



# **Plan Years 2018 through 2021 Total Resource Cost (TRC) Test Results and Impact Summary Evaluation Report**

**Third Energy Efficiency Plan:  
Gas Plan Years 2018-2021  
(1/1/2018-12/31/2021)**

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**Prepared for:**

**North Shore Gas**



## North Shore Gas Total Resource Cost Test Results and Impact Summary Evaluation Report

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## Table of Contents

<b>1. Executive Summary .....</b>	<b>1</b>
1.1 Portfolio Total Resource Cost (TRC) Test Verified Results .....	1
1.2 Portfolio Net Energy Savings Verified Results .....	1
1.3 Portfolio Impact Summary Verified Results .....	1
1.4 Portfolio Economic Impact Summary of Verified Results .....	3
<b>2. Cost Effectiveness Methodology.....</b>	<b>5</b>
<b>3. Program Specific Data.....</b>	<b>10</b>
3.1 Program Specific Cost Effectiveness Results Summary .....	10
3.2 Program Specific Verified Savings and Costs Summary.....	25
<b>4. Joint Program Cost Effectiveness Summary .....</b>	<b>31</b>

## List of Tables

Table 1-1. Summary of North Shore Gas 2018-2021 TRC Results by Program – North Shore Gas Specific w/o Electric Data from Joint Programs.....	2
Table 1-2. North Shore Gas Plan 3 Portfolio 2018 through 2021 – Verified Net Energy Savings	1
Table 1-3. Summary of North Shore Gas Plan 3 Portfolio 2018-2021 Performance Results.....	2
Table 1-4: Economic Impacts by Time Period (2018, 2019, 2020, 2021).....	3
Table 1-5: Job-Year Impacts by Time Period (2018, 2019, 2020, 2021).....	3
Table 2-1. Data Points Needed to Conduct the Illinois TRC Test .....	7
Table 2-2. Summary of Coordinated or Jointly Implemented EEPS Programs.....	8
Table 3-1. Summary of Program Level Benefits, Costs and Illinois TRC Test for 2018-2021...	11
Table 3-2. Summary of Program Level Benefits, Costs and Illinois PACT for 2018-2021 .....	12
Table 3-3. Summary of Illinois TRC Benefits and Costs for 2018 .....	13
Table 3-4. Summary of Illinois TRC Benefits and Costs for 2019 .....	14
Table 3-5. Summary of Illinois TRC Benefits and Costs for 2020 .....	15
Table 3-6. Summary of Illinois TRC Benefits and Costs for 2021 .....	16
Table 3-7. Summary of PACT Benefits and Costs for 2018.....	17
Table 3-8. Summary of PACT Benefits and Costs for 2019.....	18
Table 3-9. Summary of PACT Benefits and Costs for 2020.....	19
Table 3-10. Summary of PACT Benefits and Costs for 2021.....	20
Table 3-11. Summary of TRC Benefits and Costs for 2020 Plan 4 Avoided Costs .....	21
Table 3-12. Summary of TRC Benefits and Costs for 2021 Plan 4 Avoided Costs .....	22
Table 3-13. Summary of PACT Benefits and Costs for 2020 Plan 4 Avoided Costs .....	23
Table 3-14. Summary of PACT Benefits and Costs for 2021 Plan 4 Avoided Costs .....	24
Table 3-15. Summary of Verified Savings and Program Costs for 2018-2021 .....	26
Table 3-16. Summary of Verified Savings and Program Costs for 2018 .....	27
Table 3-17. Summary of Verified Savings and Program Costs for 2019 .....	28
Table 3-18. Summary of Verified Savings and Program Costs for 2020 .....	29
Table 3-19. Summary of Verified Savings and Program Costs for 2021 .....	30
Table 4-1. Summary of Jointly Implemented Programs for 2018-2021 .....	31
Table 4-2. Summary of TRC Test Values by Program and Utility – CY2018.....	32
Table 4-3. Summary of TRC Test Values by Program and Utility – CY2019.....	32

Table 4-4. Summary of TRC Test Values by Program and Utility – CY2020..... 33  
Table 4-5. Summary of TRC Test Values by Program and Utility – CY2021..... 33

## 1. Executive Summary

This report provides Guidehouse's summary reporting of verified energy savings and cost effectiveness results for the North Shore Gas (NSG) Energy Efficiency Plan (EEPS) portfolio of programs for 2018 through 2021<sup>1</sup> (Plan 3). The verified first-year annual net savings of 8,648,016 therms<sup>2</sup> exceeded its Plan 3 Approved Net Energy Savings Goal<sup>3</sup> of 7,819,481 net therms by 11 percent. Based on the Illinois Total Resource Cost (TRC) calculation, the portfolio is cost-effective with a TRC of 1.9.

This report does not cover program process evaluation results or recommendations. All recommendations and process evaluation results are provided in reports produced annually, and can be found on the Illinois Energy Efficiency Stakeholder Advisory Group (SAG) website<sup>4</sup>.

### 1.1 Portfolio Total Resource Cost (TRC) Test Verified Results

This section summarizes findings regarding the cost-effectiveness of the North Shore Gas portfolio of energy efficiency programs during the four-year Plan 3 time period from program year 2018 through program year 2021. The cost effectiveness methodology and description of data inputs is provided in Section 2.

