of a water heater utilized by the Department of Energy. The higher the UEF, the greater the equipment's efficiency and the lower the energy bill.
	ENERGY STAR >55 gallon should have a minimum UEF of 2.70	\$150 rebate	Uniform Energy Factor (UEF) is a new metric for determining the energy efficiency of a water heater utilized by the Department of Energy. The higher the UEF, the greater the equipment's efficiency and the lower the energy bill.
Programmable Thermostats		\$25 rebate	
*Rebate not to exceed \$1000 per customer for this program (excluding thermostats).			

Programmable Thermostats — programmable thermostats allow for better control of, and reduced operating costs from, heating and cooling systems. Therefore, programmable thermostats help manage a business's energy usage efficiently and conveniently. BIUD is proposing a rebate of up to \$25 to customers who purchase a programmable thermostat.

Heat Pump Heating and Cooling, and Heat Pump Water Heaters: As in the residential program, it is proposed to incentivize business adoption of high-efficiency heat pump systems for heating and cooling, as well as heat pump water heaters. The recently approved three-tier rate structure with an attractive winter electricity price, is expected to make the adoption of electric heating measures even more cost effective for customers. By offering the incentives proposed above, BIUD aims to encourage the installation of the most efficient electric heating or cooling systems.

Customers who install weatherization, additional lighting, or HVAC measures will be given their rebate after work has been completed and inspected. BIUD will offer rebate forms to customers both online and in person at the BIUD office and will require customers to provide proper documentation from the contractor who performed the job, in the form of a receipt or work order. Customers submitting rebates for eligible thermostats need only provide a purchase receipt as proper documentation with their rebate form. If a customer has any problems or questions regarding a rebate form, their contractor may be able to help complete relevant fields, and customers can always reach out to BIUD staff for assistance during business hours.

4. Program Administration and Management

The proposed management structure has been designed to ensure successful program delivery and implementation, effective customer outreach, timely customer service and rebate processing, and insightful data collection and reporting. Specifically, to achieve these outcomes, the District proposes a strong on-going collaboration with the Office of Energy Resources and proposes to continue working with their hired efficiency consultant to help administer the program and conduct program reporting.

i. Vendor Engagement

One of the critical elements to the success of the proposed DSM plan is the engagement of knowledgeable and reliable vendors. BIUD has contracted with a vendor to provide energy assessments, direct install services and, if desired by the customer, weatherization measures to residential and business customers. This vendor will also provide post-installation inspections of all residential non-direct install (e.g., weatherization and HVAC) measures. To maximize efficiency and minimize the number of vendors, post-installation inspections of business measures and residential direct install measures will be conducted by the efficiency consultant discussed below.

The scope of work for these vendors are designed to require comprehensive scheduling, high-quality in-person services, and coordination with BIUD staff. Selected vendors are responsible for delivering efficient and effective services to customers, ensuring proper deployment and installation of incentivized energy efficiency measures, processing invoices and rebates in a timely fashion, and creating insightful program data reports.

ii. Program Management and Oversight

The District, recognizing the importance of robust oversight, data reporting, and program administration, will ensure staff will be trained and knowledgeable about the proposed program offerings and rebate process to effectively work with vendors, consultants, and customers in the delivery of the proposed DSM plan. BIUD also proposes several means of securing additional resources to support its management and oversight of the proposed plan. For example, the District plans to continue its ongoing engagement with the Office of Energy Resources (OER) to leverage lessons learned and best practices from *Block Island Saves* and will also tap into the diverse set of efficiency expertise that OER can provide. BIUD hired an efficiency consultant to help manage the program and its implementation, including program planning, the collection of data, reporting on program performance, as well as to support some of the post-installation inspections.

Block Island Utility District created rebate forms, including a listing of measure eligibility requirements, available both in-person and online for customers to access. Once customers

complete and submit rebate applications — either by mail or via email - the District will review them for accuracy and eligibility. All eligible applications received and reviewed will then be processed for payment to the customer, funds permitting, and customers should expect to receive their rebate in four to six weeks.

