

## The Rhode Island Energy Efficiency and Resource Management Council

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May 1, 2020

VIA ELECTRONIC MAIL

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

**RE: Docket #5023**  
**EERMC Response to PUC First Set of Data Requests**

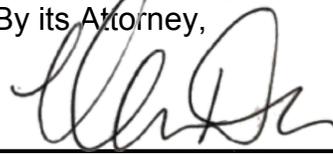
Dear Luly,

The Rhode Island Energy Efficiency and Resource Management Council (“EERMC”) is pleased to submit this cover letter and attached responses to the Public Utilities Commission’s (“PUC”) first set of data requests, issued on April 28, 2020, for the PUC’s review and consideration.

Enclosed please find the EERMC’s responses, which are being submitted by the required May 1, 2020 deadline.

Thank you for your attention to this matter. If you have any questions, please do not hesitate to contact me at (401) 477-0023.

Respectfully submitted  
Rhode Island Energy Efficiency  
Resource Management Council  
By its Attorney,



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Marisa Desautel, Esq.  
Desautel Law  
38 Bellevue Avenue, Suite H  
Newport, RI 02840  
Tel: (401) 477-0023

CERTIFICATION

I hereby certify that a true copy, via electronic mail, of the within responses and, on this 1<sup>st</sup> day of May 2020, to the below Service List for Docket #5023, as per below:

VIA ELECTRONIC MAIL:

**Service List for Docket No. 5023 – RI Energy Efficiency Resource Mgmt. Council (EERMC) Energy Efficiency Savings Targets, 2021-2023.**

  
Kallie Longval

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
PUBLIC UTILITIES COMMISSION**

**IN RE: RI ENERGY EFFICIENCY AND RESOURCE :  
MANAGEMENT COUNCIL'S PROPOSED ENERGY : DOCKET NO. 5023  
EFFICIENCY SAVINGS TARGETS, 2021-23 :**

**COMMISSION'S FIRST SET OF DATA REQUESTS  
DIRECTED TO RI ENERGY EFFICIENCY AND  
RESOURCE MANAGEMENT COUNCIL**

(Issued April 28, 2020)  
(Please respond by May 1, 2020)

***Cross-Response Notes***

- 1) *All measure-level datasets are presented using detailed names as defined in the RI MPS final results dataset. We have included a glossary at the end of this document which maps each detailed name to a higher-level measure category for reference.*
- 2) *Though the detailed measure names end with a unit-based denomination such as ‘\_per unit’ or ‘\_per sf’, the data presented throughout this document represent totals for those measures across all modeled instances of the measures, not values associated with each unit of the measure.*
- 3) *Except where otherwise noted, the responses to all data requests have drawn their results from the delivered fuels module of the Rhode Island Market Potential Study (RI MPS). The delivered fuels module only contains measures whose primary savings fuel is oil or propane. There are some instances of cross-fuel interactions between measures in the electric efficiency module and delivered fuels that result in increased delivered fuels consumption which were netted out of the delivered fuel targets. Consequently, tables in the responses to this data request will not add to the exact values of the delivered fuels targets.*
- 4) *The Table references associated with each of the responses below are included in the attached spreadsheet.*

**1.1. For all measures or group of measures included in the delivered fuels savings target, please list the measure or group of measures and detail the associated savings (electric and MMBtu) from all measures or group of measures on a yearly and lifetime basis.**

Tables 1- 6 contain all electric, oil, and propane savings associated with all measures contained in the delivered fuels module of the Rhode Island Market Potential Study (RI MPS). None of the measures from the delivered fuels module are associated with natural gas savings, though the natural gas module contains many similar measures characterized for natural gas energy efficiency. As a result, none of the tables include natural gas savings. The

Dunsky Energy Consulting Team has confirmed via email, regarding the delivered fuel measures without quantified electric energy savings, that:

“... **most** of these measures would have small, but positive, associated electric savings.

The only ones in the list that likely would not have associated electric savings are:

- [01-296]\_Residential\_Hot Water\_Solar Water Heater\_ROB\_Oil\_per unit – due to likely addition of electric recirculation pump
- [02-008]\_Business\_HVAC\_Waste Heat Recovery\_ADD\_Oil\_per sf – due to likely need for additional electric circulation/fan equipment”

Lastly, the Consultant Team has interpreted the term ‘yearly’ in this data request to correspond to first year, annual savings. If the intent was to request savings *by year over the course of each measure’s useful life*, it is worth noting that this data is not part of the RI MPS final results dataset.

**1.2. Are any delivered fuels saving derived from measures or group of measures primarily aimed at electric or natural gas savings? If so, please provide the measure or group of measures and associated savings (electric, natural gas, and delivered fuels) for each.**

Yes, there is one measure in the RI MPS that primarily provides electric energy savings and also provides delivered fuel savings, measure [02-301], retro-commissioning and strategic energy manager. There are no primarily natural gas-saving measures that also impact delivered fuels. This data request response defines a measures’ *primary savings fuel* as the fuel for which that measure provides more lifetime MMBtu-equivalent savings than any other fuel in the RI MPS final results dataset. Of note, this measure is from the electric energy efficiency module of the market potential study.

The full detailed name of the measure that meets this criteria for electric savings is:

[02-301]\_Business\_HVAC\_Retro-commissioning Strategic Energy Manager (RCx SEM)\_ADD\_Electric\_per sf

Table 7 shows the energy savings across all four fuels for this measure.

**1.3. For all measures or group of measures included in the delivered fuels savings target, do any of the measures or group of measures increase the use of electricity? If so, please list all such measures or group of measures and the associated savings of delivered fuels and increase in electric use.**

Yes, there are three measures in the RI MPS that provide delivered fuels and increase the use of electricity. For the two measures listed below, the potential increase in electric consumption is very low, and would only be expected to increase electric consumption due to the assumed need

to add circulation equipment to enable the measure. These measures did not have quantified electric consumption impacts in the RI MPS:

- [01-296]\_Residential\_Hot Water\_Solar Water Heater\_ROB\_Oil\_per unit – due to likely addition of electric recirculation pump
- [02-008]\_Business\_HVAC\_Waste Heat Recovery\_ADD\_Oil\_per sf – due to likely need for additional electric circulation/fan equipment

The third measure, listed below, did have a quantified increase in electric consumption in the RI MPS:

*[01-216]\_Residential\_HVAC\_Heat Recovery Ventilator (HRV)\_ENERGY STAR\_ROB\_Oil\_per home*

Table 8 shows the modeled energy impacts for these three measures.

**1.4. For all measures or group of measures included in the delivered fuels savings target, do any of the measures or group of measures decrease the use of electricity? If so, please list all such measures or group of measures and the associated savings of delivered fuels and decrease in electric use.**

Yes, there are 25 measures that decrease electricity use while primarily decreasing delivered fuels use.

Tables 9-11 show the electric, oil, and propane savings associated with these measures, respectively. Of note, the total values in Table 9 are higher than the totals in the corresponding table in the response to data request 1.1, Table 2. This is because the Heat Recovery Ventilator measure, as described in the response to data request 1.3, has negative electric energy savings, and is included in Table 2 while it is absent from Table 9.

