

December 4, 2020

**VIA ELECTRONIC MAIL**

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

**RE: Docket 5076 – 2021-2023 Energy Efficiency Program Plan & 2021 Energy Efficiency Plan Responses to PUC Data Requests – Set 7**

Dear Ms. Massaro:

On behalf of The Narragansett Electric Company d/b/a National Grid (“National Grid” or the “Company”), attached, please find the electronic version of the Company’s responses to the Public Utilities Commission’s (“PUC”s) Seventh Set of Data Requests in the above-referenced docket.<sup>1</sup>

Thank you for your attention to this filing. If you have any questions or concerns, please do not hesitate to contact me at 401-784-4263.

Sincerely,



Andrew S. Marcaccio

cc: Docket 5076 Service List  
John Bell, Division  
Jon Hagopian, Esq.

---

<sup>1</sup> In addition, the Company will deliver to the Commission six, three-hole punched hard copies of PUC Set 7 with Bates stamp.

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission..



\_\_\_\_\_  
Joanne M. Scanlon

December 4, 2020

Date

**Docket No. 5076 - National Grid – 2021-2023 Energy Efficiency Program  
Plan & 2021 Annual Energy Efficiency Program Plan  
Service list updated 12/3/2020**

<b>Name/Address</b>	<b>E-mail Distribution List</b>	<b>Phone</b>
<b>National Grid</b> Andrew Marcaccio, Esq. National Grid 280 Melrose St. Providence, RI 02907	<a href="mailto:Andrew.Marcaccio@nationalgrid.com">Andrew.Marcaccio@nationalgrid.com;</a>	401-784-4263
	<a href="mailto:Raquel.webster@nationalgrid.com">Raquel.webster@nationalgrid.com;</a>	
	<a href="mailto:Joanne.scanlon@nationalgrid.com">Joanne.scanlon@nationalgrid.com;</a>	
	<a href="mailto:Celia.obrien@nationalgrid.com">Celia.obrien@nationalgrid.com;</a>	
	<a href="mailto:Matthew.Chase@nationalgrid.com">Matthew.Chase@nationalgrid.com;</a>	
	<a href="mailto:Timothy.Roughan@nationalgrid.com">Timothy.Roughan@nationalgrid.com;</a>	
	<a href="mailto:John.Tortorella@nationalgrid.com">John.Tortorella@nationalgrid.com;</a>	
	<a href="mailto:Christopher.Porter@nationalgrid.com">Christopher.Porter@nationalgrid.com;</a>	
	<a href="mailto:BENJAMIN.RIVERS@nationalgrid.com">BENJAMIN.RIVERS@nationalgrid.com;</a>	
	<a href="mailto:John.Richards@nationalgrid.com">John.Richards@nationalgrid.com;</a>	
<a href="mailto:Matthew.Ray2@nationalgrid.com">Matthew.Ray2@nationalgrid.com;</a>		
<b>Division of Public Utilities and Carriers</b> Jon Hagopian, Esq.	<a href="mailto:Jon.hagopian@dpuc.ri.gov">Jon.hagopian@dpuc.ri.gov;</a>	401-784-4775
	<a href="mailto:Margaret.L.Hogan@dpuc.ri.gov">Margaret.L.Hogan@dpuc.ri.gov;</a>	
	<a href="mailto:john.bell@dpuc.ri.gov">john.bell@dpuc.ri.gov;</a>	
	<a href="mailto:Joel.munoz@dpuc.ri.gov">Joel.munoz@dpuc.ri.gov;</a>	
Tim Woolf Jennifer Kallay Synapse Energy Economics 22 Pearl Street Cambridge, MA 02139	<a href="mailto:twoolf@synapse-energy.com">twoolf@synapse-energy.com;</a>	
	<a href="mailto:jkallay@synapse-energy.com">jkallay@synapse-energy.com;</a>	
<b>RI EERMC</b> Marisa Desautel, Esq. Office of Marisa Desautel, LLC 55 Pine St.	<a href="mailto:marisa@desautelesq.com">marisa@desautelesq.com;</a>	401-477-0023
	<a href="mailto:guerard@optenergy.com">guerard@optenergy.com;</a>	

Providence, RI 02903	<a href="mailto:ross@optenergy.com">ross@optenergy.com</a> ;	
Mike Guerard, Optimal Energy	<a href="mailto:kravatz@optenergy.com">kravatz@optenergy.com</a> ;	
<b>Acadia Center</b> Hank Webster, Director & Staff Atty.	<a href="mailto:HWebster@acadiacenter.org">HWebster@acadiacenter.org</a> ;	401-276-0600 x402
<b>Office of Energy Resources (OER)</b> Albert Vitali, Esq. Dept. of Administration Division of Legal Services One Capitol Hill, 4 <sup>th</sup> Floor Providence, RI 02908  Nick Ucci, Commissioner	<a href="mailto:Albert.Vitali@doa.ri.gov">Albert.Vitali@doa.ri.gov</a> ;	401-222-8880
	<a href="mailto:Nancy.Russolino@doa.ri.gov">Nancy.Russolino@doa.ri.gov</a> ;	
	<a href="mailto:Christopher.Kearns@energy.ri.gov">Christopher.Kearns@energy.ri.gov</a> ;	
	<a href="mailto:Nicholas.Ucci@energy.ri.gov">Nicholas.Ucci@energy.ri.gov</a> ;	
	<a href="mailto:Becca.Trietch@energy.ri.gov">Becca.Trietch@energy.ri.gov</a> ;	
	<a href="mailto:Carrie.Gill@energy.ri.gov">Carrie.Gill@energy.ri.gov</a> ;	
	<a href="mailto:Nathan.Cleveland@energy.ri.gov">Nathan.Cleveland@energy.ri.gov</a> ;	
<b>Green Energy Consumers Alliance</b> Larry Chretien, Executive Director Kai Salem	<a href="mailto:Larry@massenergy.org">Larry@massenergy.org</a> ;	
	<a href="mailto:kai@greenenergyconsumers.org">kai@greenenergyconsumers.org</a> ;	
	<a href="mailto:priscilla@greenenergyconsumers.org">priscilla@greenenergyconsumers.org</a> ;	
<b>Original &amp; 9 copies file w/:</b> Luly E. Massaro, Commission Clerk John Harrington, Commission Counsel Public Utilities Commission 89 Jefferson Blvd. Warwick, RI 02888	<a href="mailto:Luly.massaro@puc.ri.gov">Luly.massaro@puc.ri.gov</a> ;	401-780-2107
	<a href="mailto:Cynthia.WilsonFrias@puc.ri.gov">Cynthia.WilsonFrias@puc.ri.gov</a> ;	
	<a href="mailto:John.Harrington@puc.ri.gov">John.Harrington@puc.ri.gov</a> ;	
	<a href="mailto:Alan.nault@puc.ri.gov">Alan.nault@puc.ri.gov</a> ;	
	<a href="mailto:Todd.bianco@puc.ri.gov">Todd.bianco@puc.ri.gov</a> ;	
Frederick Sneesby Dept. of Human Services	<a href="mailto:Frederick.sneesby@dhs.ri.gov">Frederick.sneesby@dhs.ri.gov</a> ;	
Chris Vitale, Esq., RI Infrastructure Bank	<a href="mailto:cvitale@hvlawltd.com">cvitale@hvlawltd.com</a> ;	
	<a href="mailto:SUsatine@riib.org">SUsatine@riib.org</a> ;	
Doug Gablinske, Executive Director The Energy Council of RI	<a href="mailto:doug@tecri.org">doug@tecri.org</a> ;	
Jordan Garfinkle Bloom Energy	<a href="mailto:Jordan.Garfinkle@bloomenergy.com">Jordan.Garfinkle@bloomenergy.com</a> ;	

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
2021-2023 Energy Efficiency Program Plan &  
2021 Annual Energy Efficiency Program Plan  
Responses to Commission's Fifth Set of Data Requests  
Issued on December 2, 2020

---

**PUC Set 7**  
Table of Contents. Page 1 of 1

<b>Data Request</b>	<b>Bates Page</b>
7-1	1
7-2	23
7-3	36
7-4	44
7-5	50
7-6	53

PUC 7-1

Request:

Please provide separate Docket 4600 tables like the table that begins on Bates 548 for each electric sector (non-income eligible, income-eligible, and C&I).

Response:

Please see Attachments PUC 7-1-1, 7-1-2, and 7-2-3 for the requested Docket 4600 tables. The attachments contain information for the following sectors:

- Attachment 7-1-1: Non-income Eligible
- Attachment 7-1-2: Income Eligible
- Attachment 7-1-3: Commercial & Industrial

To complete this data request, the Company has distributed some programmatic costs that are not planned at the program level to the appropriate programs within sectors. This step was applied in this analysis so that the programmatic costs included in Category 6 in each of the Attachments 7-1-1, 7-1-2, 7-1-3 will sum to the original Category 6 in the Docket 4600 Framework on Bates 548.

- **Distributing portfolio-level costs to sectors:** Some costs are defined at the portfolio level (EERMC and OER costs). They are allocated to sectors for the purpose of this analysis by multiplying those portfolio level costs by the ratio of the sector's direct programmatic costs to all direct programmatic costs across all sectors. This is an approximation and is not necessarily reflective of the distribution of these costs in actual implementation. For the C&I and Residential sectors the portfolio-level costs are distributed between the energy efficiency programs and the demand response programs (ConnectedSolutions programs) in proportion to their direct programmatic costs within the portfolio.
- **Sector-level costs:** Costs planned at the sector level are shown on a separate line within Category 6 of the Framework. For the C&I and Residential sectors the sector-level costs are distributed between the energy efficiency programs and the demand response programs (ConnectedSolutions programs) in proportion to their direct programmatic costs within the sector.

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-1**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Non-Income Eligible**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level	1	Energy Supply & Transmission Operating Value of Energy Provided or Saved	Quantified	\$4,414,874	Energy Efficiency Measures: Winter peak electric energy (kWh) savings are monetized for winter peak by multiplying savings during this period by the avoided retail cost of winter peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
				\$-	Active Demand Response Measures: The Active Demand Response program (ConnectedSolutions) only operates during the Summer at system peak times, therefore there are no winter energy benefits.	No Value
			Quantified	\$4,349,069	Energy Efficiency Measures: Winter off-peak electric energy (kWh) savings are monetized for winter off-peak by multiplying savings during this period by the avoided retail cost of winter off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
				\$-	Active Demand Response Measures: The Active Demand Response program (ConnectedSolutions) only operates during the Summer at system peak times, therefore there are no winter energy benefits.	No Value
			Quantified	\$1,808,529	Energy Efficiency Measures: Summer peak electric energy (kWh) savings are monetized for summer peak by multiplying savings during this period by the avoided retail cost of Summer peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
				\$1,741	Active Demand Response Measures: Summer peak electric energy (kWh) savings are monetized for summer peak by multiplying savings during this period by the avoided retail cost of Summer peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	
			Quantified	\$1,362,501	Energy Efficiency Measures: Summer off-peak electric energy (kWh) savings are monetized for summer off-peak by multiplying savings during this period by the avoided retail cost of Summer off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
				\$1,413	Active Demand Response Measures: Summer off-peak electric energy (kWh) savings are monetized for summer off-peak by multiplying savings during this period by the avoided retail cost of Summer off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	
			Quantified	\$1,884,071	Energy Efficiency Measures: Value of avoided summer generation capacity benefit is monetized by the AESC 2018 study avoided costs	Benefit
				\$410,153	Active Demand Response Measures: Value of avoided summer generation capacity benefit is monetized by the AESC 2018 study avoided costs	Benefit

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-1**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Non-Income Eligible**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level (continued)	2	Renewable Energy Credit Cost / Value	Quantified	See Notes	Wholesale cost of RECs is included in the winter peak, winter off-peak, summer peak, and summer off-peak retail energy costs from the preceding category.	Benefit
	3	Retail Supplier Risk Premium	Quantified	See Notes	Wholesale Risk Premium is built into the retail costs of electric energy and electric capacity sourced from the AESC 2018 study and used to calculate the benefits of avoided energy and capacity.	Benefit
	4	Forward Commitment: Capacity Value	Quantified	See Notes	Forward capacity avoided costs are included in capacity benefits.	Benefit
	5	Forward Commitment: Avoided Ancillary Services Value	Not applicable	See Notes	Not applicable to energy efficiency	Not Applicable
	6	Utility / Third Party Developer Renewable Energy, Efficiency, or DER costs	Quantified	\$35,719,980	National Grid costs to implement the residential energy efficiency programs. This is the set of costs directly planned at program level summed for the residential electric energy efficiency programs.	Cost
			Quantified	\$837,634	Residential sector level costs distributed to Energy Efficiency programs.	Cost
			Quantified	\$556,364	Portfolio level costs (EERMC and OER) distributed to Residential Energy Efficiency programs.	Cost
			Quantified	\$1,959,725	National Grid costs to implement the residential demand response programs. This is the set of costs directly planned at program level summed for the residential demand response programs.	Cost
			Quantified	\$45,956	Residential sector level costs distributed to Residential Demand Response programs.	Cost
			Quantified	\$30,524	Portfolio level costs (EERMC and OER) distributed to Residential Demand Response programs.	Cost
	7	Electric Transmission Capacity Costs / Value	Quantified	\$2,693,286	Energy Efficiency: Electric transmission capacity benefits are quantified by multiplying a statewide Pooled Transmission Facility (PTF) transmission value from AESC 2018 study by the summer kW saved from efficiency measures	Benefit
				\$630,324	Active Demand Response: Electric transmission capacity benefits are quantified by multiplying a statewide Pooled Transmission Facility (PTF) transmission value from AESC 2018 study by the summer kW saved from active Demand Response measures	Benefit
			Quantified	\$2,338,878	Energy Efficiency: Electric distribution capacity benefits are quantified by multiplying a Company-generated distribution value (\$/kW) by the summer kW saved from efficiency measures.	Benefit
				\$547,380	Active Demand Response: Electric distribution capacity benefits are quantified by multiplying a Company-generated distribution value (\$/kW) by the summer kW saved from active Demand Response measures	Benefit