Table 1-1 summarizes the four-year combined results for the North Shore Gas portfolio at the program, sector, and portfolio levels. The results presented in this table are based on the Illinois TRC test, which includes benefits from avoided environmental damages, and is the primary test utilized by Guidehouse for ascertaining the portfolio's cost effectiveness. The results show that across the entire four program-year period, the Plan 3 portfolio was cost effective with a TRC ratio of 1.9.

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<sup>1</sup> Each Gas Program Year starting with 2018 begins on January 1 and ends on December 31.

<sup>2</sup> Unless noted, therm values are first year annual savings.

<sup>3</sup> The Approved Net Energy Savings Goal (Approved Goal) refers to the most updated portfolio-level savings goal. In the case of Section 8-104 programs, the values match the Adjusted Energy Savings Goal contained in the Program Administrator's updated 2021 Adjustable Savings Goal Template. The Original Plan Savings Goal (Compliance Goal) approved in the Commission's Final Order submitted in Docket 17-0309 for 2018 through 2021 is 7,860,098 annual net therm savings.

<sup>4</sup> <http://www.ilsag.info/evaluation-documents.html>

**Table 1-1. Summary of North Shore Gas 2018-2021 TRC Results by Program – North Shore Gas Specific w/o Electric Data from Joint Programs**

Total Resource Cost Test (TRC) Results for North Shore Gas, 2018-2021 Programs, Societal Discount Rate, Plan 3 Avoided Costs									
Program	Benefits		Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c)	(h) = (d+f)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$551,700	\$934,812	\$224,987	\$276,568	\$278,500	\$1,486,512	\$503,487	\$983,025	3.0
Home Energy Rebate	\$6,506,664	\$3,170,279	\$1,342,139	\$1,394,693	\$5,194,342	\$9,676,944	\$6,536,481	\$3,140,463	1.5
Multi-Family	\$1,150,944	\$792,335	\$672,400	\$371,047	\$677,165	\$1,943,279	\$1,349,566	\$593,714	1.4
Home Energy Reports	\$4,580,458	\$1,681,905	\$1,095,176	\$0	\$0	\$6,262,363	\$1,095,176	\$5,167,186	5.7
Elementary Energy Education	\$376,428	\$2,053,551	\$1,044	\$124,339	\$124,339	\$2,429,979	\$125,383	\$2,304,596	19.4
Residential Subtotal	\$13,166,194	\$8,632,883	\$3,335,747	\$2,166,647	\$6,274,346	\$21,799,077	\$9,610,093	\$12,188,985	2.3
C&I and PS Prescriptive	\$4,280,468	\$1,948,435	\$770,696	\$1,656,560	\$1,582,107	\$6,228,902	\$2,352,804	\$3,876,098	2.6
C&I and PS Custom	\$520,486	\$207,266	\$54,541	\$124,951	\$482,861	\$727,752	\$537,402	\$190,351	1.4
Gas Optimization	\$6,209,410	\$2,580,526	\$212,171	\$754,657	\$1,466,462	\$8,789,936	\$1,678,633	\$7,111,303	5.2
Strategic Energy Management	\$534,938	\$200,657	\$112,340	\$207,288	\$202,958	\$735,595	\$315,298	\$420,297	2.3
C&I and PS Joint Retro-Commissioning	\$739,709	\$279,205	\$181,146	\$274,509	\$309,224	\$1,018,915	\$490,370	\$528,545	2.1
C&I and PS Joint New Construction	\$511,925	\$209,982	\$35,414	\$116,710	\$374,644	\$721,907	\$410,058	\$311,848	1.8
Commercial Food Service	\$28,275	\$11,764	\$1,815	\$6,195	\$24,609	\$40,038	\$26,424	\$13,615	1.5
Small Business	\$3,592,361	\$1,972,686	\$540,194	\$718,555	\$1,800,488	\$5,565,048	\$2,340,681	\$3,224,366	2.4
Total C&I and Public Sector	\$8,480,881	\$3,710,905	\$446,077	\$1,745,981	\$3,207,436	\$12,191,786	\$3,653,514	\$8,538,272	3.3
Income Eligible - IHWAP-SF	\$340,351	\$140,617	\$77,305	\$496,362	\$992,725	\$480,968	\$1,070,030	-\$589,062	0.4
Income Eligible - IHWAP-MF	\$239,679	\$103,390	\$60,916	\$477,522	\$955,045	\$343,069	\$1,015,961	-\$672,892	0.3
Income Eligible - MF LIHEAP Kits	\$518,864	\$520,593	\$14,490	\$164,086	\$164,086	\$1,039,457	\$178,575	\$860,882	5.8
Income Eligible - IEMS	\$10,592	\$30,365	\$31,479	\$14,365	\$32,643	\$40,957	\$64,122	-\$23,165	0.6
Income Eligible - PTA	\$21,925	\$9,122	\$0	\$51,846	\$51,846	\$31,047	\$51,846	-\$20,799	0.6
Income Eligible - PHES	\$29,583	\$74,069	\$45,855	\$40,660	\$40,660	\$103,651	\$86,514	\$17,137	1.2
Income Eligible Total	\$1,160,994	\$878,155	\$230,044	\$1,244,841	\$2,237,003	\$2,039,149	\$2,467,047	-\$427,898	0.8
EEPS Portfolio Costs			\$2,769,508			\$0	\$2,769,508	-\$2,769,508	
EEPS Portfolio	\$22,808,069	\$13,221,944	\$6,781,376	\$5,157,468	\$11,718,786	\$36,030,012	\$18,500,161	\$17,529,851	1.9
EEPS Portfolio Without Income Eligible	\$21,647,075	\$12,343,788	\$6,551,332	\$3,912,627	\$9,481,783	\$33,990,863	\$16,033,114	\$17,957,749	2.1

Source: Guidehouse Analysis

## 1.2 Portfolio Net Energy Savings Verified Results

This section summarizes verified numerical results of Guidehouse’s impact evaluation of the energy efficiency programs offered by North Shore Gas in Plan 3 program years 2018 through 2021. Verified savings<sup>5</sup> results are used to determine compliance with statutory goals and are provided in this section. Verified net energy savings are documented in Table 1-2. Detailed tables with verified program savings and costs are provided in Section 3.