**1.5. For every MMBtu included in the delivered fuels savings target, what amount is coincident with 1.) electric energy savings in column 1 (Electric Energy) of table 1, 2.) natural gas energy savings in column 2 (Natural Gas Energy) of table 1, and 3.) with neither electric or natural gas energy. For all delivered fuels MMBtu that is not coincident with electric or natural gas, please describe what they are and describe how they would be delivered.**

The data-related response to data request 1.5 can be fully explained through reference to tables prepared for other data requests. With respect to parts 1) and 2) of this data request, Tables 10 and 11 capture the full set of measures primarily providing oil and propane savings, respectively, that are coincident with electric energy savings. The only additional delivered fuel savings associated with electric or natural gas savings are captured in Table 7. Table 8 captures the measures providing delivered fuel savings which result in increases in electric energy

consumption. There are no measures providing delivered fuel savings which are guaranteed to have exactly zero potential impact on other fuel savings.

These data have been summarized in Table 12, which fully responds to parts 1) and 3) of this data request. It shows the total MMBtu savings which are coincident with electric energy savings, as well as the savings that are not coincident with other fuel savings. Note that, because the only natural gas savings coincident with delivered fuel savings are fully captured in Table 7 *and are a subset of the coincident savings shown in Table 12*, this data point has not been reproduced in this table for the sake of the table's internal consistency. Table 7 fulfills part 2) of this request.

Regarding the question of the delivery of the savings in the non-coincident category in Table 12, it is the Consultant Team's view that this is an outstanding question that is best addressed during the planning process.

**1.6. Please provide annual savings for 2021 through 2023 for the electric and natural gas savings in Table 1.**

Table 13 shows the annual savings for 2021-2023 that correspond to the savings targets shown in Table 1 of the EERMC Target-Setting Memo as delivered to the Rhode Island Public Utility Commission. Table 13 also shows the lifetime savings reflected in Table 1 to enable ease of comparison.

**1.7. For all measures included in the delivered fuels savings target, please list all measures that have not been included in previous energy efficiency plans.**

Table 14 provides the full list of measures in the delivered fuels module of the RI MPS. Because the Consultant Team is not the ultimate source of knowledge regarding which measures have ever been offered in the past, we took the following approach to assembling this dataset. First, we compared this list of measures to the benefit-cost models provided by National Grid in support of their annual plans during each of the past five years (2016-2020). We used this information as well as our familiarity with National Grid's programs to populate the field titled "*Offered in Past?*". In any instances where we were not virtually certain, we elected to populate this field with the value 'unknown'. We have spoken with representatives from National Grid who indicated that, though they were unable to do so in time for the submittal of these data request responses, they do have the ability to conduct further internal investigations in an effort to clarify the unknown entries in Table 14.

**1.8. For all measures included in the electric, natural gas, and delivered fuels targets, are there any measures that are not cost effective in the first year of implementation? If so, list all such measures along with the cost of the measure, the**

**savings on an annual basis for the life of the measure, and the overall cost effectiveness of the measure.**

The data required to calculate cost-effectiveness in the first year of implementation is not a part of the RI MPS final results dataset. According to Dunsky Energy Consulting, these data are not a standard output of their market potential study model, and cannot be readily accessed. The model's standard cost-effectiveness outputs summarize the costs and benefits associated with each measure that occur over the full course of the measure's useful life in net present value terms denominated in 2021 dollars. Note that for some benefits such as carbon emissions, impacts occurring beyond the end of measures' useful life are accounted for in the calculation of these net present value impacts, in the sense that carbon prices reflect the fact that carbon emissions persist for multiple decades in the atmosphere.

In general terms, and without relying on any specific calculations from the RI MPS final results dataset, the Consultant Team feels reasonably confident that a sizeable share of measures characterized in the RI MPS across all fuel types would likely require more than a single year of benefit accrual to fully offset the upfront costs of equipment and installation.

## Appendix A. Detailed Measure Name Glossary

Detailed Measure Name	Measure Category
[02-301]_Business_HVAC_Retro-commissioning Strategic Energy Manager (RCx SEM)_ADD_Electric_per sf	Misc Heating
[01-083]_Residential_HVAC_Duct Sealing_ADD_Oil_per lf	Misc Heating
[01-090]_Residential_HVAC_Duct Insulation_ADD_Oil_per sf	Misc Heating
[01-094]_Residential_HVAC_Thermostat Wi-Fi_ADD_Oil_per unit	HVAC Control
[01-177]_Residential_Appliance_Dishwasher_ENERGY STAR_ROB_Oil_per unit	Dishwasher
[01-205]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Oil_per unit	Boilers
[01-207]_Residential_HVAC_Boiler Reset Control_ADD_Oil_per unit	Boilers
[01-208]_Residential_HVAC_Furnace_ROB_Oil_per unit	Furnaces
[01-216]_Residential_HVAC_Heat Recovery Ventilator (HRV)_ENERGY STAR_ROB_Oil_per home	office Equipment
[01-219]_Residential_Envelope_Attic Insulation_ADD_Oil_per sf	Insulation
[01-222]_Residential_Envelope_Basement Insulation_ADD_Oil_per sf	Insulation
[01-225]_Residential_Envelope_Wall Insulation_ADD_Oil_per sf	Insulation
[01-228]_Residential_Envelope_Air Sealing_ADD_Oil_per sf	Air Sealing
[01-231]_Residential_Hot Water_Faucet Aerator_ADD_Oil_per unit	Low Flow Fixtures
[01-233]_Residential_Hot Water_Low Flow Shower Head_ADD_Oil_per unit	Low Flow Fixtures
[01-235]_Residential_Hot Water_Thermostatic Restrictor Shower Valve_ADD_Oil_per unit	Low Flow Fixtures
[01-247]_Residential_Appliance_Clothes Washer_ENERGY STAR_ROB_Oil_per unit	Clothes Washers
[01-293]_Residential_Envelope_Air Sealing_ADD_Propane_per sf	Air Sealing
[01-296]_Residential_Hot Water_Solar Water Heater_ROB_Oil_per unit	Water Heaters
[01-298]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Propane_per unit	Boilers
[01-299]_Residential_HVAC_Boiler Reset Control_ADD_Propane_per unit	Boilers
[01-300]_Residential_HVAC_Furnace_ROB_Propane_per unit	Furnaces
[01-301]_Residential_HVAC_Thermostat Wi-Fi_ADD_Propane_per unit	HVAC Control
[02-008]_Business_HVAC_Waste Heat Recovery_ADD_Oil_per sf	Misc Heating
[02-295]_Business_HVAC_Boiler_< 1000 kBtu/h_ROB_Oil_per kBtu/hr	Boilers
[02-296]_Business_HVAC_Boiler_>= 1000 kBtu/h_ROB_Oil_per kBtu/hr	Boilers
[02-303]_Business_Envelope_Attic/Roof Insulation_Flat Roof_ADD_Oil_per sf	Insulation
[02-306]_Business_Envelope_Building Shell Air Sealing_ADD_Oil_per sf	Air Sealing
[02-323]_Business_HVAC_Energy Management System (EMS)_ADD_Oil_per ksf	HVAC Control