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-1**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Non-Income Eligible**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Not Quantified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	
Power System Level (continued)	8	Electric transmission infrastructure costs for Site Specific Resources	Not applicable	See Notes	Currently no location-specific energy efficiency included, all measures offered across service territory.	Not Applicable	
	9	Net risk benefits to utility system operations (generation, transmission, distribution)	Quantified	See Notes	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Applies to both energy efficiency measures and active demand response measures. Values included in the row "Distribution system and customer reliability / resilience impacts"	Benefit	
	10	Option value of individual resources	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	
	11	Investment under Uncertainty: Real Options Cost / Value	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	
	12	Energy Demand Reduction Induced Price Effect	Quantified	Quantified	\$6,321,384	Energy Efficiency measures: Electric Energy (kWh) DRIPE values quantified based on the energy DRIPE values included in the AESC 2018 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit
					\$1,532	Demand Response measures: Electric Energy (kWh) DRIPE values quantified based on the energy DRIPE values included in the AESC 2018 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit
					\$2,235,647	Energy Efficiency measures: Electric Generation Capacity (kW) DRIPE value quantified by multiplying avoided summer kW by applicable capacity DRIPE values (\$/kW) from the AESC 2018 study.	Benefit
					\$8,721,077	Demand Response measures; Electric Generation Capacity (kW) DRIPE value quantified by multiplying avoided summer kW by applicable capacity DRIPE values (\$/kW) from the AESC 2018 study.	Benefit
					See Fuel benefits	Additional DRIPE benefits for oil fuel savings from energy efficiency measures are quantified by multiplying oil fuel savings (MMBtu) by applicable oil DRIPE values (\$/MMBtu) from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Active demand response measures do not have oil fuel savings and therefore do not have oil DRIPE benefits.	



**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-1**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Non-Income Eligible**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level (continued)	12 (cont.)	Energy Demand Reduction Induced Price Effect (continued)	Quantified	See notes	Gas Resource Benefits in the Electric energy efficiency Benefit Cost Model includes Gas Supply DRIPE and Gas-Electric Cross DRIPE monetized by multiplying the gas savings attributable to the electric portfolio measures by applicable avoided cost series from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Active demand response measures do not have gas savings and therefore do not have gas DRIPE benefits.	
	13	Greenhouse gas compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	
	14	Criteria air pollutant and other environmental compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	
	15	Innovation and Learning by Doing	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. Likely a minimal value in comparison to other benefits included in RI Test, but possible value due to pilots, demonstrations, and assessments included in programs.	Benefit
	16	Distribution capacity costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	17	Distribution delivery costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	18	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	19	Distribution system performance	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	20	Utility low income	Quantified	See Notes	Bad-debt writeoffs and reduced arrearages are included as NEIs for income eligible programs. Aggregated with other NEIs in row "Program participant / prosumer benefits / costs"	Benefit

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-1**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Non-Income Eligible**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level (continued)	21	Distribution system and customer reliability / resilience impacts	Quantified	\$26,771	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Applies to both energy efficiency measures and active demand response measures.	Benefit
				\$76,396		Benefit
	22	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
Customer Level	23	Program participant / prosumer benefits / costs	Quantified	\$3,798,093	Energy Efficiency measures: Participant contribution cost is the direct cost of the measure that is not covered by the customer rebate/incentive for energy efficiency measures.	Cost
				\$-	Active demand response measures: There is no customer cost for the ConnectedSolutions Active Demand Response program.	Cost
			Quantified	\$4,557,566	Quantifiable non-resource, non-energy impacts are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. Non resource, non-energy impacts may include but are not limited to labor, material, facility use, health and safety, materials handling, national security, property values, and transportation.	Benefit
	24	Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water	Quantified	\$13,311,377	Energy Efficiency measures: Quantification of Resource Benefits from: Natural Gas, Oil, Propane, Water & Sewage. Natural Gas Benefits are based on Appendix C of the 2018 AESC study, Oil and Propane Benefits are based on Appendix D of the 2018 AESC study, Water & Sewage Benefits are derived from an internet survey of rates posted to the RI PUC website.	Benefit
					\$-	Active demand response measures: no corresponding benefits for oil, gas, water, wastewater in the Active Demand Response benefit cost analysis so this value is zero.
	25	Low-Income Participant Benefits	Quantified	See Notes	Low-Income Participant Benefits benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. See the category "Program participant / prosumer benefits / costs" for these benefits	Benefit
	26	Consumer Empowerment & Choice	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
27	Non-participant (equity) rate and bill impacts	Quantified	See Notes	External to cost effectiveness analysis. Bill Impacts model the effects of efficiency programs on annual customer bills by aggregating rate and consumption changes, including non-participants. Electric and natural gas rate and bill impact models included in Attachment 7 of the 2021 Annual Plan	Benefit (but not included in BCA screening)	

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-1**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Non-Income Eligible**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Societal Level	28	Greenhouse gas externality costs	Quantified	\$7,960,335	Energy Efficiency measures: Quantified Non-embedded Greenhouse gas reduction benefits obtained from the 2018 AESC Study. Non-embedded CO2 values are sourced from the following tables in the 2018 AESC Study: Table 154 for electric savings and Table 156 for gas savings and oil savings.	Benefit
				\$1,670	Active Demand Response measures: Quantified Non-embedded Greenhouse gas reduction benefits obtained from the 2018 AESC Study. Non-embedded CO2 values are sourced from the following tables in the 2018 AESC Study: Table 154 for electric savings and Table 156 for gas savings and oil savings.	Benefit
	29	Criteria air pollutant and other environmental externality costs	Quantified	\$625,631	Quantified Non-embedded NOx reduction benefits obtained from the 2018 AESC Study. Additional research would be required to determine other benefit streams from air pollutants and other environmental externalities	Benefit
	30	Conservation and community benefits	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	31	Non-energy costs/benefits: Economic Development	Quantified	\$42,155,927	Energy efficiency measures: Quantified Economic Development Benefits based on the methodology described in the 2021 Annual Plan	Benefit
				\$1,626,572	Active demand response measures: Quantified Economic Development Benefits based on the methodology described in the 2021 Annual Plan	Benefit
	32	Innovation and knowledge spillover (Related to demonstration projects and other RD&D preceding larger scale deployment)	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. The portfolio of programs includes pilots, demonstrations and assessments and these likely generate benefits to further program and market development. The value of these innovation and knowledge spillover benefits is unknown but is estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit
	33	Societal Low-Income Impacts	Not Quantified or Qualified	See Notes	Low-Income Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Undetermined

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-1**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Non-Income Eligible**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Societal Level (continued)	34	Public Health	Quantified	See Notes	Health Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Benefit
	35	National Security and US international influence	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for this category. To the degree that the efficiency portfolio investments reduce reliance on foreign sources of energy there can be benefit. Those effects are unknown and estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-2**

**Docket 4600 Framework for 2021 Energy Efficiency - Electric Income Eligible Residential Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level	1	Energy Supply & Transmission Operating Value of Energy Provided or Saved	Quantified	\$916,576	Energy Efficiency Measures: Winter peak electric energy (kWh) savings are monetized for winter peak by multiplying savings during this period by the avoided retail cost of winter peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
			Quantified	\$917,986	Energy Efficiency Measures: Winter off-peak electric energy (kWh) savings are monetized for winter off-peak by multiplying savings during this period by the avoided retail cost of winter off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
			Quantified	\$463,768	Energy Efficiency Measures: Summer peak electric energy (kWh) savings are monetized for summer peak by multiplying savings during this period by the avoided retail cost of Summer peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
			Quantified	\$425,467	Energy Efficiency Measures: Summer off-peak electric energy (kWh) savings are monetized for summer off-peak by multiplying savings during this period by the avoided retail cost of Summer off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
			Quantified	\$533,025	Energy Efficiency Measures: Value of avoided summer generation capacity benefit is monetized by the AESC 2018 study avoided costs	Benefit
	2	Renewable Energy Credit Cost / Value	Quantified	See Notes	Wholesale cost of RECs is included in the winter peak, winter off-peak, summer peak, and summer off-peak retail energy costs from the preceding category.	Benefit
	3	Retail Supplier Risk Premium	Quantified	See Notes	Wholesale Risk Premium is built into the retail costs of electric energy and electric capacity sourced from the AESC 2018 study and used to calculate the benefits of avoided energy and capacity.	Benefit
	4	Forward Commitment: Capacity Value	Quantified	See Notes	Forward capacity avoided costs are included in capacity benefits.	Benefit
	5	Forward Commitment: Avoided Ancillary Services Value	Not applicable	See Notes	Not applicable to energy efficiency	Not Applicable
	6	Utility / Third Party Developer Renewable Energy, Efficiency, or DER costs	Quantified	\$18,590,124	National Grid costs to implement the Income Eligible energy efficiency. This is the set of costs directly planned at program level summed for the income eligible electric energy efficiency programs.	Cost
Quantified			\$114,190	Income Eligible sector level costs distributed to Energy Efficiency programs.	Cost	
Quantified			\$289,555	Portfolio level costs (EERMC and OER) distributed to Income Eligible Energy Efficiency programs.	Cost	

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-2**

**Docket 4600 Framework for 2021 Energy Efficiency - Electric Income Eligible Residential Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level (continued)	7	Electric Transmission Capacity Costs / Value	Quantified	\$682,657	Energy Efficiency: Electric transmission capacity benefits are quantified by multiplying a statewide Pooled Transmission Facility (PTF) transmission value from AESC 2018 study by the summer kW saved from efficiency measures	Benefit
			Quantified	\$592,826	Energy Efficiency: Electric distribution capacity benefits are quantified by multiplying a Company-generated distribution value (\$/kW) by the summer kW saved from efficiency measures.	Benefit
	8	Electric transmission infrastructure costs for Site Specific Resources	Not applicable	See Notes	Currently no location-specific energy efficiency included, all measures offered across service territory.	Not Applicable
	9	Net risk benefits to utility system operations (generation, transmission, distribution)	Quantified	See Notes	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Applies to both energy efficiency measures and active demand response measures. Values included in the row "Distribution system and customer reliability / resilience impacts"	Benefit
	10	Option value of individual resources	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	11	Investment under Uncertainty: Real Options Cost / Value	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	12	Energy Demand Reduction Induced Price Effect	Quantified	\$1,085,424	Energy Efficiency measures: Electric Energy (kWh) DRIPE values quantified based on the energy DRIPE values included in the AESC 2018 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit
			Quantified	\$69,825	Energy Efficiency measures: Electric Generation Capacity (kW) DRIPE value quantified by multiplying avoided summer kW by applicable capacity DRIPE values (\$/kW) from the AESC 2018 study.	Benefit
			Quantified	See Fuel benefits	Additional DRIPE benefits for oil fuel savings from energy efficiency measures are quantified by multiplying oil fuel savings (MMBtu) by applicable oil DRIPE values (\$/MMBtu) from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Active demand response measures do not have oil fuel savings and therefore do not have oil DRIPE benefits.	