BIUD recognizes the importance of scheduling efficiency for the cost-efficiency of the proposed programs, since vendor travel to and from Block Island creates additional expenses compared to mainland efficiency programs. In order to minimize vendor trips to the Island, BIUD and its vendor will maximize the number of opportunities (assessments, weatherization, HVAC installations, etc.) completed in a day. The District was explicit about the importance of scheduling efficiency in its vendor solicitations and the selected vendors have been successful in working to address this important cost-barrier, which include the ability to provide virtual energy assessments if desired.

In the event that there is overcollection of ratepayer funds that are not spent on DSM programs in a given year, BIUD will roll those funds over into the next year. The subsequent DSM plan will indicate the amount being rolled over and the way in which those funds are being utilized to support the DSM program. In this proposed PY 2022 plan, roll over funds are being used to reduce collections from ratepayers. Every effort will be made through careful planning, oversight, and budget tracking to ensure that there are not budget overages in a given year. In the event that a budget overage becomes a possibility within a given year, the District will close specific program(s) prior to an overage until the following year when funds become available again. As the District’s DSM plan evolves, participation rates will help inform budget setting for future years to ensure funds are allocated as accurately as possible to meet customer demand.

iii. Customer Engagement

Table 4.1 Proposed Customer Outreach Channels and Budget Allocation

Customer Outreach		
Total	\$2,000	Outreach through Local Publications, Bill Inserts, Online, and Community Bulletin

BIUD will continue to strategically engage customers to promote the return of efficiency programming to Block Island residents and businesses. To ensure customers are aware of the program and its offerings, as well as provide instructions on how to participate, BIUD will be promoting the DSM programs through the following channels:

1. Bill inserts will be included with customer bills at four different times during the year to advertise the DSM programs, provide information about how customers can participate, and highlight incentive opportunities.
2. BIUD will take out quarter page advertisements in the local publications for multiple weeks during both peak and off-peak seasons to reach as many customers as possible. These advertisements will provide information on the programs and have seasonal calls to action to encourage customer participation.
3. BIUD will also utilize several no-cost engagement channels, like the community bulletin and the District’s Facebook page to spread the word about the DSM program to customers throughout the year.
4. Lastly, BIUD office staff will also be trained on the programs, available offerings, and ways customers can engage with energy efficiency to provide accurate information to customers coming into and/or calling the office with questions.
5. If other outreach opportunities arise, the District may pursue other channels of communication with customers if budget allows.

iv. Program Reporting

As was discussed in section 4.ii, *Program Management and Oversight*, BIUD has hired an efficiency consultant to help oversee and manage the DSM programs. In addition to helping oversee the programs and assisting with the Plan's implementation, the efficiency consultant will assist the District with quarterly progress reports, which will help inform a mid-year and year-end report as well as provides guideposts for program performance throughout the year. The data that will be included in quarterly reports as well as the year-end report are as follows:

- Number of participants per sector (Residential vs. Business);
- Costs incurred to date and percent of budgeted spend (by budget category);
- Detailed accounting of what measures have been installed, both direct install and other measures incentivized by the DSM programs;
- Number of rebates processed, by measure type;
- Number of inspections completed out of number of inspections required, and associated costs;
- kWh and delivered fuel (oil, propane) savings, both annual and lifetime, resulting from the program;
- Peak demand reduction resulting from the program; and
- Other data as required, or as deemed necessary by the District or the Commission.

5. Conclusion

Block Island Utility District believes that the proposed DSM plan describes and establishes an energy efficiency program that will provide considerable benefits to customers and the local grid throughout its implementation. There are significant energy savings opportunities in New Shoreham, evidenced in part by a recent market potential study conducted for all of Rhode Island,² and this plan offers effective strategies to realize immediate energy savings on the Island. The plan provides opportunities for no-cost assessments and direct-install measures that all customers can access free of charge, as well as guidance and further incentives for deeper energy saving measures.