*1) All measure-level datasets are presented using detailed names as defined in the RI MPS final results dataset. We have included a glossary at the end of this document which maps each detailed name to a higher-level measure category for reference.*

*2) Though the detailed measure names end with a unit-based denomination such as ‘\_per unit’ or ‘\_per sf’, the data presented throughout this document represent totals for those measures across all modeled instances of the measures, not values associated with each unit of the measure.*

*3) Except where otherwise noted, the responses to all data requests have drawn their results from the delivered fuels module of the Rhode Island Market Potential Study (RI MPS). There are some instances of cross-fuel interactions between measures in the electric efficiency module and delivered fuels that result in increased delivered fuels consumption which were netted out of the delivered fuel targets. Consequently, tables in the responses to this data request will not add to the exact values of the delivered fuels targets.*

Table 1. Electric Annual Energy Savings from Delivered Fuel Module of RI MPS, kWh, 2021-2023

ELECTRIC ANNUAL SAVINGS, kWh, 2021-2023				
Detailed Measure Name	2021	2022	2023	
[01-083]_Residential_HVAC_Duct Sealing_ADD_Oil_per lf		9,788	9,837	9,886
[01-090]_Residential_HVAC_Duct Insulation_ADD_Oil_per sf		2,841	2,856	2,870
[01-094]_Residential_HVAC_Thermostat Wi-Fi_ADD_Oil_per unit		497,604	500,092	502,592
[01-177]_Residential_Appliance_Dishwasher_ENERGY STAR_ROB_Oil_per unit		8,204	8,245	8,286
[01-205]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Oil_per unit		>0	>0	>0
[01-207]_Residential_HVAC_Boiler Reset Control_ADD_Oil_per unit		>0	>0	>0
[01-208]_Residential_HVAC_Furnace_ROB_Oil_per unit		>0	>0	>0
[01-216]_Residential_HVAC_Heat Recovery Ventilator (HRV)_ENERGY STAR_ROB_Oil_per home		(183,175)	(184,091)	(185,011)
[01-219]_Residential_Envelope_Attic Insulation_ADD_Oil_per sf		402,504	404,516	406,539
[01-222]_Residential_Envelope_Basement Insulation_ADD_Oil_per sf		144,944	145,669	146,397
[01-225]_Residential_Envelope_Wall Insulation_ADD_Oil_per sf		14,459	14,531	14,603
[01-228]_Residential_Envelope_Air Sealing_ADD_Oil_per sf		565,245	568,072	570,912
[01-231]_Residential_Hot Water_Faucet Aerator_ADD_Oil_per unit		>0	>0	>0
[01-233]_Residential_Hot Water_Low Flow Shower Head_ADD_Oil_per unit		>0	>0	>0
[01-235]_Residential_Hot Water_Thermostatic Restrictor Shower Valve_ADD_Oil_per unit		>0	>0	>0
[01-247]_Residential_Appliance_Clothes Washer_ENERGY STAR_ROB_Oil_per unit		95,153	191,257	291,232
[01-293]_Residential_Envelope_Air Sealing_ADD_Propane_per sf		42,707	42,921	43,136
[01-296]_Residential_Hot Water_Solar Water Heater_ROB_Oil_per unit		<0	<0	<0
[01-298]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Propane_per unit		>0	>0	>0
[01-299]_Residential_HVAC_Boiler Reset Control_ADD_Propane_per unit		>0	>0	>0
[01-300]_Residential_HVAC_Furnace_ROB_Propane_per unit		>0	>0	>0
[01-301]_Residential_HVAC_Thermostat Wi-Fi_ADD_Propane_per unit		38,321	38,512	38,705
[02-008]_Business_HVAC_Waste Heat Recovery_ADD_Oil_per sf		<0	<0	<0
[02-295]_Business_HVAC_Boiler_< 1000 kBtu/h_ROB_Oil_per kBtu/hr		>0	>0	>0
[02-296]_Business_HVAC_Boiler_>= 1000 kBtu/h_ROB_Oil_per kBtu/hr		>0	>0	>0
[02-303]_Business_Envelope_Attic/Roof Insulation_Flat Roof_ADD_Oil_per sf		21,548	21,655	21,764
[02-306]_Business_Envelope_Building Shell Air Sealing_ADD_Oil_per sf		>0	>0	>0
[02-323]_Business_HVAC_Energy Management System (EMS)_ADD_Oil_per ksf		330,158	331,809	333,468
Grand Total		1,990,301	2,095,880	2,205,378

Table 2. Electric Lifetime Energy Savings from Delivered Fuel Module of RI MPS, kWh, 2021-2023

ELECTRIC LIFETIME SAVINGS, kWh, 2021-2023			
Detailed Measure Name	2021	2022	2023
[01-083]_Residential_HVAC_Duct Sealing_ADD_Oil_per lf	195,756	196,734	197,718
[01-090]_Residential_HVAC_Duct Insulation_ADD_Oil_per sf	56,827	57,111	57,397
[01-094]_Residential_HVAC_Thermostat Wi-Fi_ADD_Oil_per unit	7,464,055	7,501,376	7,538,883
[01-177]_Residential_Appliance_Dishwasher_ENERGY STAR_ROB_Oil_per unit	82,037	82,447	82,860
[01-205]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Oil_per unit	>0	>0	>0
[01-207]_Residential_HVAC_Boiler Reset Control_ADD_Oil_per unit	>0	>0	>0
[01-208]_Residential_HVAC_Furnace_ROB_Oil_per unit	>0	>0	>0
[01-216]_Residential_HVAC_Heat Recovery Ventilator (HRV)_ENERGY STAR_ROB_Oil_per home	(3,663,496)	(3,681,813)	(3,700,222)
[01-219]_Residential_Envelope_Attic Insulation_ADD_Oil_per sf	8,050,079	8,090,329	8,130,781
[01-222]_Residential_Envelope_Basement Insulation_ADD_Oil_per sf	2,898,886	2,913,381	2,927,948
[01-225]_Residential_Envelope_Wall Insulation_ADD_Oil_per sf	289,171	290,617	292,070
[01-228]_Residential_Envelope_Air Sealing_ADD_Oil_per sf	11,304,909	11,361,434	11,418,241
[01-231]_Residential_Hot Water_Faucet Aerator_ADD_Oil_per unit	>0	>0	>0
[01-233]_Residential_Hot Water_Low Flow Shower Head_ADD_Oil_per unit	>0	>0	>0
[01-235]_Residential_Hot Water_Thermostatic Restrictor Shower Valve_ADD_Oil_per unit	>0	>0	>0
[01-247]_Residential_Appliance_Clothes Washer_ENERGY STAR_ROB_Oil_per unit	1,332,135	2,677,592	4,077,242
[01-293]_Residential_Envelope_Air Sealing_ADD_Propane_per sf	854,150	858,420	862,713
[01-296]_Residential_Hot Water_Solar Water Heater_ROB_Oil_per unit	<0	<0	<0
[01-298]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Propane_per unit	>0	>0	>0
[01-299]_Residential_HVAC_Boiler Reset Control_ADD_Propane_per unit	>0	>0	>0
[01-300]_Residential_HVAC_Furnace_ROB_Propane_per unit	>0	>0	>0
[01-301]_Residential_HVAC_Thermostat Wi-Fi_ADD_Propane_per unit	574,812	577,686	580,575
[02-008]_Business_HVAC_Waste Heat Recovery_ADD_Oil_per sf	<0	<0	<0
[02-295]_Business_HVAC_Boiler_< 1000 kBtu/h_ROB_Oil_per kBtu/hr	>0	>0	>0
[02-296]_Business_HVAC_Boiler_>= 1000 kBtu/h_ROB_Oil_per kBtu/hr	>0	>0	>0
[02-303]_Business_Envelope_Attic/Roof Insulation_Flat Roof_ADD_Oil_per sf	430,952	433,107	435,272
[02-306]_Business_Envelope_Building Shell Air Sealing_ADD_Oil_per sf	>0	>0	>0
[02-323]_Business_HVAC_Energy Management System (EMS)_ADD_Oil_per ksf	3,301,581	3,318,089	3,334,679
Grand Total	33,171,855	34,676,510	36,236,155