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-2**

**Docket 4600 Framework for 2021 Energy Efficiency - Electric Income Eligible Residential Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level (continued)	12 (cont.)	Energy Demand Reduction Induced Price Effect (continued)	Quantified	See notes	Gas Resource Benefits in the Electric energy efficiency Benefit Cost Model includes Gas Supply DRIPE and Gas-Electric Cross DRIPE monetized by multiplying the gas savings attributable to the electric portfolio measures by applicable avoided cost series from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Active demand response measures do not have gas savings and therefore do not have gas DRIPE benefits.	
	13	Greenhouse gas compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	
	14	Criteria air pollutant and other environmental compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	
	15	Innovation and Learning by Doing	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. Likely a minimal value in comparison to other benefits included in RI Test, but possible value due to pilots, demonstrations, and assessments included in programs.	Benefit
	16	Distribution capacity costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	17	Distribution delivery costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	18	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	19	Distribution system performance	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	20	Utility low income	Quantified	See Notes	Bad-debt writeoffs and reduced arrearages are included as NEIs for income eligible programs. Aggregated with other NEIs in row "Program participant / prosumer benefits / costs"	Benefit

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-2**

**Docket 4600 Framework for 2021 Energy Efficiency - Electric Income Eligible Residential Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level (continued)	21	Distribution system and customer reliability / resilience impacts	Quantified	\$2,571	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Applies to both energy efficiency measures and active demand response measures.	Benefit
	22	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
Customer Level	23	Program participant / prosumer benefits / costs	Quantified	\$0	Energy Efficiency measures: Participant contribution cost is the direct cost of the measure that is not covered by the customer rebate/incentive for energy efficiency measures.	Cost
			Quantified	\$12,247,876	Quantifiable non-resource, non-energy impacts are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. Non resource, non-energy impacts may include but are not limited to labor, material, facility use, health and safety, materials handling, national security, property values, and transportation.	Benefit
	24	Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water	Quantified	\$6,658,651	Energy Efficiency measures: Quantification of Resource Benefits from: Natural Gas, Oil, Propane, Water & Sewage. Natural Gas Benefits are based on Appendix C of the 2018 AESC study, Oil and Propane Benefits are based on Appendix D of the 2018 AESC study, Water & Sewage Benefits are derived from an internet survey of rates posted to the RI PUC website.	Benefit
	25	Low-Income Participant Benefits	Quantified	See Notes	Low-Income Participant Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. See the category "Program participant / prosumer benefits / costs" for these benefits	Benefit
	26	Consumer Empowerment & Choice	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	27	Non-participant (equity) rate and bill impacts	Quantified	See Notes	External to cost effectiveness analysis. Bill Impacts model the effects of efficiency programs on annual customer bills by aggregating rate and consumption changes, including non-participants. Electric and natural gas rate and bill impact models included in Attachment 7 of the 2021 Annual Plan	Benefit (but not included in BCA screening)



**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-2**

**Docket 4600 Framework for 2021 Energy Efficiency - Electric Income Eligible Residential Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Societal Level	28	Greenhouse gas externality costs	Quantified	\$2,571,073	Energy Efficiency measures: Quantified Non-embedded Greenhouse gas reduction benefits obtained from the 2018 AESC Study. Non-embedded CO2 values are sourced from the following tables in the 2018 AESC Study: Table 154 for electric savings and Table 156 for gas savings and oil savings.	Benefit
	29	Criteria air pollutant and other environmental externality costs	Quantified	\$254,845	Quantified Non-embedded NOx reduction benefits obtained from the 2018 AESC Study. Additional research would be required to determine other benefit streams from air pollutants and other environmental externalities	Benefit
	30	Conservation and community benefits	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	31	Non-energy costs/benefits: Economic Development	Quantified	\$17,581,671	Energy efficiency measures: Quantified Economic Development Benefits based on the methodology described in the 2021 Annual Plan	Benefit
	32	Innovation and knowledge spillover (Related to demonstration projects and other RD&D preceding larger scale deployment)	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. The portfolio of programs includes pilots, demonstrations and assessments and these likely generate benefits to further program and market development. The value of these innovation and knowledge spillover benefits is unknown but is estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit
	33	Societal Low-Income Impacts	Not Quantified or Qualified	See Notes	Low-Income Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Undetermined
	34	Public Health	Quantified	See Notes	Health Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Benefit

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-2**

**Docket 4600 Framework for 2021 Energy Efficiency - Electric Income Eligible Residential Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Societal Level (continued)	35	National Security and US international influence	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for this category. To the degree that the efficiency portfolio investments reduce reliance on foreign sources of energy there can be benefit. Those effects are unknown and estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-3**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Commercial & Industrial Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level	1	Energy Supply & Transmission Operating Value of Energy Provided or Saved	Quantified	\$22,432,812	Energy Efficiency Measures: Winter peak electric energy (kWh) savings are monetized for winter peak by multiplying savings during this period by the avoided retail cost of winter peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
				\$-	Active Demand Response Measures: The Active Demand Response program (ConnectedSolutions) only operates during the Summer at system peak times, therefore there are no winter energy benefits.	No Value
			Quantified	\$16,443,401	Energy Efficiency Measures: Winter off-peak electric energy (kWh) savings are monetized for winter off-peak by multiplying savings during this period by the avoided retail cost of winter off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
				\$-	Active Demand Response Measures: The Active Demand Response program (ConnectedSolutions) only operates during the Summer at system peak times, therefore there are no winter energy benefits.	No Value
			Quantified	\$16,171,406	Energy Efficiency Measures: Summer peak electric energy (kWh) savings are monetized for summer peak by multiplying savings during this period by the avoided retail cost of Summer peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
				\$0	Active Demand Response Measures: Summer peak electric energy (kWh) savings are monetized for summer peak by multiplying savings during this period by the avoided retail cost of Summer peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	
			Quantified	\$9,901,681	Energy Efficiency Measures: Summer off-peak electric energy (kWh) savings are monetized for summer off-peak by multiplying savings during this period by the avoided retail cost of Summer off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
				\$0	Active Demand Response Measures: Summer off-peak electric energy (kWh) savings are monetized for summer off-peak by multiplying savings during this period by the avoided retail cost of Summer off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-3**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Commercial & Industrial Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level (Continued)	1 (cont.)	Energy Supply & Transmission Operating Value of Energy Provided or Saved (continued)	Quantified	\$14,776,107	Energy Efficiency Measures: Value of avoided summer generation capacity benefit is monetized by the AESC 2018 study avoided costs	Benefit
				\$699,542	Active Demand Response Measures: Value of avoided summer generation capacity benefit is monetized by the AESC 2018 study avoided costs	Benefit
	2	Renewable Energy Credit Cost / Value	Quantified	See Notes	Wholesale cost of RECs is included in the winter peak, winter off-peak, summer peak, and summer off-peak retail energy costs from the preceding category.	Benefit
	3	Retail Supplier Risk Premium	Quantified	See Notes	Wholesale Risk Premium is built into the retail costs of electric energy and electric capacity sourced from the AESC 2018 study and used to calculate the benefits of avoided energy and capacity.	Benefit
	4	Forward Commitment: Capacity Value	Quantified	See Notes	Forward capacity avoided costs are included in capacity benefits.	Benefit
	5	Forward Commitment: Avoided Ancillary Services Value	Not applicable	See Notes	Not applicable to energy efficiency	Not Applicable
	6	Utility / Third Party Developer Renewable Energy, Efficiency, or DER costs	Quantified	\$49,313,976	National Grid costs to implement the Commercial & Industrial energy efficiency programs. This is the set of costs directly planned at program level summed for the commercial & industrial electric energy efficiency programs.	Cost
				\$5,226,325	Commercial & Industrial sector level costs distributed to Energy Efficiency programs.	Cost
				\$768,101	Portfolio level costs (EERMC and OER) distributed to Commercial & Industrial Energy Efficiency programs.	Cost
				\$2,990,106	National Grid costs to implement the Commercial & Industrial demand response. This is the set of costs directly planned at program level summed for the commercial & industrial demand response programs.	Cost
				\$316,893	Commercial & Industrial sector level costs distributed to Demand Response programs.	Cost
				\$46,573	Portfolio level costs (EERMC and OER) distributed to Residential Demand Response programs.	Cost

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-3**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Commercial &  
Industrial Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level (Continued)	7	Electric Transmission Capacity Costs / Value	Quantified	\$19,443,469	Energy Efficiency: Electric transmission capacity benefits are quantified by multiplying a statewide Pooled Transmission Facility (PTF) transmission value from AESC 2018 study by the summer kW saved from efficiency measures	Benefit
				\$3,690,533	Active Demand Response: Electric transmission capacity benefits are quantified by multiplying a statewide Pooled Transmission Facility (PTF) transmission value from AESC 2018 study by the summer kW saved from active Demand Response measures	Benefit
			Quantified	\$16,884,916	Energy Efficiency: Electric distribution capacity benefits are quantified by multiplying a Company-generated distribution value (\$/kW) by the summer kW saved from efficiency measures.	Benefit
				\$3,204,898	Active Demand Response: Electric distribution capacity benefits are quantified by multiplying a Company-generated distribution value (\$/kW) by the summer kW saved from active Demand Response measures	Benefit
	8	Electric transmission infrastructure costs for Site Specific Resources	Not applicable	See Notes	Currently no location-specific energy efficiency included, all measures offered across service territory.	Not Applicable
	9	Net risk benefits to utility system operations (generation, transmission, distribution)	Quantified	See Notes	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Applies to both energy efficiency measures and active demand response measures. Values included in the row "Distribution system and customer reliability / resilience impacts"	Benefit
	10	Option value of individual resources	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
11	Investment under Uncertainty: Real Options Cost / Value	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-3**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Commercial &  
Industrial Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level (Continued)	12	Energy Demand Reduction Induced Price Effect	Quantified	\$31,356,199	Energy Efficiency measures: Electric Energy (kWh) DRIPE values quantified based on the energy DRIPE values included in the AESC 2018 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit
				\$0	Demand Response measures: Electric Energy (kWh) DRIPE values quantified based on the energy DRIPE values included in the AESC 2018 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit
			Quantified	\$43,582	Energy Efficiency measures: Electric Generation Capacity (kW) DRIPE value quantified by multiplying avoided summer kW by applicable capacity DRIPE values (\$/kW) from the AESC 2018 study.	Benefit
			Quantified	\$14,874,366	Demand Response measures; Electric Generation Capacity (kW) DRIPE value quantified by multiplying avoided summer kW by applicable capacity DRIPE values (\$/kW) from the AESC 2018 study.	Benefit
			Quantified	See Fuel benefits	Additional DRIPE benefits for oil fuel savings from energy efficiency measures are quantified by multiplying oil fuel savings (MMBtu) by applicable oil DRIPE values (\$/MMBtu) from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Active demand response measures do not have oil fuel savings and therefore do not have oil DRIPE benefits.	
			Quantified	See notes	Gas Resource Benefits in the Electric energy efficiency Benefit Cost Model includes Gas Supply DRIPE and Gas-Electric Cross DRIPE monetized by multiplying the gas savings attributable to the electric portfolio measures by applicable avoided cost series from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Active demand response measures do not have gas savings and therefore do not have gas DRIPE benefits.	
	13	Greenhouse gas compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-3**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Commercial & Industrial Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level (Continued)	14	Criteria air pollutant and other environmental compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	
	15	Innovation and Learning by Doing	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. Likely a minimal value in comparison to other benefits included in RI Test, but possible value due to pilots, demonstrations, and assessments included in programs.	Benefit
	16	Distribution capacity costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	17	Distribution delivery costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	18	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	19	Distribution system performance	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	20	Utility low income	Quantified	See Notes	Bad-debt writeoffs and reduced arrearages are included as NEIs for income eligible programs. Aggregated with other NEIs in row "Program participant / prosumer benefits / costs"	Benefit
	21	Distribution system and customer reliability / resilience impacts	Quantified	\$71,494 \$447,295	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Applies to both energy efficiency measures and active demand response measures.	Benefit Benefit
	22	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-3**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Commercial & Industrial Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Customer Level	23	Program participant / prosumer benefits / costs	Quantified	\$14,637,687	Energy Efficiency measures: Participant contribution cost is the direct cost of the measure that is not covered by the customer rebate/incentive for energy efficiency measures.	Cost
				\$-	Active demand response measures: There is no customer cost for the ConnectedSolutions Active Demand Response program.	Cost
			Quantified	\$31,163,254	Quantifiable non-resource, non-energy impacts are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. Non resource, non-energy impacts may include but are not limited to labor, material, facility use, health and safety, materials handling, national security, property values, and transportation.	Benefit
	24	Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water	Quantified	(\$7,790,537)	Energy Efficiency measures: Quantification of Resource Benefits from: Natural Gas, Oil, Propane, Water & Sewage. Natural Gas Benefits are based on Appendix C of the 2018 AESC study, Oil and Propane Benefits are based on Appendix D of the 2018 AESC study, Water & Sewage Benefits are derived from an internet survey of rates posted to the RI PUC website.	Benefit
				\$-	Active demand response measures: no corresponding benefits for oil, gas, water, wastewater in the Active Demand Response benefit cost analysis so this value is zero	Benefit
	25	Low-Income Participant Benefits	Quantified	See Notes	Low-Income Participant Benefits benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. See the category "Program participant / prosumer benefits / costs" for these benefits	Benefit
	26	Consumer Empowerment & Choice	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
27	Non-participant (equity) rate and bill impacts	Quantified	See Notes	External to cost effectiveness analysis. Bill Impacts model the effects of efficiency programs on annual customer bills by aggregating rate and consumption changes, including non-participants. Electric and natural gas rate and bill impact models included in Attachment 7 of the 2021 Annual Plan	Benefit (but not included in BCA screening)	



**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-3**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Commercial & Industrial Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Societal Level	28	Greenhouse gas externality costs	Quantified	\$25,671,006	Energy Efficiency measures: Quantified Non-embedded Greenhouse gas reduction benefits obtained from the 2018 AESC Study. Non-embedded CO2 values are sourced from the following tables in the 2018 AESC Study: Table 154 for electric savings and Table 156 for gas savings and oil savings.	Benefit
				\$0	Active Demand Response measures: Quantified Non-embedded Greenhouse gas reduction benefits obtained from the 2018 AESC Study. Non-embedded CO2 values are sourced from the following tables in the 2018 AESC Study: Table 154 for electric savings and Table 156 for gas savings and oil savings.	Benefit
	29	Criteria air pollutant and other environmental externality costs	Quantified	\$858,960	Quantified Non-embedded NOx reduction benefits obtained from the 2018 AESC Study. Additional research would be required to determine other benefit streams from air pollutants and other environmental externalities	Benefit
	30	Conservation and community benefits	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	31	Non-energy costs/benefits: Economic Development	Quantified	\$226,529,213	Energy efficiency measures: Quantified Economic Development Benefits based on the methodology described in the 2021 Annual Plan	Benefit
				\$6,548,332	Active demand response measures: Quantified Economic Development Benefits based on the methodology described in the 2021 Annual Plan	Benefit
	32	Innovation and knowledge spillover (Related to demonstration projects and other RD&D preceding larger scale deployment)	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. The portfolio of programs includes pilots, demonstrations and assessments and these likely generate benefits to further program and market development. The value of these innovation and knowledge spillover benefits is unknown but is estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit
	33	Societal Low-Income Impacts	Not Quantified or Qualified	See Notes	Low-Income Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Undetermined

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-1-3**

**Docket 4600 Framework for 2021 Energy Efficiency and Demand Response - Electric Commercial &  
Industrial Sector**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Societal Level (continued)	34	Public Health	Quantified	See Notes	Health Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Benefit
	35	National Security and US international influence	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for this category. To the degree that the efficiency portfolio investments reduce reliance on foreign sources of energy there can be benefit. Those effects are unknown and estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit

PUC 7-2

Request:

Please provide separate Docket 4600 tables like the table provided in response to PUC 4-3 for each gas sector (non-income eligible, income-eligible, and C&I).