The Plan, if approved by the Commission, would provide heat pump incentives that are likely to help smooth New Shoreham's annual demand curve and enhance the benefits of BIUD's rate structure. Additionally, through weatherization, lighting controls, and programmable thermostat incentives, BIUD aims to drive additional customer investment in insulation and demand side management technologies.

Block Island Utility District respectfully requests that the Public Utilities Commission (PUC) approve this 2022 Demand Side Management plan, and its associated budgets, in their entirety. Specifically, the District requests that the PUC approve the following:

- The proposed total budget amount and the budget categories contained therein.
- The proposed program offerings.

² Dunsy Energy Consulting's *Rhode Island Energy Efficiency Market Potential Study*, <http://rieermc.ri.gov/wp-content/uploads/2020/06/ri-study-final-report-volume-i-main-report-2020-06-10.pdf>

Proposed Efficiency Rates for FY 22/23
Block Island Power Company

Schedule-1

Efficiency Program Rates

Total Program Costs	60,000
Less Over Collections	
2022 Reconciliation	26,968 A (See Schedule 2)
Subtotal	33,032

Proposed Rates

May, June, Sept & Oct Rate	\$ 0.0022
July & Aug Rate	\$ 0.0055

	Starting Balance		Revenue		Expense	Monthly Change	Cumulative
Jul-22	\$ 26,968	A	\$ 11,680	\$	5,000	\$ 6,680	\$ 33,648
Aug-22	\$ 33,648		\$ 12,038	\$	5,000	\$ 7,038	\$ 40,686
Sep-22	\$ 40,686		\$ 3,161	\$	5,000	\$ (1,839)	\$ 38,848
Oct-22	\$ 38,848		\$ 2,021	\$	5,000	\$ (2,979)	\$ 35,869
Nov-22	\$ 35,869		\$ -	\$	5,000	\$ (5,000)	\$ 30,869
Dec-22	\$ 30,869		\$ -	\$	5,000	\$ (5,000)	\$ 25,869
Jan-23	\$ 25,869		\$ -	\$	5,000	\$ (5,000)	\$ 20,869
Feb-23	\$ 20,869		\$ -	\$	5,000	\$ (5,000)	\$ 15,869
Mar-23	\$ 15,869		\$ -	\$	5,000	\$ (5,000)	\$ 10,869
Apr-23	\$ 10,869		\$ -	\$	5,000	\$ (5,000)	\$ 5,869
May-23	\$ 5,869		\$ 1,857	\$	5,000	\$ (3,143)	\$ 2,725
Jun-23	\$ 2,725		\$ 1,714	\$	5,000	\$ (3,286)	\$ (561)
Period Cumulative Over/(Under) Collection						\$ (27,529)	

	Forecast KWH	Efficiency Rate	Efficiency Revenue	Total Expense
Jul-22	2,123,702	\$ 0.0055	\$ 11,680	\$ 5,000
Aug-22	2,188,813	\$ 0.0055	\$ 12,038	\$ 5,000
Sep-22	1,436,899	\$ 0.0022	\$ 3,161	\$ 5,000
Oct-22	918,640	\$ 0.0022	\$ 2,021	\$ 5,000
Nov-22	750,556	\$ -	\$ -	\$ 5,000
Dec-22	818,073	\$ -	\$ -	\$ 5,000
Jan-23	901,187	\$ -	\$ -	\$ 5,000
Feb-23	803,752	\$ -	\$ -	\$ 5,000
Mar-23	777,962	\$ -	\$ -	\$ 5,000
Apr-23	778,866	\$ -	\$ -	\$ 5,000
May-23	843,911	\$ 0.0022	\$ 1,857	\$ 5,000
Jun-23	1,259,007	\$ 0.0022	\$ 1,714	\$ 5,000
	13,601,364		\$ 32,471	\$ 60,000

Forecast KWH from 2022 Purchase Power/Transmission rate filing

KWH	
2,123,702	Jul-22
2,188,813	Aug-22
1,436,899	Sep-22
918,640	Oct-22
750,556	Nov-22
818,073	Dec-22
901,187	Jan-23
803,752	Feb-23
777,962	Mar-23
778,866	Apr-23
843,911	May-22
1,259,007	Jun-22
13,601,364	