Table 3. Oil Annual Energy Savings from Delivered Fuel Module of RI MPS, MMBtu, 2021-2023

OIL ANNUAL SAVINGS, MMBTU, 2021-2023			
Detailed Measure Name	2021	2022	2023
[01-083]_Residential_HVAC_Duct Sealing_ADD_Oil_per lf	504	506	509
[01-090]_Residential_HVAC_Duct Insulation_ADD_Oil_per sf	2,002	2,012	2,022
[01-094]_Residential_HVAC_Thermostat Wi-Fi_ADD_Oil_per unit	44,340	44,562	44,785
[01-177]_Residential_Appliance_Dishwasher_ENERGY STAR_ROB_Oil_per unit	60	60	60
[01-205]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Oil_per unit	4,462	4,484	4,507
[01-207]_Residential_HVAC_Boiler Reset Control_ADD_Oil_per unit	14,717	14,790	14,864
[01-208]_Residential_HVAC_Furnace_ROB_Oil_per unit	3,338	3,355	3,372
[01-216]_Residential_HVAC_Heat Recovery Ventilator (HRV)_ENERGY STAR_ROB_Oil_per home	11,427	11,485	11,542
[01-219]_Residential_Envelope_Attic Insulation_ADD_Oil_per sf	28,135	28,276	28,417
[01-222]_Residential_Envelope_Basement Insulation_ADD_Oil_per sf	12,677	12,740	12,804
[01-225]_Residential_Envelope_Wall Insulation_ADD_Oil_per sf	4,090	4,110	4,131
[01-228]_Residential_Envelope_Air Sealing_ADD_Oil_per sf	34,323	34,494	34,667
[01-231]_Residential_Hot Water_Faucet Aerator_ADD_Oil_per unit	3,575	3,593	3,611
[01-233]_Residential_Hot Water_Low Flow Shower Head_ADD_Oil_per unit	9,761	9,810	9,859
[01-235]_Residential_Hot Water_Thermostatic Restrictor Shower Valve_ADD_Oil_per unit	3,441	3,458	3,476
[01-247]_Residential_Appliance_Clothes Washer_ENERGY STAR_ROB_Oil_per unit	568	1,142	1,739
[01-293]_Residential_Envelope_Air Sealing_ADD_Propane_per sf	-	-	-
[01-296]_Residential_Hot Water_Solar Water Heater_ROB_Oil_per unit	951	956	960
[01-298]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Propane_per unit	-	-	-
[01-299]_Residential_HVAC_Boiler Reset Control_ADD_Propane_per unit	-	-	-
[01-300]_Residential_HVAC_Furnace_ROB_Propane_per unit	-	-	-
[01-301]_Residential_HVAC_Thermostat Wi-Fi_ADD_Propane_per unit	-	-	-
[02-008]_Business_HVAC_Waste Heat Recovery_ADD_Oil_per sf	13,419	13,487	13,554
[02-295]_Business_HVAC_Boiler_< 1000 kBtu/h_ROB_Oil_per kBtu/hr	527	530	533
[02-296]_Business_HVAC_Boiler_>= 1000 kBtu/h_ROB_Oil_per kBtu/hr	7,267	7,303	7,339
[02-303]_Business_Envelope_Attic/Roof Insulation_Flat Roof_ADD_Oil_per sf	2,470	2,483	2,495
[02-306]_Business_Envelope_Building Shell Air Sealing_ADD_Oil_per sf	3,857	3,877	3,896
[02-323]_Business_HVAC_Energy Management System (EMS)_ADD_Oil_per ksf	2,774	2,787	2,801
Grand Total	208,686	210,301	211,944

Table 4. Oil Lifetime Energy Savings from Delivered Fuel Module of RI MPS, MMBtu, 2021-2023