Response:

Please see Attachments 7-2-1, 7-2-2, and 7-2-2 for the requested Docket 4600 tables. The attachments contain information for the following sectors:

- Attachment 7-2-1: Non-income Eligible Residential
- Attachment 7-2-2: Income Eligible Residential
- Attachment 7-2-3: Commercial & Industrial

To complete this data request the Company has distributed some programmatic costs that are not planned at the program level to the appropriate programs within sectors. This step was applied in this analysis so that the programmatic costs included in Category 6 in each of the Attachments PUC 7-1-1, 7-1-2, 7-1-3 in will sum to the original Category 6 in the Docket 4600 Framework in the reply to PUC 4-3.

- **Distributing portfolio-level costs to sectors:** Some costs are defined at the portfolio level (EERMC and OER costs). They are allocated to sectors for the purpose of this analysis by multiplying those portfolio level costs by the ratio of the sector's direct programmatic costs to all direct programmatic costs across all sectors. This is an approximation and is not necessarily reflective of the distribution of these costs in actual implementation. Costs planned at the portfolio level are shown on a separate line within Category 6 of the Framework.
- **Sector-level costs:** Costs planned at the sector level are shown on a separate line within Category 6 of the Framework.

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-2-1

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas Non-Income Eligible Residential Sector

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
	1	Energy Supply & Transmission Operating Value of Energy Provided or Saved	Quantified	\$41,640	Energy Efficiency Measures: Winter peak electric energy (kWh) savings are monetized for winter peak by multiplying savings during this period by the avoided retail cost of winter peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$41,896	Energy Efficiency Measures: Winter off-peak electric energy (kWh) savings are monetized for winter off-peak by multiplying savings during this period by the avoided retail cost of winter off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$79,703	Energy Efficiency Measures: Summer peak electric energy (kWh) savings are monetized for summer peak by multiplying savings during this period by the avoided retail cost of Summer peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$61,783	Energy Efficiency Measures: Summer off-peak electric energy (kWh) savings are monetized for summer off-peak by multiplying savings during this period by the avoided retail cost of Summer off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$137,871	Energy Efficiency Measures: Value of avoided summer generation capacity benefit is monetized by the AESC 2018 study avoided costs	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$14,812,211	Natural gas energy efficiency measures. Value of natural gas supply monetized by the AESC 2018 study avoided costs. Natural Gas Benefits are based on Appendix C of the 2018 AESC study. Includes avoided cost of delivering gas (retail margin) and the avoided cost of the gas.	Benefit	Yes	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.
2	Renewable Energy Credit Cost / Value	Quantified	See Notes	Wholesale cost of RECs is included in the winter peak, winter off-peak, summer peak, and summer off-peak retail energy costs from the preceding category.	Benefit	No			
3	Retail Supplier Risk Premium	Quantified	See Notes	Wholesale Risk Premium is built into the retail costs of electric energy and electric capacity sourced from the AESC 2018 study and used to calculate the benefits of avoided energy and capacity.	Benefit	No			
4	Forward Commitment: Capacity Value	Quantified	See Notes	Forward capacity avoided costs are included in capacity benefits.	Benefit	No			
5	Forward Commitment: Avoided Ancillary Services Value	Not applicable	See Notes	Not applicable to energy efficiency	Not Applicable	No			
6	Utility / Third Party Developer Renewable Energy, Efficiency, or DER costs	Quantified	\$16,353,555	National Grid costs to implement the natural gas energy efficiency portfolio. Total budget includes costs for Program Planning & Administration; Marketing; Customer Incentives; Sales Technical Assistance and Training; and Evaluation & Market Research	Cost	Yes	Included	These are the programmatic costs to implement the natural gas energy efficiency programs. These costs are reduced by Commitments, Regulatory costs for OER and EERMC, pilot costs, assessment costs, and performance incentive for calculation of the EE PIM net benefits pool	
			\$258,864	Residential sector level costs distributed to Energy Efficiency programs.	Cost	Yes	Included		
			\$295,451	Portfolio level costs (EERMC and OER) distributed to Residential Energy Efficiency programs.	Cost	Yes	Excluded		
7	Electric Transmission Capacity Costs / Value	Quantified	\$154,125	Energy Efficiency: Electric transmission capacity benefits are quantified by multiplying a statewide Pooled Transmission Facility (PTF) transmission value from AESC 2018 study by the summer kW saved from efficiency measures	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal	
		Quantified	\$133,844	Energy Efficiency: Electric distribution capacity benefits are quantified by multiplying a Company-generated distribution value (\$/kW) by the summer kW saved from efficiency measures.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal	

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-2-1

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas Non-Income Eligible Residential Sector

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
Power System Level	8	Electric transmission infrastructure costs for Site Specific Resources	Not applicable	See Notes	Currently no location-specific energy efficiency included, and measures offered across service territory.	Not Applicable	No		
	9	Net risk benefits to utility system operations (generation, transmission, distribution)	Quantified	See Notes	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Values included in the row "Distribution system and customer reliability / resilience impacts"	Benefit	No		
	10	Option value of individual resources	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	Undetermined		
	11	Investment under Uncertainty: Real Options Cost / Value	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	Undetermined		
	12	Energy Demand Reduction Induced Price Effect	Quantified	\$60,601	Energy Efficiency measures: Electric Energy (kWh) DRIPE values quantified based on the energy DRIPE values included in the AESC 2018 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
			Quantified	\$950	Energy Efficiency measures: Electric Generation Capacity (kW) DRIPE value quantified by multiplying avoided summer kW by applicable capacity DRIPE values (\$/kW) from the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
			Quantified	See Fuel benefits	Additional DRIPE benefits for oil fuel savings from energy efficiency measures are quantified by multiplying oil fuel savings (MMBtu) by applicable oil DRIPE values (\$/MMBtu) from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Natural Gas measures do not have delivered fuel savings, so no value for the natural gas portfolio	Benefit	No		
			Quantified	\$286,224	Gas Supply DRIPE monetized by multiplying the gas savings attributable to the electric portfolio measures by applicable avoided cost series from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Active demand response measures do not have gas savings and therefore do not have gas DRIPE benefits.	Benefit	Yes	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
	13	Greenhouse gas compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the electric energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	Benefit	No		
	14	Criteria air pollutant and other environmental compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the electric energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	Benefit	No		
	15	Innovation and Learning by Doing	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. Likely a minimal value in comparison to other benefits included in RI Test, but possible value due to pilots, demonstrations, and assessments included in programs.	Undetermined	Undetermined		
	16	Distribution capacity costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
	17	Distribution delivery costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
18	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined			
19	Distribution system performance	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined			

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-2-1

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas Non-Income Eligible Residential Sector

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
	20	Utility low income	Quantified	See Notes	Bad-debt writeoffs and reduced arrearages are included as NEIs for income eligible programs. Aggregated with other NEIs in row "Program participant / prosumer benefits / costs"	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	21	Distribution system and customer reliability / resilience impacts	Quantified	\$7,514	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Applies to energy efficiency measures.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
	22	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
Customer Level	23	Program participant / prosumer benefits / costs	Quantified	\$6,370,788	Energy Efficiency measures: Participant contribution cost is the direct cost of the measure that is not covered by the customer rebate/incentive for energy efficiency measures.	Cost	No	Excluded	The customer costs associated with installation of energy efficiency measures are omitted from the calculation of the EE PIM because they are costs borne by the participating customers to install energy efficiency equipment incremental to baseline equipment. This portion of the cost is not controlled by the program, so therefore it is appropriate to consider in the RI Test but should be omitted from the EE PIM.
			Quantified	\$7,808,166	Quantifiable non-resource, non-energy impacts are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. Non resource, non-energy impacts may include but are not limited to labor, material, facility use, health and safety, materials handling, national security, property values, and transportation.	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	24	Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water	Quantified	\$240,729	Energy Efficiency measures: Quantification of Resource Benefits from: Oil, Propane, Water & Sewage. Oil and Propane Benefits are based on Appendix D of the 2018 AESC study. Water & Sewage Benefits are derived from an internet survey of rates posted to the RI PUC website.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.
	25	Low-Income Participant Benefits	Quantified	See Notes	Low-Income Participant Benefits benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. See the category "Program participant / prosumer benefits / costs" for these benefits	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	26	Consumer Empowerment & Choice	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	No	N/A	N/A
	27	Non-participant (equity) rate and bill impacts	Quantified	See Notes	External to cost effectiveness analysis. Bill Impacts model the effects of efficiency programs on annual customer bills by aggregating rate and consumption changes, including non-participants. Electric and natural gas rate and bill impact models included in Attachment 7 of the 2021 Annual Plan	Benefit (but not included in BCA screening)	No	Excluded	The Company completes a separate rate and bill impact analysis that is included as part of the proposed plan, but the results of that analysis are not a component of the RI Test and are therefore omitted from the EE PIM calculation.
	28	Greenhouse gas externality costs	Quantified	\$6,321,207	Energy Efficiency measures: Quantified Non-embedded Greenhouse gas reduction benefits obtained from the 2018 AESC Study. Non-embedded CO2 values are sourced from the following tables in the 2018 AESC Study: Table 154 for electric savings and Table 156 for gas savings and oil savings.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.
	29	Criteria air pollutant and other environmental externality costs	Quantified	\$864,253	Quantified Non-embedded NOx reduction benefits obtained from the 2018 AESC Study. Additional research would be required to determine other benefit streams from air pollutants and other environmental externalities	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.
	30	Conservation and community benefits	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-2-1

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas Non-Income Eligible Residential Sector

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
Societal Level	31	Non-energy costs/benefits: Economic Development	Quantified	\$16,270,158	Energy efficiency measures: Quantified Economic Development Benefits based on the methodology described in the 2021 Annual Plan	Benefit	No	Excluded	This is a benefit is omitted from the calculation of thnet benefits for the energy efficiency performance incentive because of its calculation method. Macroeconomic benefits are calculated by multiplying programmatic spending by a set of economic multipliers. Because of this relationship between programmatic spending and the calculated macroeconomic benefit there could be situations where there is a perverse outcome when costs are "netted" from benefits for the PIM calculation. For example, if the programs underspend their budget and achieve the goal savings, the calculation of macroeconomic benefits would be reduced due to their connection with programmatic spending, therefore reducing the total benefits and consequently the Company's earnings on the PIM. The opposite is also true. If the programs overspend their budget and achieve goal savings, the calculation of macroeconomic benefits would be increasaed because of the connection to programmatic spending in their calculation. The Company would therefore have achieved higher benefits and consequently higher earning despite overspending. Removing the macroeconomic benefits from the PIM calculation eliminates these perverse outcomes while the benefit remains a component of the RI Test.
	32	Innovation and knowledge spillover (Related to demonstration projects and other RD&D preceding larger scale deployment)	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. The portfolio of programs includes pilots, demonstrations and assessments and these likely generate benefits to further program and market development. The value of these innovation and knowledge spillover benefits is unknown but is estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit	Undetermine d		
	33	Societal Low-Income Impacts	Not Quantified or Qualified	See Notes	Low-Income Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Undetermine d	Undetermine d		
	34	Public Health	Quantified	See Notes	Health Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impact section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	35	National Security and US international influence	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for this category. To the degree that the efficiency portfolio investments reduce reliance on foreign sources of energy there can be benefit. Those effects are unknown and estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit	Undetermine d		