Efficiency Rates for FY 21/22 Reconciliation
Block Island Power Company

Schedule-2

Efficiency Program Rates

2021 Reconciliation 36,811 A

Current Rates

May, June, Sept & Oct Rate \$ 0.00132
July & Aug Rate \$ 0.00330

	Starting Balance	Revenue	Expense	Monthly Change	Cumulative	
Jul-21	\$ 36,811	A \$ 7,112	\$ 992	\$ 6,120	\$ 42,931	
Aug-21	\$ 42,931	\$ 7,252	\$ 2,136	\$ 5,116	\$ 48,047	
Sep-21	\$ 48,047	\$ 1,994	\$ 1,448	\$ 546	\$ 48,593	
Oct-21	\$ 48,593	\$ 1,201	\$ 2,938	\$ (1,737)	\$ 46,857	
Nov-21	\$ 46,857	\$ -	\$ 3,029	\$ (3,029)	\$ 43,827	
Dec-21	\$ 43,827	\$ -	\$ 10,378	\$ (10,378)	\$ 33,449	
Jan-22	\$ 33,449	\$ -	\$ -	\$ -	\$ 33,449	
Feb-22	\$ 33,449	\$ -	\$ 1,990	\$ (1,990)	\$ 31,459	
Mar-22	\$ 31,459	\$ -	\$ 1,700	\$ (1,700)	\$ 29,759	
Apr-22	\$ 29,759	\$ -	\$ 1,700	\$ (1,700)	\$ 28,059	
May-22	\$ 28,059	\$ 1,280	\$ 1,700	\$ (420)	\$ 27,640	
Jun-22	\$ 27,640	\$ 1,028	\$ 1,700	\$ (672)	\$ 26,968	2022 Reconciliation Overcollection
Period Cumulative Over/(Under) Collection				\$ (9,843)		

	Actual KWH	Efficiency Rate	Efficiency Revenue	Total Expense	
Jul-21	2,155,158	\$ 0.0033	\$ 7,112	\$ 992	
Aug-21	2,197,610	\$ 0.0033	\$ 7,252	\$ 2,136	
Sep-21	1,510,833	\$ 0.0013	\$ 1,994	\$ 1,448	
Oct-21	909,765	\$ 0.0013	\$ 1,201	\$ 2,938	
Nov-21	748,430	\$ -	\$ -	\$ 3,029	
Dec-21	789,801	\$ -	\$ -	\$ 10,378	
Jan-22	923,494	\$ -	\$ -	\$ -	
Feb-22	768,270	\$ -	\$ -	\$ 1,990	
Mar-22	777,962	\$ -	\$ -	\$ 1,700	Est
Apr-22	778,866	\$ -	\$ -	\$ 1,700	Est
May-22	969,895	\$ 0.0013	\$ 1,280	\$ 1,700	Est
Jun-22	1,348,806	\$ 0.0013	\$ 1,028	\$ 1,700	Est
	<u>13,878,890</u>		<u>\$ 19,868</u>	<u>\$ 29,711</u>	

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Professional Highlights

Dr. Katherine Johnson is President of Johnson Consulting Group, a woman-owned consulting firm specializing in the energy efficiency field. For more than 30 years, she has directed program evaluations investigating the effectiveness of energy efficiency programs and policies across residential and C&I market sectors. For the past eight years, she has been leading collaborative forums to help guide decision-making regarding the evaluation and cost-effectiveness of current and emerging energy efficiency tools and policy initiatives.