OIL LIFETIME SAVINGS, MMBTU, 2021-2023				
Detailed Measure Name	2021	2022	2023	
[01-083]_Residential_HVAC_Duct Sealing_ADD_Oil_per lf	10,071	10,121	10,172	10,172
[01-090]_Residential_HVAC_Duct Insulation_ADD_Oil_per sf	40,044	40,245	40,446	40,446
[01-094]_Residential_HVAC_Thermostat Wi-Fi_ADD_Oil_per unit	665,107	668,432	671,774	671,774
[01-177]_Residential_Appliance_Dishwasher_ENERGY STAR_ROB_Oil_per unit	598	601	604	604
[01-205]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Oil_per unit	89,240	89,686	90,134	90,134
[01-207]_Residential_HVAC_Boiler Reset Control_ADD_Oil_per unit	294,333	295,805	297,284	297,284
[01-208]_Residential_HVAC_Furnace_ROB_Oil_per unit	60,092	60,392	60,694	60,694
[01-216]_Residential_HVAC_Heat Recovery Ventilator (HRV)_ENERGY STAR_ROB_Oil_per home	228,550	229,692	230,841	230,841
[01-219]_Residential_Envelope_Attic Insulation_ADD_Oil_per sf	562,705	565,519	568,346	568,346
[01-222]_Residential_Envelope_Basement Insulation_ADD_Oil_per sf	253,542	254,810	256,084	256,084
[01-225]_Residential_Envelope_Wall Insulation_ADD_Oil_per sf	81,794	82,203	82,614	82,614
[01-228]_Residential_Envelope_Air Sealing_ADD_Oil_per sf	686,450	689,883	693,332	693,332
[01-231]_Residential_Hot Water_Faucet Aerator_ADD_Oil_per unit	25,026	25,151	25,277	25,277
[01-233]_Residential_Hot Water_Low Flow Shower Head_ADD_Oil_per unit	68,325	68,667	69,010	69,010
[01-235]_Residential_Hot Water_Thermostatic Restrictor Shower Valve_ADD_Oil_per unit	24,089	24,209	24,330	24,330
[01-247]_Residential_Appliance_Clothes Washer_ENERGY STAR_ROB_Oil_per unit	7,956	15,992	24,352	24,352
[01-293]_Residential_Envelope_Air Sealing_ADD_Propane_per sf	-	-	-	-
[01-296]_Residential_Hot Water_Solar Water Heater_ROB_Oil_per unit	19,019	19,114	19,210	19,210
[01-298]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Propane_per unit	-	-	-	-
[01-299]_Residential_HVAC_Boiler Reset Control_ADD_Propane_per unit	-	-	-	-
[01-300]_Residential_HVAC_Furnace_ROB_Propane_per unit	-	-	-	-
[01-301]_Residential_HVAC_Thermostat Wi-Fi_ADD_Propane_per unit	-	-	-	-
[02-008]_Business_HVAC_Waste Heat Recovery_ADD_Oil_per sf	201,291	202,298	203,309	203,309
[02-295]_Business_HVAC_Boiler_< 1000 kBtu/h_ROB_Oil_per kBtu/hr	10,548	10,601	10,654	10,654
[02-296]_Business_HVAC_Boiler_>= 1000 kBtu/h_ROB_Oil_per kBtu/hr	145,332	146,059	146,789	146,789
[02-303]_Business_Envelope_Attic/Roof Insulation_Flat Roof_ADD_Oil_per sf	49,409	49,656	49,904	49,904
[02-306]_Business_Envelope_Building Shell Air Sealing_ADD_Oil_per sf	57,861	58,151	58,442	58,442
[02-323]_Business_HVAC_Energy Management System (EMS)_ADD_Oil_per ksf	27,736	27,875	28,014	28,014
<b>Grand Total</b>	<b>3,609,118</b>	<b>3,635,160</b>	<b>3,661,615</b>	<b>3,661,615</b>

Table 5. Propane Annual Energy Savings from Delivered Fuel Module of RI MPS, MMBtu, 2021-2023

PROPANE ANNUAL SAVINGS, MMBTU, 2021-2023			
Detailed Measure Name	2021	2022	2023
[01-083]_Residential_HVAC_Duct Sealing_ADD_Oil_per lf	-	-	-
[01-090]_Residential_HVAC_Duct Insulation_ADD_Oil_per sf	-	-	-
[01-094]_Residential_HVAC_Thermostat Wi-Fi_ADD_Oil_per unit	-	-	-
[01-177]_Residential_Appliance_Dishwasher_ENERGY STAR_ROB_Oil_per unit	-	-	-
[01-205]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Oil_per unit	-	-	-
[01-207]_Residential_HVAC_Boiler Reset Control_ADD_Oil_per unit	-	-	-
[01-208]_Residential_HVAC_Furnace_ROB_Oil_per unit	-	-	-
[01-216]_Residential_HVAC_Heat Recovery Ventilator (HRV)_ENERGY STAR_ROB_Oil_per home	-	-	-
[01-219]_Residential_Envelope_Attic Insulation_ADD_Oil_per sf	-	-	-
[01-222]_Residential_Envelope_Basement Insulation_ADD_Oil_per sf	-	-	-
[01-225]_Residential_Envelope_Wall Insulation_ADD_Oil_per sf	-	-	-
[01-228]_Residential_Envelope_Air Sealing_ADD_Oil_per sf	-	-	-
[01-231]_Residential_Hot Water_Faucet Aerator_ADD_Oil_per unit	-	-	-
[01-233]_Residential_Hot Water_Low Flow Shower Head_ADD_Oil_per unit	-	-	-
[01-235]_Residential_Hot Water_Thermostatic Restrictor Shower Valve_ADD_Oil_per unit	-	-	-
[01-247]_Residential_Appliance_Clothes Washer_ENERGY STAR_ROB_Oil_per unit	-	-	-
[01-293]_Residential_Envelope_Air Sealing_ADD_Propane_per sf	2,454	2,466	2,478
[01-296]_Residential_Hot Water_Solar Water Heater_ROB_Oil_per unit	-	-	-
[01-298]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Propane_per unit	3,080	3,095	3,110
[01-299]_Residential_HVAC_Boiler Reset Control_ADD_Propane_per unit	1,314	1,321	1,327
[01-300]_Residential_HVAC_Furnace_ROB_Propane_per unit	2,840	2,855	2,869
[01-301]_Residential_HVAC_Thermostat Wi-Fi_ADD_Propane_per unit	3,381	3,398	3,415
[02-008]_Business_HVAC_Waste Heat Recovery_ADD_Oil_per sf	-	-	-
[02-295]_Business_HVAC_Boiler_< 1000 kBtu/h_ROB_Oil_per kBtu/hr	-	-	-
[02-296]_Business_HVAC_Boiler_>= 1000 kBtu/h_ROB_Oil_per kBtu/hr	-	-	-
[02-303]_Business_Envelope_Attic/Roof Insulation_Flat Roof_ADD_Oil_per sf	-	-	-
[02-306]_Business_Envelope_Building Shell Air Sealing_ADD_Oil_per sf	-	-	-
[02-323]_Business_HVAC_Energy Management System (EMS)_ADD_Oil_per ksf	-	-	-
<b>Grand Total</b>	<b>13,069</b>	<b>13,135</b>	<b>13,200</b>

Table 6. Propane Lifetime Energy Savings from Delivered Fuel Module of RI MPS, MMBtu, 2021-2023