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-2-2

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas Income Eligible Residential Sector

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
1		Energy Supply & Transmission Operating Value of Energy Provided or Saved	Quantified	\$28,966	Energy Efficiency Measures: Winter peak electric energy (kWh) savings are monetized for winter peak by multiplying savings during this period by the avoided retail cost of winter peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$30,501	Energy Efficiency Measures: Winter off-peak electric energy (kWh) savings are monetized for winter off-peak by multiplying savings during this period by the avoided retail cost of winter off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$24,370	Energy Efficiency Measures: Summer peak electric energy (kWh) savings are monetized for summer peak by multiplying savings during this period by the avoided retail cost of Summer peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$19,263	Energy Efficiency Measures: Summer off-peak electric energy (kWh) savings are monetized for summer off-peak by multiplying savings during this period by the avoided retail cost of Summer off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$41,843	Energy Efficiency Measures: Value of avoided summer generation capacity benefit is monetized by the AESC 2018 study avoided costs	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$5,588,398	Natural gas energy efficiency measures. Value of natural gas supply monetized by the AESC 2018 study avoided costs. Natural Gas Benefits are based on Appendix C of the 2018 AESC study. Includes avoided cost of delivering gas (retail margin) and the avoided cost of the gas.	Benefit	Yes	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.
2		Renewable Energy Credit Cost / Value	Quantified	See Notes	Wholesale cost of RECs is included in the winter peak, winter off-peak, summer peak, and summer off-peak retail energy costs from the preceding category.	Benefit	No		
3		Retail Supplier Risk Premium	Quantified	See Notes	Wholesale Risk Premium is built into the retail costs of electric energy and electric capacity sourced from the AESC 2018 study and used to calculate the benefits of avoided energy and capacity.	Benefit	No		
4		Forward Commitment: Capacity Value	Quantified	See Notes	Forward capacity avoided costs are included in capacity benefits.	Benefit	No		
5		Forward Commitment: Avoided Ancillary Services Value	Not applicable	See Notes	Not applicable to energy efficiency	Not Applicable	No		
6		Utility / Third Party Developer Renewable Energy, Efficiency, or DER costs	Quantified	\$9,992,841	National Grid costs to implement the natural gas energy efficiency portfolio. Total budget includes costs for Program Planning & Administration; Marketing; Customer Incentives; Sales Technical Assistance and Training; and Evaluation & Market Research	Cost	Yes	Included	These are the programmatic costs to implement the natural gas energy efficiency programs. These costs are reduced by Commitments, Regulatory costs for OER and EERMC, pilot costs, assessment costs, and performance incentive for calculation of the EE PIM net benefits pool.
				\$49,623	Residential sector level costs distributed to Energy Efficiency programs.	Cost	Yes	Included	
				\$180,535	Portfolio level costs (EERMC and OER) distributed to Residential Energy Efficiency programs.	Cost	Yes	Excluded	
7		Electric Transmission Capacity Costs / Value	Quantified	\$46,653	Energy Efficiency: Electric transmission capacity benefits are quantified by multiplying a statewide Pooled Transmission Facility (PTF) transmission value from AESC 2018 study by the summer kW saved from efficiency measures	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
			Quantified	\$40,514	Energy Efficiency: Electric distribution capacity benefits are quantified by multiplying a Company-generated distribution value (\$/kW) by the summer kW saved from efficiency measures.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal



The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-2-2

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas Income Eligible Residential Sector

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
Power System Level	8	Electric transmission infrastructure costs for Site Specific Resources	Not applicable	See Notes	Currently no location-specific energy efficiency included, all measures offered across service territory.	Not Applicable	No		
	9	Net risk benefits to utility system operations (generation, transmission, distribution)	Quantified	See Notes	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Values included in the row "Distribution system and customer reliability / resilience impacts"	Benefit	No		
	10	Option value of individual resources	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	Undetermined		
	11	Investment under Uncertainty: Real Options Cost / Value	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	Undetermined		
	12	Energy Demand Reduction Induced Price Effect	Quantified	\$30,774	Energy Efficiency measures: Electric Energy (kWh) DRIPE values quantified based on the energy DRIPE values included in the AESC 2018 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
			Quantified	\$0	Energy Efficiency measures: Electric Generation Capacity (kW) DRIPE value quantified by multiplying avoided summer kW by applicable capacity DRIPE values (\$/kW) from the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
			Quantified	See Fuel benefits	Additional DRIPE benefits for oil fuel savings from energy efficiency measures are quantified by multiplying oil fuel savings (MMBtu) by applicable oil DRIPE values (\$/MMBtu) from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Natural Gas measures do not have delivered fuel savings, so no value for the natural gas portfolio	Benefit	No		
			Quantified	\$90,179	Gas Supply DRIPE monetized by multiplying the gas savings attributable to the electric portfolio measures by applicable avoided cost series from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Active demand response measures do not have gas savings and therefore do not have gas DRIPE benefits.	Benefit	Yes	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
	13	Greenhouse gas compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the electric energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	Benefit	No		
	14	Criteria air pollutant and other environmental compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the electric energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	Benefit	No		
	15	Innovation and Learning by Doing	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. Likely a minimal value in comparison to other benefits included in RI Test, but possible value due to pilots, demonstrations, and assessments included in programs.	Undetermined	Undetermined		
	16	Distribution capacity costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
	17	Distribution delivery costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
18	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined			
19	Distribution system performance	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined			

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-2-2

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas Income Eligible Residential Sector

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
	20	Utility low income	Quantified	See Notes	Bad-debt writeoffs and reduced arrearages are included as NEIs for income eligible programs. Aggregated with other NEIs in row "Program participant / prosumer benefits / costs"	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	21	Distribution system and customer reliability / resilience impacts	Quantified	\$2,201	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Applies to energy efficiency measures.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
	22	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
Customer Level	23	Program participant / prosumer benefits / costs	Quantified	\$0	Energy Efficiency measures: Participant contribution cost is the direct cost of the measure that is not covered by the customer rebate/incentive for energy efficiency measures.	Cost	No	Excluded	The customer costs associated with installation of energy efficiency measures are omitted from the calculation of the EE PIM because they are costs borne by the participating customers to install energy efficiency equipment incremental to baseline equipment. This portion of the cost is not controlled by the program, so therefore it is appropriate to consider in the RI Test but should be omitted from the EE PIM.
			Quantified	\$13,125,735	Quantifiable non-resource, non-energy impacts are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. Non resource, non-energy impacts may include but are not limited to labor, material, facility use, health and safety, materials handling, national security, property values, and transportation.	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	24	Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water	Quantified	\$51,179	Energy Efficiency measures: Quantification of Resource Benefits from: Oil, Propane, Water & Sewage. Oil and Propane Benefits are based on Appendix D of the 2018 AESC study, Water & Sewage Benefits are derived from an internet survey of rates posted to the RI PUC website.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
	25	Low-Income Participant Benefits	Quantified	See Notes	Low-Income Participant Benefits benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. See the category "Program participant / prosumer benefits / costs" for these benefits	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	26	Consumer Empowerment & Choice	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	No	N/A	N/A
	27	Non-participant (equity) rate and bill impacts	Quantified	See Notes	External to cost effectiveness analysis. Bill Impacts model the effects of efficiency programs on annual customer bills by aggregating rate and consumption changes, including non-participants. Electric and natural gas rate and bill impact models included in Attachment 7 of the 2021 Annual Plan	Benefit (but not included in BCA screening)	No	Excluded	The Company completes a separate rate and bill impact analysis that is included as part of the proposed plan, but the results of that analysis are not a component of the RI Test and are therefore omitted from the EE PIM calculation.
	28	Greenhouse gas externality costs	Quantified	\$2,363,215	Energy Efficiency measures: Quantified Non-embedded Greenhouse gas reduction benefits obtained from the 2018 AESC Study. Non-embedded CO2 values are sourced from the following tables in the 2018 AESC Study: Table 154 for electric savings and Table 156 for gas savings and oil savings.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.
	29	Criteria air pollutant and other environmental externality costs	Quantified	\$322,120	Quantified Non-embedded NOx reduction benefits obtained from the 2018 AESC Study. Additional research would be required to determine other benefit streams from air pollutants and other environmental externalities	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-2-2

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas Income Eligible Residential Sector

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
Societal Level	30	Conservation and community benefits	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
	31	Non-energy costs/benefits: Economic Development	Quantified	\$11,715,190	Energy efficiency measures: Quantified Economic Development Benefits based on the methodology described in the 2021 Annual Plan	Benefit	No	Excluded	This is a benefit is omitted from the calculation of thnet benefits for the energy efficiency performance incentive because of its calculation method. Macroeconomic benefits are calculated by multiplying programmatic spending by a set of economic multipliers. Because of this relationship between programmatic spending and the calculated macroeconomic benefit there could be situations where there is a perverse outcome when costs are "netted" from benefits for the PIM calculation. For example, if the programs underspend their budget and achieve the goal savings, the calculation of macroeconomic benefits would be reduced due to their connection with programmatic spending, therefore reducing the total benefits and consequently the Company's earnings on the PIM. The opposite is also true. If the programs overspend their budget and achieve goal savings, the calculation of macroeconomic benefits would be increased because of the connection to programmatic spending in their calculation. The Company would therefore have achieved higher benefits and consequently higher earning despite overspending. Removing the macroeconomic benefits from the PIM calculation eliminates these perverse outcomes while the benefit remains a component of the RI Test.
	32	Innovation and knowledge spillover (Related to demonstration projects and other RD&D preceding larger scale deployment)	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. The portfolio of programs includes pilots, demonstrations and assessments and these likely generate benefits to further program and market development. The value of these innovation and knowledge spillover benefits is unknown but is estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit	Undetermined		
	33	Societal Low-Income Impacts	Not Quantified or Qualified	See Notes	Low-Income Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Undetermined	Undetermined		
	34	Public Health	Quantified	See Notes	Health Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	35	National Security and US international influence	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for this category. To the degree that the efficiency portfolio investments reduce reliance on foreign sources of energy there can be benefit. Those effects are unknown and estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit	Undetermined		

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-2-3

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas Commercial & Industrial Sector

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
	1	Energy Supply & Transmission Operating Value of Energy Provided or Saved	Quantified	\$1,544	Energy Efficiency Measures: Winter peak electric energy (kWh) savings are monetized for winter peak by multiplying savings during this period by the avoided retail cost of winter peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$1,245	Energy Efficiency Measures: Winter off-peak electric energy (kWh) savings are monetized for winter off-peak by multiplying savings during this period by the avoided retail cost of winter off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$5,017	Energy Efficiency Measures: Summer peak electric energy (kWh) savings are monetized for summer peak by multiplying savings during this period by the avoided retail cost of Summer peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$3,804	Energy Efficiency Measures: Summer off-peak electric energy (kWh) savings are monetized for summer off-peak by multiplying savings during this period by the avoided retail cost of Summer off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$8,500	Energy Efficiency Measures: Value of avoided summer generation capacity benefit is monetized by the AESC 2018 study avoided costs	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$17,649,927	Natural gas energy efficiency measures. Value of natural gas supply monetized by the AESC 2018 study avoided costs. Natural Gas Benefits are based on Appendix C of the 2018 AESC study. Includes avoided cost of delivering gas (retail margin) and the avoided cost of the gas.	Benefit	Yes	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.
	2	Renewable Energy Credit Cost /Value	Quantified	See Notes	Wholesale cost of RECs is included in the winter peak, winter off-peak, summer peak, and summer off-peak retail energy costs from the preceding category.	Benefit	No		
	3	Retail Supplier Risk Premium	Quantified	See Notes	Wholesale Risk Premium is built into the retail costs of electric energy and electric capacity sourced from the AESC 2018 study and used to calculate the benefits of avoided energy and capacity.	Benefit	No		
	4	Forward Commitment: Capacity Value	Quantified	See Notes	Forward capacity avoided costs are included in capacity benefits.	Benefit	No		
	5	Forward Commitment: Avoided Ancillary Services Value	Not applicable	See Notes	Not applicable to energy efficiency	Not Applicable	No		
	6	Utility / Third Party Developer Renewable Energy, Efficiency, or DER costs	Quantified	\$9,214,148	National Grid costs to implement the natural gas energy efficiency portfolio. Total budget includes costs for Program Planning & Administration; Marketing; Customer Incentives; Sales Technical Assistance and Training; and Evaluation & Market Research	Cost	Yes	Included	These are the programmatic costs to implement the natural gas energy efficiency programs. These costs are reduced by Commitments, Regulatory costs for OER and EERMC, pilot costs, assessment costs, and performance incentive for calculation of the EE PIM net benefits pool.
				\$405,134	Residential sector level costs distributed to Energy Efficiency programs.	Cost	Yes	Included	
				\$166,467	Portfolio level costs (EERMC and OER) distributed to Residential Energy Efficiency programs.	Cost	Yes	Excluded	
	7	Electric Transmission Capacity Costs / Value	Quantified	\$9,695	Energy Efficiency: Electric transmission capacity benefits are quantified by multiplying a statewide Pooled Transmission Facility (PTF) transmission value from AESC 2018 study by the summer kW saved from efficiency measures	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
			Quantified	\$8,419	Energy Efficiency: Electric distribution capacity benefits are quantified by multiplying a Company-generated distribution value (\$/kW) by the summer kW saved from efficiency measures.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-2-3