Recent Project Experience

Statewide EM&V Guidance Projects

- **Arkansas Public Service Commission, Independent Evaluation Monitor (IEM):** Since 2011, Dr. Johnson has been working with the Parties Working Collaboratively (PWC) to help Arkansas to inform, direct, and work towards consensus in achieving consistent reporting standards that conform to EM&V "Best Practices" for both the EM&V Protocols and the Technical Reference Manual (TRM). Her responsibilities include reviewing plans, and advising in both EM&V and policy initiatives as directed by the Arkansas Public Service Commission and has testified on behalf of staff regarding EM&V activities, programs and best practices.
- **California Public Utilities Commission: EM&V Advisor:** Dr. Johnson provides ongoing technical advice and support to the Energy Division of the CPUC specifically regarding the effectiveness of energy efficiency programs targeting Regional Energy Networks, Local Government Partnerships, Disadvantaged Communities, and multifamily strategies.
- **British Columbia Utilities Commission: Energy Efficiency Consultant:** Dr. Johnson provides ongoing technical and expert guidance regarding the practicality and feasibility of proposed energy efficiency plans, filings, and cost-effectiveness calculations.
- **California Public Utilities Commission: EM&V Advisor:** Dr. Johnson provides ongoing technical advice and support to the Energy Division of the CPUC specifically regarding the effectiveness of energy efficiency programs targeting Regional Energy Networks, Local Government Partnerships, Disadvantaged Communities, and multifamily strategies.
- **Maine Public Utilities Commission: EM&V Technical Advisor:** Working with Mesa Point Energy, Dr. Johnson completed a fast-turnaround project designed to assess the effectiveness of Maine's triennial plan. Her work included reviewing current EM&V reports, identifying gaps and preparing supporting materials for the Public Utility Commission staff. Her contract has been extended to assist the PSC in identifying best practices for TRM updates.
- **Missouri Public Service Commission: EM&V Auditor:** Dr. Johnson led the team of EM&V Auditors to review EM&V plans and reports prepared by third-party evaluation firms to ensure that these reports reflect industry best practices and are consistent with industry approved protocols such as the IPMVP for the past four years.
- **New York State Energy Research and Development Authority (NYSERDA):** Dr. Johnson conducted extensive research on current "Best Practices" in EM&V activities nationwide which led to the development of the first set of EM&V Protocols for the Arkansas Public Service Commission and the first ever set of Process Evaluation Protocols for New York State

Selected Program Evaluation Experience

- **Delaware Sustainable Energy Utility (DE SEU):** In 2017, Dr. Johnson led the process evaluations for the DE SEU's Home Performance with ENERGY STAR program including conducting in-depth interviews, customer surveys,

trade ally interviews and completing a benchmarking analysis of new and emerging trends for HPWES program designs.

- **Department of Energy:** Assisted in a comprehensive analysis of the Commercial Building Sector, identifying key trends in market development, consumer attitudes and behaviors that will influence how commercial buildings operate. This groundbreaking study identified likely effects that improvements in communications, technology, and materials will have on various commercial building space.
- **Hawaiian Electric Company:** Completed two program evaluations of HECO's innovative Solar Saver Program, a tariffed on-bill-financing program modeled after the PAYS concept. She completed interviews with program staff, contractors, and customers as well as developed program process flows. She conducted a final program evaluation in 2010 for conclusion in the pilot program.
- **Northern California Municipal Power Authority:** Led the process evaluation activities for 12 municipal utilities in Northern California. As part of the Summit Blue team, Dr. Johnson developed the process evaluation plans and completed evaluations to document program operations and areas for improvement in residential, commercial, and institutional offerings. Her clients ranged from small municipal utilities such as Lompoc to Silicon Valley Power.

EDUCATION:

Doctor of Business Administration (July 2010)
University of Southern Queensland, Toowoomba, Australia

Masters of Business Administration (Dean's List: 1990)
Rollins College, Roy E. Crummer Graduate School of Business, Winter Park, FL

Bachelor of Science in Business and Journalism (Dean's List: 1983), Indiana University

EMPLOYMENT HISTORY:

President, Johnson Consulting Group, Frederick, MD 2008-Present

Principal/Owner, Market Development Group, Montrose, CO 2006-2008

Principal, KJ Consulting, Frederick, MD, 1997-2006

Marketing and Finance Manager, Geothermal Heat Pump Consortium, Inc., Washington, D.C. (1995-1996)