PROPANE LIFETIME SAVINGS, MMBTU, 2021-2023			
Detailed Measure Name	2021	2022	2023
[01-083]_Residential_HVAC_Duct Sealing_ADD_Oil_per lf	-	-	-
[01-090]_Residential_HVAC_Duct Insulation_ADD_Oil_per sf	-	-	-
[01-094]_Residential_HVAC_Thermostat Wi-Fi_ADD_Oil_per unit	-	-	-
[01-177]_Residential_Appliance_Dishwasher_ENERGY STAR_ROB_Oil_per unit	-	-	-
[01-205]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Oil_per unit	-	-	-
[01-207]_Residential_HVAC_Boiler Reset Control_ADD_Oil_per unit	-	-	-
[01-208]_Residential_HVAC_Furnace_ROB_Oil_per unit	-	-	-
[01-216]_Residential_HVAC_Heat Recovery Ventilator (HRV)_ENERGY STAR_ROB_Oil_per home	-	-	-
[01-219]_Residential_Envelope_Attic Insulation_ADD_Oil_per sf	-	-	-
[01-222]_Residential_Envelope_Basement Insulation_ADD_Oil_per sf	-	-	-
[01-225]_Residential_Envelope_Wall Insulation_ADD_Oil_per sf	-	-	-
[01-228]_Residential_Envelope_Air Sealing_ADD_Oil_per sf	-	-	-
[01-231]_Residential_Hot Water_Faucet Aerator_ADD_Oil_per unit	-	-	-
[01-233]_Residential_Hot Water_Low Flow Shower Head_ADD_Oil_per unit	-	-	-
[01-235]_Residential_Hot Water_Thermostatic Restrictor Shower Valve_ADD_Oil_per unit	-	-	-
[01-247]_Residential_Appliance_Clothes Washer_ENERGY STAR_ROB_Oil_per unit	-	-	-
[01-293]_Residential_Envelope_Air Sealing_ADD_Propane_per sf	49,073	49,318	49,565
[01-296]_Residential_Hot Water_Solar Water Heater_ROB_Oil_per unit	-	-	-
[01-298]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Propane_per unit	61,592	61,900	62,209
[01-299]_Residential_HVAC_Boiler Reset Control_ADD_Propane_per unit	26,286	26,417	26,549
[01-300]_Residential_HVAC_Furnace_ROB_Propane_per unit	51,127	51,382	51,639
[01-301]_Residential_HVAC_Thermostat Wi-Fi_ADD_Propane_per unit	50,722	50,975	51,230
[02-008]_Business_HVAC_Waste Heat Recovery_ADD_Oil_per sf	-	-	-
[02-295]_Business_HVAC_Boiler_< 1000 kBtu/h_ROB_Oil_per kBtu/hr	-	-	-
[02-296]_Business_HVAC_Boiler_>= 1000 kBtu/h_ROB_Oil_per kBtu/hr	-	-	-
[02-303]_Business_Envelope_Attic/Roof Insulation_Flat Roof_ADD_Oil_per sf	-	-	-
[02-306]_Business_Envelope_Building Shell Air Sealing_ADD_Oil_per sf	-	-	-
[02-323]_Business_HVAC_Energy Management System (EMS)_ADD_Oil_per ksf	-	-	-
<b>Grand Total</b>	<b>238,799</b>	<b>239,993</b>	<b>241,193</b>

Table 7. Lifetime Energy Savings from Measures Primarily providing Electric Savings and also providing Delivered Fuel Savings, 2021-2023

[02-301] Business HVAC Retro-commissioning Strategic Energy Manager (RCx SEM) ADD Electric per sf	2021	2022	2023
Fuel			
Electric (kWh)	26,728,545	26,862,187	26,996,498
Gas (MMBtu)	51,280	51,537	51,794
Oil (MMBtu)	17,338	17,425	17,512
Propane (MMBtu)	793	797	801

Table 8. Lifetime Energy Savings from Measures providing Delivered Fuel Savings and resulting in Increased Electric Energy Consumption, 2021-2023

[01-216]_Residential_HVAC_Heat Recovery Ventilator (HRV)_ENERGY STAR_ROB_Oil_per home			
Fuel	2021	2022	2023
Electric (kWh)	-3,663,496	-3,681,813	-3,700,222
Oil (MMBtu)	228,550	229,692	230,841
[01-296]_Residential_Hot Water_Solar Water Heater_ROB_Oil_per unit			
Fuel	2021	2022	2023
Electric (kWh)	<0	<0	<0
Oil (MMBtu)	19,019	19,114	19,210
[02-008]_Business_HVAC_Waste Heat Recovery_ADD_Oil_per sf			
Fuel	2021	2022	2023
Electric (kWh)	<0	<0	<0
Oil (MMBtu)	201,291	202,298	203,309
Total			
Fuel	2021	2022	2023
Electric (kWh)	-3,663,496	-3,681,813	-3,700,222
Oil (MMBtu)	448,860	451,104	453,360

Table 9 . Electric Lifetime Energy Savings associated with Measures in the Delivered Fuel Module which correspond to Reduced Electric Energy Usage, kWh, 2021-2023

ELECTRIC LIFETIME SAVINGS, kWh, 2021-2023			
Detailed Measure Name	2021	2022	2023
[01-083]_Residential_HVAC_Duct Sealing_ADD_Oil_per lf	195,756	196,734	197,718
[01-090]_Residential_HVAC_Duct Insulation_ADD_Oil_per sf	56,827	57,111	57,397
[01-094]_Residential_HVAC_Thermostat Wi-Fi_ADD_Oil_per unit	7,464,055	7,501,376	7,538,883
[01-177]_Residential_Appliance_Dishwasher_ENERGY STAR_ROB_Oil_per unit	82,037	82,447	82,860
[01-205]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Oil_per unit	>0	>0	>0
[01-207]_Residential_HVAC_Boiler Reset Control_ADD_Oil_per unit	>0	>0	>0
[01-208]_Residential_HVAC_Furnace_ROB_Oil_per unit	>0	>0	>0
[01-219]_Residential_Envelope_Attic Insulation_ADD_Oil_per sf	8,050,079	8,090,329	8,130,781
[01-222]_Residential_Envelope_Basement Insulation_ADD_Oil_per sf	2,898,886	2,913,381	2,927,948
[01-225]_Residential_Envelope_Wall Insulation_ADD_Oil_per sf	289,171	290,617	292,070
[01-228]_Residential_Envelope_Air Sealing_ADD_Oil_per sf	11,304,909	11,361,434	11,418,241
[01-231]_Residential_Hot Water_Faucet Aerator_ADD_Oil_per unit	>0	>0	>0
[01-233]_Residential_Hot Water_Low Flow Shower Head_ADD_Oil_per unit	>0	>0	>0
[01-235]_Residential_Hot Water_Thermostatic Restrictor Shower Valve_ADD_Oil_per unit	>0	>0	>0
[01-247]_Residential_Appliance_Clothes Washer_ENERGY STAR_ROB_Oil_per unit	1,332,135	2,677,592	4,077,242
[01-293]_Residential_Envelope_Air Sealing_ADD_Propane_per sf	854,150	858,420	862,713
[01-298]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Propane_per unit	>0	>0	>0
[01-299]_Residential_HVAC_Boiler Reset Control_ADD_Propane_per unit	>0	>0	>0
[01-300]_Residential_HVAC_Furnace_ROB_Propane_per unit	>0	>0	>0
[01-301]_Residential_HVAC_Thermostat Wi-Fi_ADD_Propane_per unit	574,812	577,686	580,575
[02-295]_Business_HVAC_Boiler_< 1000 kBtu/h_ROB_Oil_per kBtu/hr	>0	>0	>0
[02-296]_Business_HVAC_Boiler_>= 1000 kBtu/h_ROB_Oil_per kBtu/hr	>0	>0	>0
[02-303]_Business_Envelope_Attic/Roof Insulation_Flat Roof_ADD_Oil_per sf	430,952	433,107	435,272
[02-306]_Business_Envelope_Building Shell Air Sealing_ADD_Oil_per sf	>0	>0	>0
[02-323]_Business_HVAC_Energy Management System (EMS)_ADD_Oil_per ksf	3,301,581	3,318,089	3,334,679
<b>Grand Total</b>	<b>36,835,350</b>	<b>38,358,323</b>	<b>39,936,377</b>

Table 10. Oil Lifetime Energy Savings associated with Measures in the Delivered Fuel Module which correspond to Reduced Electric Energy Usage, MMBtu, 2021-2023