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas Commercial & Industrial Sector

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
Power System Level	8	Electric transmission infrastructure costs for Site Specific Resources	Not applicable	See Notes	Currently no location-specific energy efficiency included, all measures offered across service territory.	Not Applicable	No		
	9	Net risk benefits to utility system operations (generation, transmission, distribution)	Quantified	See Notes	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Values included in the row "Distribution system and customer reliability / resilience impacts"	Benefit	No		
	10	Option value of individual resources	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	Undetermined		
	11	Investment under Uncertainty: Real Options Cost / Value	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	Undetermined		
	12	Energy Demand Reduction Induced Price Effect	Quantified	\$3,785	Energy Efficiency measures: Electric Energy (kWh) DRIPE values quantified based on the energy DRIPE values included in the AESC 2018 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
			Quantified	\$18	Energy Efficiency measures: Electric Generation Capacity (kW) DRIPE value quantified by multiplying avoided summer kW by applicable capacity DRIPE values (\$/kW) from the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
			Quantified	See Fuel benefits	Additional DRIPE benefits for oil fuel savings from energy efficiency measures are quantified by multiplying oil fuel savings (MMBtu) by applicable oil DRIPE values (\$/MMBtu) from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Natural Gas measures do not have delivered fuel savings, so no value for the natural gas portfolio	Benefit	No		
			Quantified	\$621,554	Gas Supply DRIPE monetized by multiplying the gas savings attributable to the electric portfolio measures by applicable avoided cost series from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Active demand response measures do not have gas savings and therefore do not have gas DRIPE benefits.	Benefit	Yes	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
	13	Greenhouse gas compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the electric energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	Benefit	No		
	14	Criteria air pollutant and other environmental compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the electric energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	Benefit	No		
	15	Innovation and Learning by Doing	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. Likely a minimal value in comparison to other benefits included in RI Test, but possible value due to pilots, demonstrations, and assessments included in programs.	Undetermined	Undetermined		
	16	Distribution capacity costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
	17	Distribution delivery costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
	18	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
19	Distribution system performance	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined			
20	Utility low income	Quantified	See Notes	Bad-debt writeoffs and reduced arrearages are included as NEIs for income eligible programs. Aggregated with other NEIs in row "Program participant / prosumer benefits / costs"	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.	

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-2-3

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas Commercial & Industrial Sector

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Not Quantified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
	21	Distribution system and customer reliability / resilience impacts	Quantified	\$485	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Applies to energy efficiency measures.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
	22	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
Customer Level	23	Program participant / prosumer benefits / costs	Quantified	\$3,374,037	Energy Efficiency measures: Participant contribution cost is the direct cost of the measure that is not covered by the customer rebate/incentive for energy efficiency measures.	Cost	No	Excluded	The customer costs associated with installation of energy efficiency measures are omitted from the calculation of the EE PIM because they are costs borne by the participating customers to install energy efficiency equipment incremental to baseline equipment. This portion of the cost is not controlled by the program, so therefore it is appropriate to consider in the RI Test but should be omitted from the EE PIM.
			Quantified	\$16,249,028	Quantifiable non-resource, non-energy impacts are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. Non resource, non-energy impacts may include but are not limited to labor, material, facility use, health and safety, materials handling, national security, property values, and transportation.	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	24	Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water	Quantified	\$367,529	Energy Efficiency measures: Quantification of Resource Benefits from: Oil, Propane, Water & Sewage. Oil and Propane Benefits are based on Appendix D of the 2018 AESC study. Water & Sewage Benefits are derived from an internet survey of rates posted to the RI PUC website.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
	25	Low-Income Participant Benefits	Quantified	See Notes	Low-Income Participant Benefits benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. See the category "Program participant / prosumer benefits / costs" for these benefits	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	26	Consumer Empowerment & Choice	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	No	N/A	N/A
	27	Non-participant (equity) rate and bill impacts	Quantified	See Notes	External to cost effectiveness analysis. Bill Impacts model the effects of efficiency programs on annual customer bills by aggregating rate and consumption changes, including non-participants. Electric and natural gas rate and bill impact models included in Attachment 7 of the 2021 Annual Plan	Benefit (but not included in BCA screening)	No	Excluded	The Company completes a separate rate and bill impact analysis that is included as part of the proposed plan, but the results of that analysis are not a component of the RI Test and are therefore omitted from the EE PIM calculation.
	28	Greenhouse gas externality costs	Quantified	\$8,553,903	Energy Efficiency measures: Quantified Non-embedded Greenhouse gas reduction benefits obtained from the 2018 AESC Study. Non-embedded CO2 values are sourced from the following tables in the 2018 AESC Study: Table 154 for electric savings and Table 156 for gas savings and oil savings.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.
	29	Criteria air pollutant and other environmental externality costs	Quantified	\$1,267,101	Quantified Non-embedded NOx reduction benefits obtained from the 2018 AESC Study. Additional research would be required to determine other benefit streams from air pollutants and other environmental externalities	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.
	30	Conservation and community benefits	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-2-3

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas Commercial & Industrial Sector

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
Societal Level	31	Non-energy costs/benefits: Economic Development	Quantified	\$19,379,597	Energy efficiency measures: Quantified Economic Development Benefits based on the methodology described in the 2021 Annual Plan	Benefit	No	Excluded	This is a benefit that is omitted from the calculation of net benefits for the energy efficiency performance incentive because of its calculation method. Macroeconomic benefits are calculated by multiplying programmatic spending by a set of economic multipliers. Because of this relationship between programmatic spending and the calculated macroeconomic benefit there could be situations where there is a perverse outcome when costs are "netted" from benefits for the PIM calculation. For example, if the programs underspend their budget and achieve the goal savings, the calculation of macroeconomic benefits would be reduced due to their connection with programmatic spending, therefore reducing the total benefits and consequently the Company's earnings on the PIM. The opposite is also true. If the programs overspend their budget and achieve goal savings, the calculation of macroeconomic benefits would be increased because of the connection to programmatic spending in their calculation. The Company would therefore have achieved higher benefits and consequently higher earnings despite overspending. Removing the macroeconomic benefits from the PIM calculation eliminates these perverse outcomes while the benefit remains a component of the RI Test.
	32	Innovation and knowledge spillover (Related to demonstration projects and other RD&D preceding larger scale deployment)	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. The portfolio of programs includes pilots, demonstrations and assessments and these likely generate benefits to further program and market development. The value of these innovation and knowledge spillover benefits is unknown but is estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit	Undetermined		
	33	Societal Low-Income Impacts	Not Quantified or Qualified	See Notes	Low-Income Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Undetermined	Undetermined		
	34	Public Health	Quantified	See Notes	Health Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	35	National Security and US international influence	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for this category. To the degree that the efficiency portfolio investments reduce reliance on foreign sources of energy there can be benefit. Those effects are unknown and estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit	Undetermined		

PUC 7-3

Request:

Please provide a table like that provided in response to PUC 7-1 above but for only the non-income eligible EnergyWise electric program.

Response:

Please see Attachment PUC 7-3-1 for the requested Docket 4600 tables for the residential (non-income eligible) EnergyWise electric program.

To complete this data request the Company has distributed some programmatic costs that are not planned at the program level to the appropriate programs within sectors.

- **Distributing sector-level implementation costs to programs:** Some categories of implementation costs are included in the plans at the sector-level. To align the sector-level Docket 4600 Frameworks included as attachments to this response to the portfolio-level Framework included on Bates 548, sector-level costs were distributed to programs by multiplying those sector-level costs by the ratio of the program's direct programmatic costs to all direct programmatic costs within the sector. This is an approximation and is not necessarily reflective of the distribution of these costs in actual implementation.
- **Distributing portfolio-level costs to programs:** Some costs are defined at the portfolio level (EERMC and OER costs). They are allocated to programs for the purpose of this analysis by multiplying those portfolio level costs by the ratio of the program's direct programmatic costs to all direct programmatic costs across all sectors. This is an approximation and is not necessarily reflective of the distribution of these costs in actual implementation.



**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-3-1**

**Docket 4600 Framework for 2021 Energy Efficiency - Electric EnergyWise Single Family Program**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
	1	Energy Supply & Transmission Operating Value of Energy Provided or Saved	Quantified	\$283,861	Energy Efficiency Measures: Winter peak electric energy (kWh) savings are monetized for winter peak by multiplying savings during this period by the avoided retail cost of winter peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
			Quantified	\$265,090	Energy Efficiency Measures: Winter off-peak electric energy (kWh) savings are monetized for winter off-peak by multiplying savings during this period by the avoided retail cost of winter off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
			Quantified	\$213,414	Energy Efficiency Measures: Summer peak electric energy (kWh) savings are monetized for summer peak by multiplying savings during this period by the avoided retail cost of Summer peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
			Quantified	\$167,357	Energy Efficiency Measures: Summer off-peak electric energy (kWh) savings are monetized for summer off-peak by multiplying savings during this period by the avoided retail cost of Summer off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit
			Quantified	\$285,865	Energy Efficiency Measures: Value of avoided summer generation capacity benefit is monetized by the AESC 2018 study avoided costs	Benefit
	2	Renewable Energy Credit Cost / Value	Quantified	See Notes	Wholesale cost of RECs is included in the winter peak, winter off-peak, summer peak, and summer off-peak retail energy costs from the preceding category.	Benefit
	3	Retail Supplier Risk Premium	Quantified	See Notes	Wholesale Risk Premium is built into the retail costs of electric energy and electric capacity sourced from the AESC 2018 study and used to calculate the benefits of avoided energy and capacity.	Benefit
	4	Forward Commitment: Capacity Value	Quantified	See Notes	Forward capacity avoided costs are included in capacity benefits.	Benefit

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-3-1**

**Docket 4600 Framework for 2021 Energy Efficiency - Electric EnergyWise Single Family Program**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
	5	Forward Commitment: Avoided Ancillary Services Value	Not applicable	See Notes	Not applicable to energy efficiency	Not Applicable
	6	Utility / Third Party Developer Renewable Energy, Efficiency, or DER costs	Quantified	\$17,033,340	National Grid costs to implement the EnergyWise electric program. This is the set of costs directly planned at program level summed for the income eligible electric energy efficiency programs.	Cost
Quantified			\$399,432	Residential sector level costs distributed to the EnergyWise program	Cost	
Quantified			\$265,307	Portfolio level costs (EERMC and OER) distributed to EnergyWise program	Cost	
	7	Electric Transmission Capacity Costs / Value	Quantified	\$374,060	Energy Efficiency: Electric transmission capacity benefits are quantified by multiplying a statewide Pooled Transmission Facility (PTF) transmission value from AESC 2018 study by the summer kW saved from efficiency measures	Benefit
Quantified			\$324,838	Energy Efficiency: Electric distribution capacity benefits are quantified by multiplying a Company-generated distribution value (\$/kW) by the summer kW saved from efficiency measures.	Benefit	
	8	Electric transmission infrastructure costs for Site Specific Resources	Not applicable	See Notes	Currently no location-specific energy efficiency included, all measures offered across service territory.	Not Applicable
	9	Net risk benefits to utility system operations (generation, transmission, distribution)	Quantified	See Notes	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Applies to both energy efficiency measures and active demand response measures. Values included in the row "Distribution system and customer reliability / resilience impacts"	Benefit
	10	Option value of individual resources	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-3-1

Docket 4600 Framework for 2021 Energy Efficiency - Electric EnergyWise Single Family Program

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level	11	Investment under Uncertainty: Real Options Cost / Value	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	12	Energy Demand Reduction Induced Price Effect	Quantified	\$515,437	Energy Efficiency measures: Electric Energy (kWh) DRIPE values quantified based on the energy DRIPE values included in the AESC 2018 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit
			Quantified	\$104,153	Energy Efficiency measures: Electric Generation Capacity (kW) DRIPE value quantified by multiplying avoided summer kW by applicable capacity DRIPE values (\$/kW) from the AESC 2018 study.	Benefit
			Quantified	See Fuel benefits	Additional DRIPE benefits for oil fuel savings from energy efficiency measures are quantified by multiplying oil fuel savings (MMBtu) by applicable oil DRIPE values (\$/MMBtu) from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Active demand response measures do not have oil fuel savings and therefore do not have oil DRIPE benefits.	
			Quantified	See notes	Gas Resource Benefits in the Electric energy efficiency Benefit Cost Model includes Gas Supply DRIPE and Gas-Electric Cross DRIPE monetized by multiplying the gas savings attributable to the electric portfolio measures by applicable avoided cost series from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Active demand response measures do not have gas savings and therefore do not have gas DRIPE benefits.	
	13	Greenhouse gas compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	
14	Criteria air pollutant and other environmental compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"		