**Table 1-2. North Shore Gas Plan 3 Portfolio 2018 through 2021 – Verified Net Energy Savings**

Program Year	Verified Net Energy Savings (Annual Therms)
Program Year 2018	1,554,872
Program Year 2019	2,216,396
Program Year 2020	2,285,299
Program Year 2021	2,591,449
<b>Plan 3 Portfolio Verified Total</b>	<b>8,648,016</b>
<b>Plan 3 Compliance Goal</b>	<b>7,860,098</b>
<b>Plan 3 Approved Goal</b>	<b>7,819,481</b>
<b>Portfolio Percent of Approved Goal</b>	<b>111%</b>

Source: Guidehouse research and analysis

## 1.3 Portfolio Impact Summary Verified Results

Table 1-3 summarizes energy savings and additional performance metrics of verified results from Guidehouse’s impact evaluation of the energy efficiency programs offered by North Shore Gas in 2018 through 2021.

<sup>5</sup> All savings shown exclude interactive effects of electric energy efficiency that reduce natural gas savings.



# North Shore Gas Total Resource Cost Test Results and Impact Summary Evaluation Report

## Table 1-3. Summary of North Shore Gas Plan 3 Portfolio 2018-2021 Performance Results

North Shore Gas 2018-2021 Verified Savings Summary																	
	Ex Ante Gross	Realization Rate	Verified Gross		Deemed / Used	Verified Net				Actual Costs	Participation		GHG Savings		Water Savings		Verified Gross Weighted Average Measure Life
	Annual Energy Savings	Energy Savings (Verified Gross / Ex Ante Gross)	Annual Energy Savings	Lifetime Savings	Net-to-Gross Ratio	Annual Energy Savings	Lifetime Savings	First Year Cost per First Year Annual Savings	First Year Cost per Lifetime Savings	Utility Program Costs	# Units	Units Definition	Annual Verified Net CO2 Savings	Lifetime Verified Net CO2 Savings	Annual Verified Net Water Savings	Lifetime Verified Net Water Savings	Years
	Therms	%	Therms	Therms	%	Therms	Therms	\$/Therms	\$/Therms	\$			metric tons CO2	metric tons CO2	Gallons	Gallons	
(a)	(b)	(c=d/b)	(d)	(e)	(f=g/d)	(g)	(h)	(i=k/g)	(j=k/h)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r=e/d)
Home Energy Jumpstart	174,207	102%	177,699	1,591,291	92%	164,291	1,489,834	\$ 3.05	\$ 0.34	\$ 501,555	4,815	Participants	869	7,883	10,217,317	93,494,871	9.0
Home Energy Rebate	1,415,120	102%	1,437,742	24,179,233	77%	1,109,778	17,878,740	2.47	0.15	2,736,832	10,517	Participants	5,872	94,596	-	-	16.8
Multi-Family	279,575	101%	282,272	3,499,263	89%	250,552	3,092,587	4.16	0.34	1,043,447	2,928	Projects	1,326	16,363	4,618,940	42,589,509	12.4
Home Energy Reports	1,615,525	150%	2,425,409	12,127,045	100%	2,425,409	12,127,045	0.45	0.09	1,095,176	255,990	Participants	12,833	64,164	-	-	5.0
Elementary Energy Education	89,038	122%	108,857	1,014,026	100%	108,857	1,014,026	1.15	0.12	125,383	7,101	Kits Distributed	576	5,365	25,821,749	245,081,809	9.3
<b>Residential Total</b>	<b>3,573,465</b>	<b>124%</b>	<b>4,431,979</b>	<b>42,410,858</b>	<b>92%</b>	<b>4,058,887</b>	<b>35,602,232</b>	<b>\$ 1.36</b>	<b>\$ 0.15</b>	<b>\$ 5,502,393</b>	<b>NA</b>		<b>21,476</b>	<b>188,371</b>	<b>40,658,007</b>	<b>381,166,189</b>	<b>9.6</b>
C&I and PS Prescriptive	2,321,654	100%	2,327,859	13,943,875	82%	1,900,584	11,388,728	1.25	0.21	2,369,684	135	Projects	10,056	60,258	4,186,045	25,116,270	6.0