OIL LIFETIME SAVINGS, MMBTU, 2021-2023				
Detailed Measure Name	2021	2022	2023	
[01-083]_Residential_HVAC_Duct Sealing_ADD_Oil_per lf	10,071	10,121	10,172	10,172
[01-090]_Residential_HVAC_Duct Insulation_ADD_Oil_per sf	40,044	40,245	40,446	40,446
[01-094]_Residential_HVAC_Thermostat Wi-Fi_ADD_Oil_per unit	665,107	668,432	671,774	671,774
[01-177]_Residential_Appliance_Dishwasher_ENERGY STAR_ROB_Oil_per unit	598	601	604	604
[01-205]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Oil_per unit	89,240	89,686	90,134	90,134
[01-207]_Residential_HVAC_Boiler Reset Control_ADD_Oil_per unit	294,333	295,805	297,284	297,284
[01-208]_Residential_HVAC_Furnace_ROB_Oil_per unit	60,092	60,392	60,694	60,694
[01-219]_Residential_Envelope_Attic Insulation_ADD_Oil_per sf	562,705	565,519	568,346	568,346
[01-222]_Residential_Envelope_Basement Insulation_ADD_Oil_per sf	253,542	254,810	256,084	256,084
[01-225]_Residential_Envelope_Wall Insulation_ADD_Oil_per sf	81,794	82,203	82,614	82,614
[01-228]_Residential_Envelope_Air Sealing_ADD_Oil_per sf	686,450	689,883	693,332	693,332
[01-231]_Residential_Hot Water_Faucet Aerator_ADD_Oil_per unit	25,026	25,151	25,277	25,277
[01-233]_Residential_Hot Water_Low Flow Shower Head_ADD_Oil_per unit	68,325	68,667	69,010	69,010
[01-235]_Residential_Hot Water_Thermostatic Restrictor Shower Valve_ADD_Oil_per unit	24,089	24,209	24,330	24,330
[01-247]_Residential_Appliance_Clothes Washer_ENERGY STAR_ROB_Oil_per unit	7,956	15,992	24,352	24,352
[01-293]_Residential_Envelope_Air Sealing_ADD_Propane_per sf	-	-	-	-
[01-298]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Propane_per unit	-	-	-	-
[01-299]_Residential_HVAC_Boiler Reset Control_ADD_Propane_per unit	-	-	-	-
[01-300]_Residential_HVAC_Furnace_ROB_Propane_per unit	-	-	-	-
[01-301]_Residential_HVAC_Thermostat Wi-Fi_ADD_Propane_per unit	-	-	-	-
[02-295]_Business_HVAC_Boiler_< 1000 kBtu/h_ROB_Oil_per kBtu/hr	10,548	10,601	10,654	10,654
[02-296]_Business_HVAC_Boiler_>= 1000 kBtu/h_ROB_Oil_per kBtu/hr	145,332	146,059	146,789	146,789
[02-303]_Business_Envelope_Attic/Roof Insulation_Flat Roof_ADD_Oil_per sf	49,409	49,656	49,904	49,904
[02-306]_Business_Envelope_Building Shell Air Sealing_ADD_Oil_per sf	57,861	58,151	58,442	58,442
[02-323]_Business_HVAC_Energy Management System (EMS)_ADD_Oil_per ksf	27,736	27,875	28,014	28,014
<b>Grand Total</b>	<b>3,160,258</b>	<b>3,184,056</b>	<b>3,208,255</b>	<b>3,208,255</b>

Table 11. Propane Lifetime Energy Savings associated with Measures in the Delivered Fuel Module which correspond to Reduced Electric Energy Usage, MMBtu, 2021-2023

PROPANE LIFETIME SAVINGS, MMBTU, 2021-2023			
Detailed Measure Name	2021	2022	2023
[01-083]_Residential_HVAC_Duct Sealing_ADD_Oil_per lf	-	-	-
[01-090]_Residential_HVAC_Duct Insulation_ADD_Oil_per sf	-	-	-
[01-094]_Residential_HVAC_Thermostat Wi-Fi_ADD_Oil_per unit	-	-	-
[01-177]_Residential_Appliance_Dishwasher_ENERGY STAR_ROB_Oil_per unit	-	-	-
[01-205]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Oil_per unit	-	-	-
[01-207]_Residential_HVAC_Boiler Reset Control_ADD_Oil_per unit	-	-	-
[01-208]_Residential_HVAC_Furnace_ROB_Oil_per unit	-	-	-
[01-219]_Residential_Envelope_Attic Insulation_ADD_Oil_per sf	-	-	-
[01-222]_Residential_Envelope_Basement Insulation_ADD_Oil_per sf	-	-	-
[01-225]_Residential_Envelope_Wall Insulation_ADD_Oil_per sf	-	-	-
[01-228]_Residential_Envelope_Air Sealing_ADD_Oil_per sf	-	-	-
[01-231]_Residential_Hot Water_Faucet Aerator_ADD_Oil_per unit	-	-	-
[01-233]_Residential_Hot Water_Low Flow Shower Head_ADD_Oil_per unit	-	-	-
[01-235]_Residential_Hot Water_Thermostatic Restrictor Shower Valve_ADD_Oil_per unit	-	-	-
[01-247]_Residential_Appliance_Clothes Washer_ENERGY STAR_ROB_Oil_per unit	-	-	-
[01-293]_Residential_Envelope_Air Sealing_ADD_Propane_per sf	49,073	49,318	49,565
[01-298]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Propane_per unit	61,592	61,900	62,209
[01-299]_Residential_HVAC_Boiler Reset Control_ADD_Propane_per unit	26,286	26,417	26,549
[01-300]_Residential_HVAC_Furnace_ROB_Propane_per unit	51,127	51,382	51,639
[01-301]_Residential_HVAC_Thermostat Wi-Fi_ADD_Propane_per unit	50,722	50,975	51,230
[02-295]_Business_HVAC_Boiler_< 1000 kBtu/h_ROB_Oil_per kBtu/hr	-	-	-
[02-296]_Business_HVAC_Boiler_>= 1000 kBtu/h_ROB_Oil_per kBtu/hr	-	-	-
[02-303]_Business_Envelope_Attic/Roof Insulation_Flat Roof_ADD_Oil_per sf	-	-	-
[02-306]_Business_Envelope_Building Shell Air Sealing_ADD_Oil_per sf	-	-	-
[02-323]_Business_HVAC_Energy Management System (EMS)_ADD_Oil_per ksf	-	-	-
<b>Grand Total</b>	<b>238,799</b>	<b>239,993</b>	<b>241,193</b>

Table 12. Delivered Fuel Savings, Coincident with Non-Delivered Fuel Savings and Remaining, MMBtu, 2021-2023

Delivered Fuel Savings Category	2021	2022	2023
Coincident Savings (MMBtu)	3,417,188	3,442,270	3,467,761
Non-Coincident Savings (MMBtu)	448,860	451,104	453,360
Total Savings (MMBtu)	3,866,048	3,893,374	3,921,121