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-3-1**

**Docket 4600 Framework for 2021 Energy Efficiency - Electric EnergyWise Single Family Program**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
	15	Innovation and Learning by Doing	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. Likely a minimal value in comparison to other benefits included in RI Test, but possible value due to pilots, demonstrations, and assessments included in programs.	Benefit
	16	Distribution capacity costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	17	Distribution delivery costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	18	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	19	Distribution system performance	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	20	Utility low income	Quantified	See Notes	Bad-debt writeoffs and reduced arrearages are included as NEIs for income eligible programs. Aggregated with other NEIs in row "Program participant / prosumer benefits / costs"	Benefit
	21	Distribution system and customer reliability / resilience impacts	Quantified	\$1,981	Value of improved reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Applies to both energy efficiency and demand response programs.	Benefit
	22	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-3-1**

**Docket 4600 Framework for 2021 Energy Efficiency - Electric EnergyWise Single Family Program**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Customer Level	23	Program participant / prosumer benefits / costs	Quantified	\$790,425	Energy Efficiency measures: Participant contribution cost is the direct cost of the measure that is not covered by the customer rebate/incentive for energy efficiency measures.	Cost
			Quantified	\$1,386,337	Quantifiable non-resource, non-energy impacts are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. Non resource, non-energy impacts may include but are not limited to labor, material, facility use, health and safety, materials handling, national security, property values, and transportation.	Benefit
	24	Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water	Quantified	\$10,755,415	Energy Efficiency measures: Quantification of Resource Benefits from: Natural Gas, Oil, Propane, Water & Sewage. Natural Gas Benefits are based on Appendix C of the 2018 AESC study, Oil and Propane Benefits are based on Appendix D of the 2018 AESC study, Water & Sewage Benefits are derived from an internet survey of rates posted to the RI PUC website.	Benefit
	25	Low-Income Participant Benefits	Quantified	See Notes	Low-Income Participant Benefits benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. See the category "Program participant / prosumer benefits / costs" for these benefits	Benefit
	26	Consumer Empowerment & Choice	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	27	Non-participant (equity) rate and bill impacts	Quantified	See Notes	External to cost effectiveness analysis. Bill Impacts model the effects of efficiency programs on annual customer bills by aggregating rate and consumption changes, including non-participants. Electric and natural gas rate and bill impact models included in Attachment 7 of the 2021 Annual Plan	Benefit (but not included in BCA screening)

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-3-1

Docket 4600 Framework for 2021 Energy Efficiency - Electric EnergyWise Single Family Program

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Societal Level	28	Greenhouse gas externality costs	Quantified	\$2,749,665	Energy Efficiency measures: Quantified Non-embedded Greenhouse gas reduction benefits obtained from the 2018 AESC Study. Non-embedded CO2 values are sourced from the following tables in the 2018 AESC Study: Table 154 for electric savings and Table 156 for gas savings and oil savings.	Benefit
	29	Criteria air pollutant and other environmental externality costs	Quantified	\$347,309	Quantified Non-embedded NOx reduction benefits obtained from the 2018 AESC Study. Additional research would be required to determine other benefit streams from air pollutants and other environmental externalities	Benefit
	30	Conservation and community benefits	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	31	Non-energy costs/benefits: Economic Development	Quantified	\$15,841,006	Energy efficiency measures: Quantified Economic Development Benefits based on the methodology described in the 2021 Annual Plan	Benefit
	32	Innovation and knowledge spillover (Related to demonstration projects and other RD&D preceding larger scale deployment)	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. The portfolio of programs includes pilots, demonstrations and assessments and these likely generate benefits to further program and market development. The value of these innovation and knowledge spillover benefits is unknown but is estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit
	33	Societal Low-Income Impacts	Not Quantified or Qualified	See Notes	Low-Income Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Undetermined
	34	Public Health	Quantified	See Notes	Health Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Benefit

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-3-1**

**Docket 4600 Framework for 2021 Energy Efficiency - Electric EnergyWise Single Family Program**

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
	35	National Security and US international influence	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for this category. To the degree that the efficiency portfolio investments reduce reliance on foreign sources of energy there can be benefit. Those effects are unknown and estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit

PUC 7-4

Request:

Please provide a table like that provided in response to PUC 7-3 above but for only the non-income eligible EnergyWise gas program.

Response:

Please see Attachment PUC 7-4-1 for the requested Docket 4600 tables for the residential (non-income eligible) EnergyWise natural gas program.

To complete this data request the Company has distributed some programmatic costs that are not planned at the program level to the appropriate programs within sectors.

- **Distributing sector-level implementation costs to programs:** Some categories of implementation costs are included in the plans at the sector-level. To align the sector-level Docket 4600 Frameworks included as attachments to this response to the portfolio-level Framework included in response to PUC 4-3, sector-level costs were distributed to programs by multiplying those sector-level costs by the ratio of the program's direct programmatic costs to all direct programmatic costs within the sector. This is an approximation and is not necessarily reflective of the distribution of these costs in actual implementation.
- **Distributing portfolio-level costs to programs:** Some costs are defined at the portfolio level (EERMC and OER costs). They are allocated to programs for the purpose of this analysis by multiplying those portfolio level costs by the ratio of the program's direct programmatic costs to all direct programmatic costs across all sectors. This is an approximation and is not necessarily reflective of the distribution of these costs in actual implementation.



The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-4-1

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas EnergyWise Single Family Program

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
1		Energy Supply & Transmission Operating Value of Energy Provided or Saved	Quantified	\$47,992	Energy Efficiency Measures: Winter peak electric energy (kWh) savings are monetized for winter peak by multiplying savings during this period by the avoided retail cost of winter peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$48,715	Energy Efficiency Measures: Winter off-peak electric energy (kWh) savings are monetized for winter off-peak by multiplying savings during this period by the avoided retail cost of winter off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$53,216	Energy Efficiency Measures: Summer peak electric energy (kWh) savings are monetized for summer peak by multiplying savings during this period by the avoided retail cost of Summer peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$41,585	Energy Efficiency Measures: Summer off-peak electric energy (kWh) savings are monetized for summer off-peak by multiplying savings during this period by the avoided retail cost of Summer off-peak energy from Appendix B of the avoided cost schedules in the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$90,026	Energy Efficiency Measures: Value of avoided summer generation capacity benefit is monetized by the AESC 2018 study avoided costs	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
			Quantified	\$5,296,032	Natural gas energy efficiency measures. Value of natural gas supply monetized by the AESC 2018 study avoided costs. Natural Gas Benefits are based on Appendix C of the 2018 AESC study. Includes avoided cost of delivering gas (retail margin) and the avoided cost of the gas.	Benefit	Yes	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.
2		Renewable Energy Credit Cost / Value	Quantified	See Notes	Wholesale cost of RECs is included in the winter peak, winter off-peak, summer peak, and summer off-peak retail energy costs from the preceding category.	Benefit	No		
3		Retail Supplier Risk Premium	Quantified	See Notes	Wholesale Risk Premium is built into the retail costs of electric energy and electric capacity sourced from the AESC 2018 study and used to calculate the benefits of avoided energy and capacity.	Benefit	No		
4		Forward Commitment: Capacity Value	Quantified	See Notes	Forward capacity avoided costs are included in capacity benefits.	Benefit	No		
5		Forward Commitment: Avoided Ancillary Services Value	Not applicable	See Notes	Not applicable to energy efficiency	Not Applicable	No		
6		Utility / Third Party Developer Renewable Energy, Efficiency, or DER costs	Quantified	\$10,063,228	National Grid costs to implement the EnergyWise natural gas program. This is the set of costs directly planned at program level summed for the income eligible electric energy efficiency programs.	Cost	Yes	Included	These are the programmatic costs to implement the natural gas energy efficiency programs. These costs are reduced by Commitments, Regulatory costs for OER and EERMC, pilot costs, assessment costs, and performance incentive for calculation of the EE PIM net benefits pool
				\$159,293	Residential sector level costs distributed to the EnergyWise program	Cost	Yes	Included	
				\$181,807	Portfolio level costs (EERMC and OER) distributed to EnergyWise program	Cost	Yes	Excluded	

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-4-1

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas EnergyWise Single Family Program

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
Power System Level	7	Electric Transmission Capacity Costs / Value	Quantified	\$95,225	Energy Efficiency: Electric transmission capacity benefits are quantified by multiplying a statewide Pooled Transmission Facility (PTF) transmission value from AESC 2018 study by the summer kW saved from efficiency measures	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
			Quantified	\$82,694	Energy Efficiency: Electric distribution capacity benefits are quantified by multiplying a Company-generated distribution value (\$/kW) by the summer kW saved from efficiency measures.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
	8	Electric transmission infrastructure costs for Site Specific Resources	Not applicable	See Notes	Currently no location-specific energy efficiency included, all measures offered across service territory.	Not Applicable	No		
	9	Net risk benefits to utility system operations (generation, transmission, distribution)	Quantified	See Notes	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Values included in the row "Distribution system and customer reliability / resilience impacts"	Benefit	No		
	10	Option value of individual resources	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	Undetermined		
	11	Investment under Uncertainty: Real Options Cost / Value	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	Undetermined		
	12	Energy Demand Reduction Induced Price Effect	Quantified	\$45,859	Energy Efficiency measures: Electric Energy (kWh) DRIPE values quantified based on the energy DRIPE values included in the AESC 2018 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
			Quantified	\$90	Energy Efficiency measures: Electric Generation Capacity (kW) DRIPE value quantified by multiplying avoided summer kW by applicable capacity DRIPE values (\$/kW) from the AESC 2018 study.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
			Quantified	See Fuel benefits	Additional DRIPE benefits for oil fuel savings from energy efficiency measures are quantified by multiplying oil fuel savings (MMBtu) by applicable oil DRIPE values (\$/MMBtu) from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Natural Gas measures do not have delivered fuel savings, so no value for the natural gas portfolio	Benefit	No		
			Quantified	\$78,916	Gas Supply DRIPE monetized by multiplying the gas savings attributable to the electric portfolio measures by applicable avoided cost series from the AESC 2018 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Active demand response measures do not have gas savings and therefore do not have gas DRIPE benefits.	Benefit	Yes	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal
	13	Greenhouse gas compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the electric energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	Benefit	No		
14	Criteria air pollutant and other environmental compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2018 study and are included in the calculation of the electric energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	Benefit	No			
15	Innovation and Learning by Doing	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. Likely a minimal value in comparison to other benefits included in RI Test, but possible value due to pilots, demonstrations, and assessments included in programs.	Undetermined	Undetermined			

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-4-1

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas EnergyWise Single Family Program

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
	16	Distribution capacity costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
	17	Distribution delivery costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
	18	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
	19	Distribution system performance	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		
	20	Utility low income	Quantified	See Notes	Bad-debt writeoffs and reduced arrearages are included as NEIs for income eligible programs. Aggregated with other NEIs in row "Program participant / prosumer benefits / costs"	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	21	Distribution system and customer reliability / resilience impacts	Quantified	\$3,985	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2018 study multiplied by the avoided summer kW savings. Applies to energy efficiency measures.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal. Some natural gas efficiency measures also generate electric energy and demand savings and benefits.
	22	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-4-1

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas EnergyWise Single Family Program

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
Customer Level	23	Program participant / prosumer benefits / costs	Quantified	\$816,496	Energy Efficiency measures: Participant contribution cost is the direct cost of the measure that is not covered by the customer rebate/incentive for energy efficiency measures.	Cost	No	Excluded	The customer costs associated with installation of energy efficiency measures are omitted from the calculation of the EE PIM because they are costs borne by the participating customers to install energy efficiency equipment incremental to baseline equipment. This portion of the cost is not controlled by the program, so therefore it is appropriate to consider in the RI Test but should be omitted from the EE PIM.
			Quantified	\$3,209,693	Quantifiable non-resource, non-energy impacts are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. Non resource, non-energy impacts may include but are not limited to labor, material, facility use, health and safety, materials handling, national security, property values, and transportation.	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	24	Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water	Quantified	\$40,786	Energy Efficiency measures: Quantification of Resource Benefits from: Oil, Propane, Water & Sewage. Oil and Propane Benefits are based on Appendix D of the 2018 AESC study, Water & Sewage Benefits are derived from an internet survey of rates posted to the RI PUC website.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.
	25	Low-Income Participant Benefits	Quantified	See Notes	Low-Income Participant Benefits benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan. See the category "Program participant / prosumer benefits / costs" for these benefits	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	26	Consumer Empowerment & Choice	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	No	N/A	N/A
	27	Non-participant (equity) rate and bill impacts	Quantified	See Notes	External to cost effectiveness analysis. Bill Impacts model the effects of efficiency programs on annual customer bills by aggregating rate and consumption changes, including non-participants. Electric and natural gas rate and bill impact models included in Attachment 7 of the 2021 Annual Plan	Benefit (but not included in BCA screening)	No	Excluded	The Company completes a separate rate and bill impact analysis that is included as part of the proposed plan, but the results of that analysis are not a component of the RI Test and are therefore omitted from the EE PIM calculation.
	28	Greenhouse gas externality costs	Quantified	\$2,268,147	Energy Efficiency measures: Quantified Non-embedded Greenhouse gas reduction benefits obtained from the 2018 AESC Study. Non-embedded CO2 values are sourced from the following tables in the 2018 AESC Study: Table 154 for electric savings and Table 156 for gas savings and oil savings.	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.
	29	Criteria air pollutant and other environmental externality costs	Quantified	\$306,740	Quantified Non-embedded NOx reduction benefits obtained from the 2018 AESC Study. Additional research would be required to determine other benefit streams from air pollutants and other environmental externalities	Benefit	No	Included	These are quantified and monetized benefits resulting from measures installed in the natural gas programs, as monetized by AESC 2018 study results, and are therefore included as a benefit category for the EE PIM proposal.
	30	Conservation and community benefits	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined		