C&I and PS Custom	159,173	86%	136,456	1,980,088	71%	97,341	1,414,433	1.66	0.11	161,348	18	Projects	515	7,484	-	-	14.5
Gas Optimization	805,748	100%	808,706	18,582,800	91%	735,923	16,910,356	1.31	0.06	966,828	13	Projects	3,894	89,473	-	-	23.0
Strategic Energy Management	405,916	61%	249,115	1,412,231	100%	249,115	1,412,231	1.28	0.23	319,629	7	Projects	1,318	7,472	-	-	5.7
C&I and PS Joint Retro-Commissioning	325,576	73%	238,150	1,936,031	97%	230,446	1,869,264	2.33	0.29	537,475	26	Projects	1,219	9,890	-	-	8.1
C&I and PS Joint New Construction	119,669	96%	114,878	2,366,487	58%	66,606	1,372,087	2.19	0.11	146,020	13	Projects	352	7,260	-	-	20.6
Commercial Food Service	6,896	103%	7,129	85,548	89%	6,253	75,036	1.28	0.11	8,010	5	Projects	33	397	-	-	12.0
Small Business	1,137,937	101%	1,150,589	10,418,063	92%	1,060,322	9,600,954	1.19	0.13	1,258,749	1,290	Projects	5,610	50,799	5,900,584	46,810,671	9.1
<b>C&amp;I and Public Sector Total</b>	<b>5,282,569</b>	<b>95%</b>	<b>5,032,882</b>	<b>50,725,123</b>	<b>86%</b>	<b>4,346,590</b>	<b>44,043,079</b>	<b>\$ 1.33</b>	<b>\$ 0.13</b>	<b>\$ 5,767,742</b>	<b>NA</b>		<b>22,998</b>	<b>233,032</b>	<b>10,086,629</b>	<b>71,926,941</b>	<b>10.1</b>
Income Eligible - IHWAP-SF	49,493	105%	52,201	949,654	100%	52,201	949,654	10.99	0.60	573,656	122	Participants	276	5,025	95,331	932,896	18.2
Income Eligible - IHWAP-MF	39,708	92%	36,550	661,591	100%	36,550	661,591	14.73	0.81	538,450	433	Projects	193	3,500	115,545	1,135,237	18.1
Income Eligible - MF LIHEAP Kits	126,803	106%	135,039	1,391,649	100%	135,039	1,391,649	1.32	0.13	178,575	3,539	Kits Distributed	714	7,363	3,754,299	36,939,824	10.3
Income Eligible - IEMS	2,569	100%	2,575	26,695	100%	2,575	26,695	17.80	1.60	45,844	48	Projects	14	152	353,756	3,336,291	11.1
Income Eligible - PTA	8,402	104%	8,710	58,344	100%	8,710	58,344	5.95	0.89	51,846	16	Projects	46	309	-	-	6.7
Income Eligible - PHES	8,238	91%	7,465	81,180	100%	7,465	81,180	11.59	1.07	86,514	7	Projects	39	430	847,531	8,303,484	10.9
<b>Income Eligible Total</b>	<b>235,213</b>	<b>103%</b>	<b>242,540</b>	<b>3,171,113</b>	<b>100%</b>	<b>242,540</b>	<b>3,171,113</b>	<b>\$ 6.08</b>	<b>\$ 0.47</b>	<b>\$ 1,474,885</b>	<b>NA</b>		<b>1,283</b>	<b>16,778</b>	<b>5,166,462</b>	<b>50,647,731</b>	<b>13.1</b>
<b>EEPS Program Total</b>	<b>9,091,247</b>	<b>107%</b>	<b>9,707,400</b>	<b>96,307,094</b>	<b>89%</b>	<b>8,648,016</b>	<b>82,816,423</b>	<b>\$ 1.47</b>	<b>\$ 0.15</b>	<b>\$ 12,745,020</b>			<b>45,757</b>	<b>438,182</b>	<b>55,911,098</b>	<b>503,740,862</b>	<b>9.9</b>
Other EEPS Portfolio Costs										2,769,508							
<b>EEPS Portfolio Total</b>	<b>9,091,247</b>	<b>107%</b>	<b>9,707,400</b>	<b>96,307,094</b>	<b>89%</b>	<b>8,648,016</b>	<b>82,816,423</b>	<b>\$ 1.79</b>	<b>\$ 0.19</b>	<b>\$ 15,514,528</b>	<b>NA</b>		<b>45,757</b>	<b>438,182</b>	<b>55,911,098</b>	<b>503,740,862</b>	<b>9.9</b>

Source: Guidehouse Analysis



## 1.4 Portfolio Economic Impact Summary of Verified Results

Table 1-4 and Table 1-5 present results of the Guidehouse analysis of the economic and employment impacts produced by the Plan 3 North Shore Gas energy efficiency portfolio. Figure 1 below summarizes the methodology for estimating economic impacts and jobs resulting from the Plan 3 portfolio.