Table 13. Electric and Natural Gas Annual and Lifetime Energy Savings from the RI MPS, 2021-2023

Electric and Natural Gas Annual and Lifetime Savings, 2021-2023			
Savings Category	2021	2022	2023
Electric Lifetime Savings (kWh)	1,949,781,659	2,037,314,243	2,059,264,624
Electric Annual Savings (kWh)	188,816,332	195,976,527	182,071,318
Natural Gas Lifetime Savings (MMBtu)	9,598,108	9,948,779	9,958,127
Natural Gas Annual Savings (MMBtu)	749,344	770,569	787,805

Table 14. List of Delivered Fuel Module Measures and Consultant Team Best Information regarding recent Program Support

Detailed Measure Name	Offered In Past?
[01-083]_Residential_HVAC_Duct Sealing_ADD_Oil_per lf	Unknown
[01-090]_Residential_HVAC_Duct Insulation_ADD_Oil_per sf	Unknown
[01-094]_Residential_HVAC_Thermostat Wi-Fi_ADD_Oil_per unit	Yes
[01-177]_Residential_Appliance_Dishwasher_ENERGY STAR_ROB_Oil_per unit	Unknown
[01-205]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Oil_per unit	Unknown
[01-207]_Residential_HVAC_Boiler Reset Control_ADD_Oil_per unit	Unknown
[01-208]_Residential_HVAC_Furnace_ROB_Oil_per unit	Unknown
[01-216]_Residential_HVAC_Heat Recovery Ventilator (HRV)_ENERGY STAR_RC	Unknown
[01-219]_Residential_Envelope_Attic Insulation_ADD_Oil_per sf	Unknown
[01-222]_Residential_Envelope_Basement Insulation_ADD_Oil_per sf	Unknown
[01-225]_Residential_Envelope_Wall Insulation_ADD_Oil_per sf	Unknown
[01-228]_Residential_Envelope_Air Sealing_ADD_Oil_per sf	Yes
[01-231]_Residential_Hot Water_Faucet Aerator_ADD_Oil_per unit	Yes
[01-233]_Residential_Hot Water_Low Flow Shower Head_ADD_Oil_per unit	Yes
[01-235]_Residential_Hot Water_Thermostatic Restrictor Shower Valve_ADD_	Yes
[01-247]_Residential_Appliance_Clothes Washer_ENERGY STAR_ROB_Oil_per	Unknown
[01-293]_Residential_Envelope_Air Sealing_ADD_Propane_per sf	Yes
[01-296]_Residential_Hot Water_Solar Water Heater_ROB_Oil_per unit	No
[01-298]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Propane_per unit	Unknown
[01-299]_Residential_HVAC_Boiler Reset Control_ADD_Propane_per unit	Unknown
[01-300]_Residential_HVAC_Furnace_ROB_Propane_per unit	Unknown
[01-301]_Residential_HVAC_Thermostat Wi-Fi_ADD_Propane_per unit	Yes
[02-008]_Business_HVAC_Waste Heat Recovery_ADD_Oil_per sf	Unknown
[02-295]_Business_HVAC_Boiler_< 1000 kBtu/h_ROB_Oil_per kBtu/hr	Unknown
[02-296]_Business_HVAC_Boiler_>= 1000 kBtu/h_ROB_Oil_per kBtu/hr	Unknown
[02-303]_Business_Envelope_Attic/Roof Insulation_Flat Roof_ADD_Oil_per sf	Unknown
[02-306]_Business_Envelope_Building Shell Air Sealing_ADD_Oil_per sf	Unknown
[02-323]_Business_HVAC_Energy Management System (EMS)_ADD_Oil_per ks	Unknown

Measure Name Glossary (Reproduced in Appendix A)

Detailed Measure Name	Measure Category
[02-301]_Business_HVAC_Retro-commissioning Strategic Energy Manager (RCx SEM)_ADD_Electric_per sf	Misc Heating
[01-083]_Residential_HVAC_Duct Sealing_ADD_Oil_per lf	Misc Heating
[01-090]_Residential_HVAC_Duct Insulation_ADD_Oil_per sf	Misc Heating
[01-094]_Residential_HVAC_Thermostat Wi-Fi_ADD_Oil_per unit	HVAC Control
[01-177]_Residential_Appliance_Dishwasher_ENERGY STAR_ROB_Oil_per unit	Dishwasher
[01-205]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Oil_per unit	Boilers
[01-207]_Residential_HVAC_Boiler Reset Control_ADD_Oil_per unit	Boilers
[01-208]_Residential_HVAC_Furnace_ROB_Oil_per unit	Furnaces
[01-216]_Residential_HVAC_Heat Recovery Ventilator (HRV)_ENERGY STAR_ROB_Oil_per home	office Equipment
[01-219]_Residential_Envelope_Attic Insulation_ADD_Oil_per sf	Insulation
[01-222]_Residential_Envelope_Basement Insulation_ADD_Oil_per sf	Insulation
[01-225]_Residential_Envelope_Wall Insulation_ADD_Oil_per sf	Insulation
[01-228]_Residential_Envelope_Air Sealing_ADD_Oil_per sf	Air Sealing
[01-231]_Residential_Hot Water_Faucet Aerator_ADD_Oil_per unit	Low Flow Fixtures
[01-233]_Residential_Hot Water_Low Flow Shower Head_ADD_Oil_per unit	Low Flow Fixtures
[01-235]_Residential_Hot Water_Thermostatic Restrictor Shower Valve_ADD_Oil_per unit	Low Flow Fixtures
[01-247]_Residential_Appliance_Clothes Washer_ENERGY STAR_ROB_Oil_per unit	Clothes Washers
[01-293]_Residential_Envelope_Air Sealing_ADD_Propane_per sf	Air Sealing
[01-296]_Residential_Hot Water_Solar Water Heater_ROB_Oil_per unit	Water Heaters
[01-298]_Residential_HVAC_Boiler_ENERGY STAR_ROB_Propane_per unit	Boilers
[01-299]_Residential_HVAC_Boiler Reset Control_ADD_Propane_per unit	Boilers
[01-300]_Residential_HVAC_Furnace_ROB_Propane_per unit	Furnaces
[01-301]_Residential_HVAC_Thermostat Wi-Fi_ADD_Propane_per unit	HVAC Control
[02-008]_Business_HVAC_Waste Heat Recovery_ADD_Oil_per sf	Misc Heating
[02-295]_Business_HVAC_Boiler_< 1000 kBtu/h_ROB_Oil_per kBtu/hr	Boilers
[02-296]_Business_HVAC_Boiler_>= 1000 kBtu/h_ROB_Oil_per kBtu/hr	Boilers
[02-303]_Business_Envelope_Attic/Roof Insulation_Flat Roof_ADD_Oil_per sf	Insulation
[02-306]_Business_Envelope_Building Shell Air Sealing_ADD_Oil_per sf	Air Sealing
[02-323]_Business_HVAC_Energy Management System (EMS)_ADD_Oil_per ksf	HVAC Control