Associate, Barakat & Chamberlin, Washington D.C. (1993-1995)

Research Director, The Corps Group, St. Louis, MO. (1992-1993)

Project Manager, Aragon Consulting Group, St. Louis, MO. (1991-1992)

SELECTED PUBLICATIONS AND CONFERENCE PAPERS

Johnson, K., Reeves, S., Tran, N. 2020 "*Mind the gap: Tracking recommendations to improve program effectiveness.*" presented at Energy Evaluation, Olympic Park, London (Virtual); and in the *Journal of Strategic Innovation and Sustainability*, 2021.

Johnson, K. 2017, "*Non-Energy Benefits of Energy Efficiency*, a webinar presented 8-16-2017 for the Municipal Sustainability & Energy Forum

Johnson, K. 2014, "*Decision-Framework for Determining Net Savings Approach – Supplemental Document #2 to Principles and Guidance*," Northeast Energy Efficiency Partnership, released May 2016.

Johnson, K. 2014, "*A Modern Twist on an Old Classic: New Program Designs for Low and Middle Income Residential Weatherization Programs*," ACEEE Summer Study in Buildings, Asilomar, CA August.

Johnson, K. *Geo Heat Pumps: Leading Energy Utility Marketing Programs*, Fifth Edition 2010. (Book)

Johnson, K. 2020, et al, "*Women in Business: Breaking Through*" Volume 2, T&S Publishing. (Book)



Jake Millette

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MEET JAKE

Jake has 15 years of experience evaluating and conducting research and analysis for energy efficiency programs in the residential, commercial and industrial sectors. His innate sense of responsibility and high integrity have made Jake a trusted evaluation partner, consistently delivering dependable results.

PROFESSIONAL EXPERTISE

Jake is a skilled project manager who works to develop meaningful relationships with clients through clear communication, transparent methodologies, and the delivery of high-quality products that are on-time and on-budget. Jake also applies this management approach at Michaels Energy to provide staff with opportunities to best contribute to projects in ways that maximize the value to clients.

Jake develops and executes research to inform the best design and delivery of programs and interventions. Jake oversees research and process and impact evaluations for a wide variety of energy efficiency, renewable, and demand response programs and technologies. He performs net-to-gross, cost-effectiveness, and economic impact analyses. Jake leverages his experience in evaluation programs of all sizes and types to develop methodologies that best meet clients' needs, both stated and anticipated.

Driven by a passion to understand what motivates, or hinders, the adoption of energy-efficient technologies and behaviors, Jake employs deep listening skills and inquisitive follow up questions when conducting market actor research to understand customer decision making, barriers, and attribution. He brings 15 years of experience evaluating commercial programs across North America and has worked extensively with commercial new construction programs.

AREAS OF EXPERTISE

- Project Management
- Market and Net-To-Gross Research
- Process and Impact Evaluation

EDUCATION

- Bachelor of Arts, Economics & Politics, Brandeis University, Waltham, MA
- Graduate Certificate, Foundations of Business, University of Massachusetts – Lowell, Lowell, MA

SELECT PROJECTS

Iowa Utilities Board (Des Moines, IA)

- **2016-2017 Iowa Potential Study:** When working for Opinion Dynamics, Jake led the baseline study activities of the previous Iowa potential study. (subcontractor to Dunsky Energy Consulting)

Iowa Economic Development Authority (Des Moines, IA)

- **Project Lead:** Jake is leading the Industrial and Agricultural Electrification Study project to Address Natural Constraints project that seeks to understand the opportunity for electrification of industrial and agricultural end-uses to mitigate the need for natural gas expansion in rural areas.

Arkansas Parties Working Collaboratively (PWC) (Little Rock, Arkansas)

- **Executive in Charge:** Oversees Michaels work as a part of the independent auditor team to ensure on-time quality deliverables (subcontractor).

Missouri Public Service Commission (Richmond, Virginia)

- **Executive in Charge:** Oversees Michaels work as a part of the independent auditor team to ensure on-time quality deliverables (subcontractor).