**Table 1-4: Economic Impacts by Time Period (2018, 2019, 2020, 2021)**

Time Period	Impact Type	Job Years			Labor Income			Industry Output		
		Utility Territory	Rest of State	State Total	Utility Territory	Rest of State	State Total	Utility Territory	Rest of State	State Total
2021 - 2045	Direct	77	0	77	\$7.2M	\$0.0M	\$7.2M	\$14.4M	\$0.0M	\$14.4M
2021 - 2045	Indirect	30	3	33	\$2.2M	\$0.22M	\$2.4M	\$5.6M	\$0.9M	\$6.5M
2021 - 2045	Induced	68	2	71	\$3.9M	\$0.13M	\$4.0M	\$13.6M	\$0.5M	\$14.0M
<b>2021 - 2045</b>	<b>Total</b>	<b>175</b>	<b>6</b>	<b>181</b>	<b>\$13.2M</b>	<b>\$0.4M</b>	<b>\$13.6M</b>	<b>\$33.6M</b>	<b>\$1.4M</b>	<b>\$34.9M</b>
2020 - 2044	Direct	34	0	34	\$2.7M	\$0.0M	\$2.7M	\$6.9M	\$0.0M	\$6.9M
2020 - 2044	Indirect	14	2	16	\$1.1M	\$0.12M	\$1.2M	\$2.6M	\$0.5M	\$3.1M
2020 - 2044	Induced	28	1	29	\$1.6M	\$0.06M	\$1.6M	\$5.6M	\$0.2M	\$5.8M
<b>2020 - 2044</b>	<b>Total</b>	<b>77</b>	<b>3</b>	<b>80</b>	<b>\$5.4M</b>	<b>\$0.2M</b>	<b>\$5.6M</b>	<b>\$15.1M</b>	<b>\$0.7M</b>	<b>\$15.8M</b>
2019 - 2043	Direct	30	0	30	\$2.3M	\$0.00M	\$2.3M	\$6.3M	\$0.0M	\$6.3M
2019 - 2043	Indirect	13	2	15	\$1.0M	\$0.11M	\$1.1M	\$2.4M	\$0.4M	\$2.8M
2019 - 2043	Induced	22	1	23	\$1.2M	\$0.05M	\$1.3M	\$4.2M	\$0.2M	\$4.4M
<b>2019 - 2043</b>	<b>Total</b>	<b>64</b>	<b>3</b>	<b>67</b>	<b>\$4.5M</b>	<b>\$0.2M</b>	<b>\$4.6M</b>	<b>\$12.9M</b>	<b>\$0.6M</b>	<b>\$13.5M</b>
2018 - 2042	Direct	26	0	26	\$1.9M	\$0.00M	\$1.9M	\$5.5M	\$0.0M	\$5.5M
2018 - 2042	Indirect	11	2	13	\$0.8M	\$0.10M	\$0.9M	\$2.1M	\$0.4M	\$2.4M
2018 - 2042	Induced	16	1	17	\$0.9M	\$0.04M	\$0.9M	\$2.7M	\$0.1M	\$2.9M
<b>2018 - 2042</b>	<b>Total</b>	<b>53</b>	<b>2</b>	<b>55</b>	<b>\$3.6M</b>	<b>\$0.1M</b>	<b>\$3.7M</b>	<b>\$10.3M</b>	<b>\$0.5M</b>	<b>\$10.8M</b>
<b>2018 - 2045</b>	<b>Sum Total</b>	<b>369</b>	<b>14</b>	<b>383</b>	<b>\$26.7M</b>	<b>\$0.9M</b>	<b>\$27.5M</b>	<b>\$71.9M</b>	<b>\$3.2M</b>	<b>\$75.0M</b>

Source: Guidehouse analysis of North Shore Gas Tracking data

**Table 1-5: Job-Year Impacts by Time Period (2018, 2019, 2020, 2021)**

Time Period	Direct Job-Years		Indirect Job-Years		Induced Job-Years		State Total
	Utility Territory	Rest of State	Utility Territory	Rest of State	Utility Territory	Rest of State	
2021 - 2045	77	0	30	3	68	2	181
2020 - 2044	34	0	14	2	28	1	80
2019 - 2043	30	0	13	2	22	1	67
2018 - 2042	26	0	11	2	16	1	55
<b>2018 - 2045</b>	<b>167</b>	<b>0</b>	<b>68</b>	<b>9</b>	<b>134</b>	<b>5</b>	<b>383</b>

Source: Guidehouse analysis of North Shore Gas Tracking data

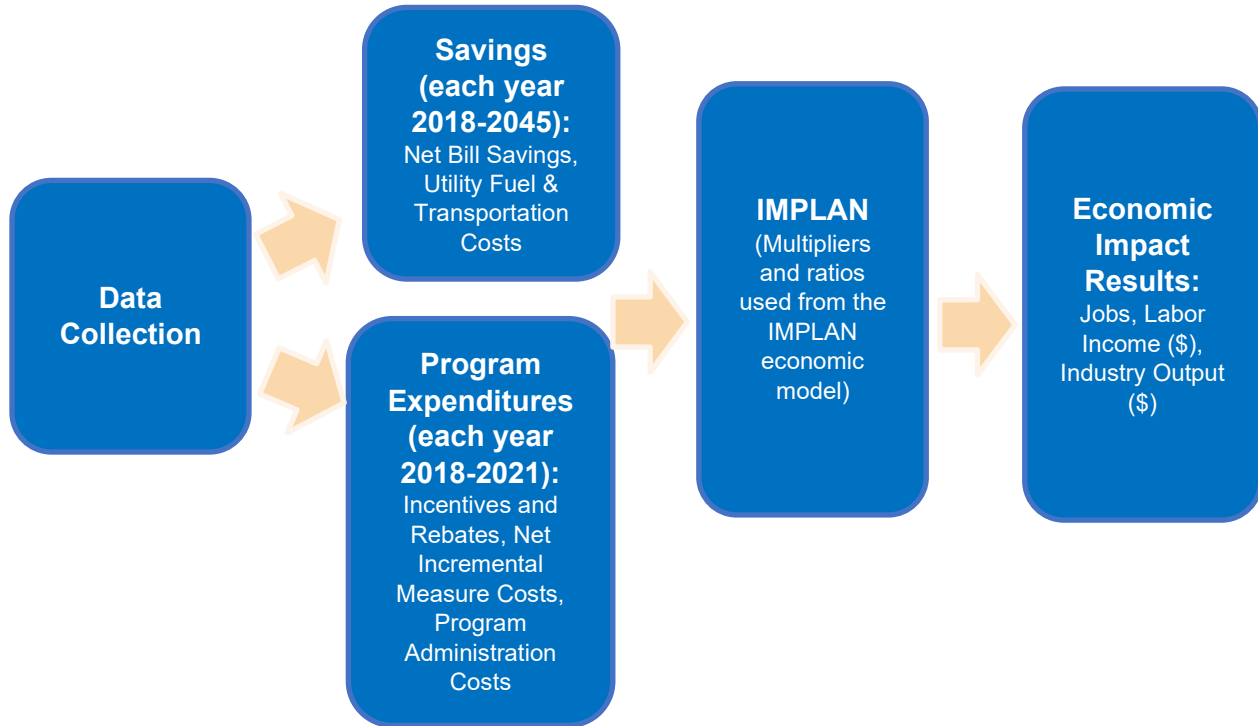
The economic impact assessment for energy efficiency programs follows a three-step process (depicted in Figure 1)<sup>6</sup>:

- 1) Data collection of the economic activities of the energy efficiency programs

<sup>6</sup> Methodology details can be found on the SAG web site at <https://www.ilsag.info/evaluation-documents/>

- 2) Economic modeling of these activities using IMPLAN (Impact Analysis for Planning software, an industry standard economic input-output modeling tool). IMPLAN is a rigorous and in-depth approach to assessing these impacts, and uses annually updated economic data to reflect changes in the Illinois economy.
- 3) Analysis of the results – summarizing and assessing the economic measures (e.g. industry output, labor income, and jobs).

**Figure 1. Economic Impact Assessment Methodology**



Source: Guidehouse

## 2. Cost Effectiveness Methodology

As part of Guidehouse's evaluation of PGL and NSG energy efficiency programs for gas program years 2018 to 2021, we performed benefit-cost calculations based upon a combination of data provided by PGL and NSG, evaluated program results, and other available resources. The focus of this review is on the basis and calculations used to conduct the Illinois TRC test. The Illinois TRC test is defined in 220 ILCS 5/8-104(b)<sup>7</sup> as follows:

*“Cost-effective” means that the measures satisfy the total resource cost test which, for purposes of this Section, means a standard that is met if, for an investment in energy efficiency, the benefit-cost ratio is greater than one. The benefit-cost ratio is the ratio of the net present value of the total benefits of the measures to the net present value of the total costs as calculated over the lifetime of the measures. The total resource cost test compares the sum of avoided natural gas utility costs, representing the benefits that accrue to the system and the participant in the delivery of those efficiency measures, as well as other quantifiable societal benefits, including avoided electric utility costs, to the sum of all incremental costs of end use measures (including both utility and participant contributions), plus costs to administer, deliver, and evaluate each demand-side measure, to quantify the net savings obtained by substituting demand-side measures for supply resources. In calculating avoided costs, reasonable estimates shall be included for financial costs likely to be imposed by future regulation of emissions of greenhouse gases. The low-income programs described in item (4) of subsection (f) of this Section shall not be required to meet the total resource cost test.*

The Illinois TRC test differs from traditional TRC tests in its requirement to include a reasonable estimate of the financial costs associated with future regulations and legislation on the emissions of greenhouse gases (GHG). Additional benefits included in the calculation are the non-energy benefits and water savings. This difference adds an additional benefit to investments in efficiency programs that typically are included in the Societal Test in other jurisdictions.

The results of the Program Administrator Cost Test (PACT) are also presented<sup>8</sup>. The PACT approaches cost-effectiveness from the perspective of the utility as program administrator. It determines whether the energy supply costs avoided by the utility exceed the overhead and cost outlays that the utility incurred to implement energy efficiency programs. Since the PACT is primarily focused on utility outlays, incentives paid by the utility to either participants or third-party implementers are included in the calculation, rather than incremental or participant costs. Additionally, since non-energy benefits accrue to society rather than to the utility implementing energy efficiency programs, these benefits are not included in the PACT formula.

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<sup>7</sup> Public Utilities Act, Illinois Compiled Statutes maintained by the Legislative Reference Bureau, <http://www.ilga.gov/legislation/ilcs/fulltext.asp?DocName=022000050K8-104>.

<sup>8</sup> Also referred to as the Utility Cost Test (UCT), which assumes utilities are the program administrators.

### **Incremental Measure Cost Approach**

Incremental cost means the difference between the cost of the efficient measure and the cost of the most relevant baseline measure that would have been installed (if any) in the absence of the efficiency program. The Illinois Energy Efficiency Policy Manual<sup>9</sup> instructs that installation costs (material and labor) and Operations and Maintenance (O&M) costs shall be included if there is a difference between the efficient measure and the baseline measure. In cases where the efficient measure has a significantly shorter or longer life than the relevant baseline measure, the avoided baseline replacement measure costs should be accounted for in the TRC analysis. The incremental cost input in the TRC analysis is not reduced by the amount of any incentives.

### **Data Assumptions in the Cost-Effectiveness Calculations**

The data points needed to conduct the Illinois TRC test are identified in Table 2-1 and are divided into generic and program-specific categories. The program-specific data points are further subdivided into those provided by the utility, those that are a result of evaluation activities, and those from multiple sources.