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-4-1

Docket 4600 Framework for 2021 Energy Efficiency - Natural Gas EnergyWise Single Family Program

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)	Included in Calculation of EE PIM (Yes/No)	Explanation for Inclusion or Exclusion from EE PIM Calculation
Societal Level	31	Non-energy costs/benefits: Economic Development	Quantified	\$10,163,861	Energy efficiency measures: Quantified Economic Development Benefits based on the methodology described in the 2021 Annual Plan	Benefit	No	Excluded	This is a benefit that is omitted from the calculation of net benefits for the energy efficiency performance incentive because of its calculation method. Macroeconomic benefits are calculated by multiplying programmatic spending by a set of economic multipliers. Because of this relationship between programmatic spending and the calculated macroeconomic benefit there could be situations where there is a perverse outcome when costs are "netted" from benefits for the PIM calculation. For example, if the programs underspend their budget and achieve the goal savings, the calculation of macroeconomic benefits would be reduced due to their connection with programmatic spending, therefore reducing the total benefits and consequently the Company's earnings on the PIM. The opposite is also true. If the programs overspend their budget and achieve goal savings, the calculation of macroeconomic benefits would be increased because of the connection to programmatic spending in their calculation. The Company would therefore have achieved higher benefits and consequently higher earnings despite overspending. Removing the macroeconomic benefits from the PIM calculation eliminates these perverse outcomes while the benefit remains a component of the RI Test.
	32	Innovation and knowledge spillover (Related to demonstration projects and other RD&D preceding larger scale deployment)	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. The portfolio of programs includes pilots, demonstrations and assessments and these likely generate benefits to further program and market development. The value of these innovation and knowledge spillover benefits is unknown but is estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit	Undetermined		
	33	Societal Low-Income Impacts	Not Quantified or Qualified	See Notes	Low-Income Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Undetermined	Undetermined		
	34	Public Health	Quantified	See Notes	Health Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impact section of the 2021 Annual Plan however they are aggregated with other Non-Energy Impacts and therefore their value is not broken out here. These NEIs are included in the Program participant / prosumer benefits / costs category	Benefit	No	Included	These are quantified and monetized non-energy impact (NEI) benefits of the energy efficiency programs and are therefore included as a benefit category in the RI Test and therefore in the EE PIM proposal. These benefits are studied and monetized through the EM&V process and are therefore included in the EE PIM calculation of net benefits.
	35	National Security and US international influence	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for this category. To the degree that the efficiency portfolio investments reduce reliance on foreign sources of energy there can be benefit. Those effects are unknown and estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit	Undetermined		

PUC 7-5

Request:

Please see revised Tables G-5A, and G-6 filed in Docket 4755 (2018 EE Plan [http://www.ripuc.ri.gov/eventsactions/docket/4755-NGrid-Rev2018EEPlan\\_12-26-17.pdf](http://www.ripuc.ri.gov/eventsactions/docket/4755-NGrid-Rev2018EEPlan_12-26-17.pdf)). In revised G-5A, National Grid proposed non-income eligible residential EnergyWise program implementation expenses of ~\$8.37M and customer contributions of ~2.3M. In revised G-6, National Grid evidenced that the “Natural Gas” benefits of the same program were ~\$9.05M (exceeding the implementation expenses). In the current filing, the analogous tables on Bates 574 and 575 show proposed implementation expenses of ~\$10.06M and customer contributions of ~0.82M, yet the expected “Natural Gas” benefits are only ~\$5.30M.

- a. What are, in description and quantification, Natural Gas benefits?
- b. What has changed in the expected benefits since the filing of the revised tables in Docket 4755, when did the change occur, and in what program year and Docket would the change first have been seen in these tables?
- c. Is this program predominantly a weatherization of gas-heated residences, and if so, why does this gas savings not, on its own, produce net savings relative to either total resource cost or relative to the implementation costs proposed in the current plan?

Response:

- a. The natural gas benefits as included in Table G-6, Bates 576, in the 2021 Annual Energy Efficiency Plan benefit-cost analysis and the 2021 – 2023 Three-Year Energy Efficiency Plan are the monetized, present value of the net natural gas savings generated by the natural gas programs. To monetize the net natural gas savings to a benefit stream, the net gas savings are multiplied by an avoided cost category from the regional avoided cost study completed in 2018 (AESC 2018) over the lifetime of the measure during which it generates savings. The avoided cost of gas from the AESC 2018 study represents the avoided cost of gas supply, including some avoidable retail margin, that would be procured absent energy efficiency.
- b. Several changes have occurred in the quantification of natural gas benefits in this category since the 2018 Annual Energy Efficiency Plan.

PUC 7-5, page 2

**Avoided Costs**

- In the 2018 Annual Energy Efficiency Plan the BCA used avoided costs from the regional avoided cost study completed in 2015 (AESC 2015 study).<sup>1</sup> A 2017 update to the 2015 AESC study includes a 10-year levelized cost of \$7.08/MMBtu for the Avoided Cost of Natural Gas (for All Retail End Uses from 2018-2027).
- Beginning with the 2019 Annual Energy Efficiency Plan, updated avoided costs from the AESC 2018 study were used in the BCA.<sup>2</sup> The 2018 AESC study includes a 10-year levelized cost of \$8.43/MMBtu for the Avoided Cost of Natural Gas (for All Retail End Uses from 2021-2030).

**Classification of Benefits**

While the avoided costs for natural gas increased between the 2015 and 2018 AESC studies, in the 2018 Annual Energy Efficiency Plan, revised Table G-6, the Natural Gas Benefits column also included the following benefits: Non-Embedded Carbon Benefits, Avoided Gas Supply DRIPE Costs, Avoided Gas-Electric Cross DRIPE, and Avoided Water Costs. Beginning with the 2019 Annual Energy Efficiency Plan, these benefits shifted to be categorized under the “Non-Gas Benefit” column within Table G-6 of the Annual Plans. This shift in classification between the 2018 and 2019 Annual Plan more accurately reflects the classification of these avoided costs, but has the impact of reducing the reported natural gas benefits despite the increased levelized avoided cost value between the 2015 and 2018 AESC studies. The change is first visible in the 2019 Annual Energy Efficiency Plan

- c. The gas EnergyWise program focuses on weatherization of single-family, market rate gas customer homes with a few additional savings measures such as thermostats and water savings devices. For the Energywise program, the “Natural Gas” benefits includes \$107,235 in benefits related to Avoided Costs for Residential Hot Water and \$5,188,796 in benefits related to Residential Gas Heating, the majority of which (\$4,565,857) is related to weatherization.

---

<sup>1</sup> <https://www.efficiencymaine.com/docs/2015-AESC-Report-With-Appendices-Attached.pdf>

<sup>2</sup> <https://www.synapse-energy.com/sites/default/files/AESC-2018-17-080.pdf>

PUC 7-5, page 3

In 2020, there was an impact evaluation of the EnergyWise program and net claimable per participant gas weatherization savings changed from 11.09 MMBTU in 2020 to 8.35 MMBTU in the 2021 Annual Energy Efficiency Plan. This 24.7% reduction in program-claimable savings results in a lowering of natural gas benefits relative to the implementation costs of the program.



PUC 7-6

Request:

Please provide the same tables as in PUC 5-3, but instead provide projections of customer contributions that will complement the projected program expenditures provided in the response to 5-3.

Response:

See Attachment PUC 7-6-1 and Attachment PUC 7-6-2.

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-6-1  
Customer Contribution for 2021-2023 at Program Level (\$000)**

	2021	2022 Base Case	2022 High Scenario	2023 Base Case	2023 High Scenario
<b>Large Commercial &amp; Industrial</b>					
Large Commercial New Construction	\$893.1	\$1,111.4	\$1,167.0	\$1,004.6	\$1,127.1
Large Commercial Retrofit	\$11,821.8	\$16,430.7	\$17,252.2	\$17,355.9	\$19,473.4
Small Business Direct Install	\$1,922.8	\$1,811.5	\$1,902.1	\$1,969.8	\$2,210.1
Commercial ConnectedSolutions	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Community Based Initiatives - C&I					
Commercial Pilots					
Finance Costs					
Commercial Workforce Development					
<b>C&amp;I SUBTOTAL</b>	<b>\$14,637.7</b>	<b>\$19,353.6</b>	<b>\$20,321.2</b>	<b>\$20,330.3</b>	<b>\$22,810.6</b>
<b>Income Eligible</b>					
Income Eligible Single Family	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Income Eligible Multi Family	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Income Eligible Workforce Development					
<b>Income Eligible Residential SUBTOTAL</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Residential Programs</b>					
Residential New Construction	\$855.7	\$812.8	\$853.4	\$860.2	\$965.2
Energy Star® HVAC	\$1,311.6	\$1,560.3	\$1,638.3	\$1,064.5	\$1,194.4
EnergyWise	\$790.4	\$585.4	\$614.7	\$778.3	\$873.3
Multi Family	\$532.0	\$332.0	\$348.6	\$332.0	\$372.5
Home Energy Reports	\$0.0	\$2,540.7	\$2,540.7	\$2,540.7	\$2,540.7
Energy Star® Lighting	-\$1,012.9	\$0.0	\$0.0	\$0.0	\$0.0
Residential Consumer Products	\$1,321.2	\$1,340.1	\$1,407.2	\$1,830.9	\$2,054.3
Residential ConnectedSolutions	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Energy Efficiency Education					
Community Based Initiatives - Residential					
Residential Pilots					
Comprehensive Marketing - Residential					
Residential Workforce Development					
<b>Non-Income Eligible Residential SUBTOTAL</b>	<b>\$3,798.1</b>	<b>\$7,171.4</b>	<b>\$7,402.9</b>	<b>\$7,406.7</b>	<b>\$8,000.3</b>
OER					
EERMC					
<b>TOTAL</b>	<b>\$18,435.8</b>	<b>\$26,525.0</b>	<b>\$27,724.2</b>	<b>\$27,737.0</b>	<b>\$30,810.9</b>

**The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 5076  
Attachment PUC 7-6-2  
Customer Contribution for 2021-2023 at Program Level (\$000)**

	2021	2022 Base Case	2022 High Scenario	2023 Base Case	2023 High Scenario
<b>Large Commercial &amp; Industrial</b>					
Large Commercial New Construction	-\$166.4	-\$184.0	-\$211.6	-\$205.7	-\$257.9
Large Commercial Retrofit	\$3,387.0	\$3,383.9	\$3,891.5	\$4,495.1	\$5,635.8
Small Business Direct Install	\$69.4	\$136.5	\$156.9	\$217.2	\$272.3
Commercial & Industrial Multifamily	\$84.0	\$84.0	\$96.6	\$84.0	\$105.3
Comprehensive Marketing - Commercial and Industrial					
Commercial Pilots					
Community Based Initiatives - C&I					
Finance Costs					
Commercial Workforce Development					
<b>Commercial &amp; Industrial Subtotal</b>	<b>\$3,374.0</b>	<b>\$3,420.4</b>	<b>\$3,933.5</b>	<b>\$4,590.6</b>	<b>\$5,755.6</b>
<b>Income Eligible</b>					
Single Family - Income Eligible Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Income Eligible Multifamily	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Income Eligible Workforce Development					
<b>Income Eligible Residential Subtotal</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Residential Programs</b>					
Energy Star® HVAC	\$4,539.3	\$5,924.8	\$6,813.6	\$6,937.3	\$8,697.8
EnergyWise	\$816.5	\$903.1	\$1,038.5	\$1,239.3	\$1,553.8
EnergyWise Multifamily	\$344.0	\$344.0	\$395.6	\$344.0	\$431.3
Home Energy Reports	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Residential New Construction	\$670.9	\$562.0	\$646.3	\$580.3	\$727.6
Comprehensive Marketing - Residential					
Residential Pilots					
Community Based Initiatives - Residential					
Residential Workforce Development					
<b>Non-Income Eligible Residential Subtotal</b>	<b>\$6,370.8</b>	<b>\$7,733.9</b>	<b>\$8,894.0</b>	<b>\$9,100.9</b>	<b>\$11,410.5</b>
<b>EERMC</b>					
<b>OER</b>					
<b>Grand Total</b>	<b>\$9,744.8</b>	<b>\$11,154.3</b>	<b>\$12,827.4</b>	<b>\$13,691.5</b>	<b>\$17,166.1</b>