New York State Energy Research and Development Authority (NYSERDA) (Albany, NY)

- **Project Manager:** Managed the Commercial Baseline Study of New York State (while working for Opinion Dynamics). Jake led most aspects of the study, including the utility data acquisition and sample development, creation of data collection instruments, fielding of telephone/web surveys and site visits, analysis, and reporting. Additionally, Jake oversaw the Customer Decision Making market assessment.

Commonwealth Edison (Chicago, IL)

- **Impact Evaluation Lead:** Managed impact evaluations of several non-residential programs, which include commercial and industrial new construction programs along with Custom, Standard and Industrial Systems offerings. Jake also completed evaluations of these programs including multiple waves of desk reviews, site visits, modeling and analysis to provide ComEd with actionable information throughout the year. (sub to Guidehouse)

Connecticut Energy Efficiency Board (New Britain, CT)

- **Project Manager:** Manages the persistence study of retro-commissioning measures for AVANGRID and Eversource in Connecticut. Jake conducts in-depth interviews with retro-commissioning service providers as well as secondary data and literature reviews to understand the current and future mix of RCx measures in Connecticut, the best estimates of persistence of these measures, and common reasons for failure. Jake is also developing a plan for future field research on RCx persistence.
- **Technical Lead:** Led the technical delivery of a project for Connecticut utilities to develop more accurate energy savings and demand estimates for key residential and commercial measures. This study used innovative virtual data collection techniques to accurately verify the installation and operation of program-incented equipment. (sub to Evergreen Economics)

Opinion Dynamics (Waltham, MA)

- **Principal Consultant:** Conducted process and impact evaluations for energy efficiency programs and performed market research in the energy market. Jake managed projects of all sizes and oversaw junior staff and coordination with cross-cutting resources. He also communicated with clients, developed, implemented, and oversaw analysis and reporting.
- **Project Manager:** Led commercial and residential baseline studies in jurisdictions across North America. These studies were often very large in scope, covering multiple utilities and fuel types, and requiring extensive sample development, primary data collection, and analysis.
- **Project Manager:** Led impact and process evaluations of Commonwealth Edison's Non-Residential New Construction program. This evaluation included energy models of new construction projects estimating savings above the applicable IECC code. Jake also led impact evaluations of Ameren Illinois' Custom and Retro-Commissioning programs. Both evaluations relied heavily on regressions and whole building modeling to estimate savings.
- **Cost Effectiveness Analysis:** Conducted cost effectiveness analyses for utilities throughout North America and developed tools to perform retrospective benefit/cost analysis of completed program years as well as prospective analysis to support planning for future years.

VDC Research (Natick, MA)

- **Senior Market Analyst:** Created market research reports of various industrial automation and electronic component markets, including wireless monitoring and control equipment, machine safeguarding equipment, industrial Ethernet, distributed I/O, smart fabrics, relays and switches. He also developed, executed, and managed consulting projects in the related markets, including partner planning strategies, new product and market opportunity analyses, and component price tracking and analysis.

PRESENTATIONS

- **2019 IEPEC** (Denver, CO): Looking on the Bright Side: How Actual Solar PV Production Compares to What Is Expected.
- **2019 IEPEC** (Denver, CO): Money Matters – Or Does It? A Study of Alternative Incentive Strategies.
- **2017 IEPEC** (Baltimore, MD): Painting the Whole Picture: Understanding the Impacts of Energy Efficiency Using Cost-Effectiveness Testing and Economic Impact Assessments.
- **2016 BECC Conference** (Baltimore, MD): How Wrong Can You Be About What Causes Participant Spillover?
- **2015 IEPEC** (Long Beach, CA): Understanding Your Customers: The Effects of Seasonality on Energy Savings on Cape Cod and Martha's Vineyard.
- **2014 AESP Summer Conference** (San Francisco, CA): Understanding Commercial Real Estate Decision-Making to Improve Program Design and Targeting.