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<sup>9</sup> Illinois Energy Efficiency Policy Manual, available at: <https://www.ilsag.info/policy/>

**Table 2-1. Data Points Needed to Conduct the Illinois TRC Test**

Category	Data Point	Source	
Generic	<ul style="list-style-type: none"> <li>Avoided Natural Gas Costs: Plan 3 and Plan 4</li> <li>Avoided Electricity Costs</li> <li>Loss Factor (Unaccounted-for-Gas Factor)</li> <li>Plan 3 Non-Energy Benefits (NEBs) Adder</li> <li>Plan 4 Non-Energy Impacts Additional Quantifiable Benefit</li> <li>Weighted Average Cost of Capital</li> </ul>	PGL and NSG / ComEd	
	Generic	<ul style="list-style-type: none"> <li>Societal Discount Rate</li> <li>Greenhouse Gas (GHG) Adder</li> </ul>	Illinois TRM <sup>10</sup> and Energy Efficiency Stakeholders Advisory Group
		<ul style="list-style-type: none"> <li>Verified Participants / Measure Count</li> <li>Verified Gross and Net Energy Savings</li> <li>Realization Rate</li> <li>Net-to-Gross Ratio</li> </ul>	Final Evaluation Reports <sup>11</sup>
	Program Specific	<ul style="list-style-type: none"> <li>Non-Incentive Costs</li> <li>Utility Incentive Costs</li> </ul>	PGL and NSG
		<ul style="list-style-type: none"> <li>Incremental Measure Costs</li> <li>Measure Life</li> <li>Water Gallon Savings and Avoided Costs</li> </ul>	PGL and NSG / Evaluation / Illinois TRM / Other

Source: Evaluation Research

The values for the generic data points used in the cost-effectiveness calculations for all programs and the portfolio are summarized below.

- For the TRC, a discount rate of 2.38 percent was applied, based on guidance in TRM version 9.0.
- For the PACT, the discount rate was a weighted average cost of capital (WACC) for PGL (5.85%) and NSG (5.88%).
- Natural gas avoided costs are based on two sets of values provided by PGL and NSG:

<sup>10</sup> Illinois Statewide Technical Reference Manual (Illinois TRM). Available at: <https://www.ilsag.info/technical-reference-manual/>

<sup>11</sup> Evaluation documents are available at: <https://www.ilsag.info/evaluation-documents/final-evaluation-reports/>

- **Plan 3:** For the years 2018 and beyond, avoided costs were forecast values from PGL and NSG. A GHG adder of \$0.13 per therm is included starting in 2020 for the TRC analysis and escalating at 1.91 percent. A Non-Energy Benefits adder of 7.5% is included and the GHG adder is zero prior to 2020. The loss factor was 1.0358 for PGL and 1.0214 for NSG.
- **Plan 4:** For the years 2020 and beyond, avoided costs were forecast values from PGL and NSG. A GHG adder of \$0.253 per therm is included starting in 2020 and escalating thereafter. Additional Quantifiable Benefits (Non-Energy) are included based on research conducted by Guidehouse<sup>12</sup>. The loss factor was 1.0276 for PGL and 1.0080 for NSG. Plan 4 avoided costs were only available for 2020 and 2021.

The following points are noted for the program-specific data used in the cost-benefit calculations.

Benefits

- Energy saving benefits represent natural gas only taken from final evaluation verified results from 2018 through 2021.
- For all joint and coordinated programs with ComEd, the interactive energy effects (resulting in negative gas savings) and costs due to electric saving measures were not included in our analysis. The impact of electric interactive savings effects and costs are analyzed separately and presented in a joint electric-gas TRC memo. Coordinated or joint programs in the Plan 3 portfolio include:

**Table 2-2. Summary of Coordinated or Jointly Implemented EEPS Programs**

Program	ComEd	PGL and NSG
Income Eligible Programs, except LIHEAP Kits	X	X
Home Energy Assessment / Home Energy Jumpstart	X	X
Multi-Family Retrofit	X	X
Elementary Energy Education	X	X
Coordinated Retro-Commissioning	X	X
Coordinated Non-Residential New Construction	X	X
Strategic Energy Management	X	X
Commercial Food Service	X	X

Source: Guidehouse analysis

- For programs that are not joint with ComEd, some measures implemented by PGL and NSG have electricity savings that are not claimed by ComEd. These electricity savings are credited to the gas company in the TRC cost-effectiveness calculation as an “Other Benefit”. Most electric benefits are generated from thermostats rebated or installed through non-joint offerings, demand-controlled ventilation, and non-joint kits and weatherization measures.

<sup>12</sup> Guidehouse, *Recommended Non-Energy Impacts for North Shore Gas’ Cost-Effectiveness Tests*, and *Recommended Non-Energy Impacts for North Shore Gas’ Cost-Effectiveness Tests*, December 17, 2020, available at <https://www.ilsag.info/evaluation-documents/evaluation-research/>

- For early replacement measures, Guidehouse calculated the savings for the remaining life of the existing equipment and the savings for the remaining measure life per the algorithms deemed in the TRM, and the future avoided replacement costs. This analysis is not included in the evaluation reports as these only list the first-year savings value for each measure. The dual baseline adjustment has a minor impact on the PGL and NSG TRCs.
- Water saving benefits from water saving measures rely upon the Illinois TRM to estimate gallons of water saved per device. Water avoided costs were estimated using evaluator assumptions developed for PGL and NSG based on secondary research. Water savings have a substantial impact to increase the benefits and TRC for programs that include water saving measures prominently, such as kit and direct installation programs for the residential sector, and steam traps for the non-residential sector.

### Costs

- Incentives and non-incentive program costs were provided by PGL and NSG. For some programs, incentive amounts are tracked by program path, while non-incentive costs are tracked and bundled to include multiple paths. We present results at the path level by allocating bundled costs on the basis of weighting by ex ante annual gross therm savings. Although this may distort the costs and TRCs for individual program paths, the sector level costs and TRCs will be accurately represented.
- For joint programs with ComEd, the measure costs are the PGL and NSG share of full incremental costs. Incentives and non-incentive costs are the PGL and NSG share of costs.
- For incremental measure costs, in cases where PGL and NSG do not provide the installation costs or the data is not tracked, we use the TRM and other sources. Professional judgement was used for reviewing and identifying the appropriate incremental measure costs (IMC). Incremental measure costs are twice the utility incentive for IHWAP programs.
- Excess Incentives are the amount that incentives are greater than estimated incremental measure costs, and if present, should be added to non-incentive costs. Since IMCs are estimated using TRM, planning, and secondary research, the IMC estimates may not include all relevant and up-to-date installation and equipment costs for some programs. We set IMC to be not less than incentives for programs (twice the incentive for IHWAP) if incentives were greater than the initial IMC estimate. Incentives are allocated to C&I and Public Sector programs by gross therms and some programs appear to have excess incentives, however overall IMCs are greater than overall incentives for C&I and PS programs prior to allocating.
- For Home Energy Reports, all program costs are recorded as non-incentive costs. For Elementary Energy Education, all program costs are recorded as incentive costs with IMCs equal to incentives.

### 3. Program Specific Data

#### 3.1 Program Specific Cost Effectiveness Results Summary

A summary of the components of the cost effectiveness calculations for each program are shown in Table 3-1 for the Illinois TRC calculations and Table 3-2 for the Program Administrator Cost Test calculations. The tables include the value of each benefit and cost component for each program totaled over four years, as well as portfolio level totals for each component.

A summary of the components of the Illinois TRC benefits and costs for each program are shown in Table 3-3 through Table 3-6 for each program year. The tables include the component values for each program, as well as portfolio level totals for each component.

A summary of the components of the PACT benefits and costs for each program are shown in Table 3-7 through Table 3-10 for each program year. The tables include the component values for each program, as well as portfolio level totals for each component.

A summary of the 2020 and 2021 TRC and PACT results using Plan 4 avoided costs are shown in Table 3-11 through Table 3-14. The tables include the component values for each program, as well as portfolio level totals for each component.



**Table 3-1. Summary of Program Level Benefits, Costs and Illinois TRC Test for 2018-2021**

Total Resource Cost Test (TRC) Results for North Shore Gas, 2018-2021 Programs, Societal Discount Rate, Plan 3 Avoided Costs									
Program	Benefits		Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c)	(h) = (d+f)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$551,700	\$934,812	\$224,987	\$276,568	\$278,500	\$1,486,512	\$503,487	\$983,025	3.0
Home Energy Rebate	\$6,506,664	\$3,170,279	\$1,342,139	\$1,394,693	\$5,194,342	\$9,676,944	\$6,536,481	\$3,140,463	1.5
Multi-Family	\$1,150,944	\$792,335	\$672,400	\$371,047	\$677,165	\$1,943,279	\$1,349,566	\$593,714	1.4
Home Energy Reports	\$4,580,458	\$1,681,905	\$1,095,176	\$0	\$0	\$6,262,363	\$1,095,176	\$5,167,186	5.7
Elementary Energy Education	\$376,428	\$2,053,551	\$1,044	\$124,339	\$124,339	\$2,429,979	\$125,383	\$2,304,596	19.4
Residential Subtotal	\$13,166,194	\$8,632,883	\$3,335,747	\$2,166,647	\$6,274,346	\$21,799,077	\$9,610,093	\$12,188,985	2.3
C&I and PS Prescriptive	\$4,280,468	\$1,948,435	\$770,696	\$1,656,560	\$1,582,107	\$6,228,902	\$2,352,804	\$3,876,098	2.6
C&I and PS Custom	\$520,486	\$207,266	\$54,541	\$124,951	\$482,861	\$727,752	\$537,402	\$190,351	1.4
Gas Optimization	\$6,209,410	\$2,580,526	\$212,171	\$754,657	\$1,466,462	\$8,789,936	\$1,678,633	\$7,111,303	5.2
Strategic Energy Management	\$534,938	\$200,657	\$112,340	\$207,288	\$202,958	\$735,595	\$315,298	\$420,297	2.3
C&I and PS Joint Retro-Commissioning	\$739,709	\$279,205	\$181,146	\$274,509	\$309,224	\$1,018,915	\$490,370	\$528,545	2.1
C&I and PS Joint New Construction	\$511,925	\$209,982	\$35,414	\$116,710	\$374,644	\$721,907	\$410,058	\$311,848	1.8
Commercial Food Service	\$28,275	\$11,764	\$1,815	\$6,195	\$24,609	\$40,038	\$26,424	\$13,615	1.5
Small Business	\$3,592,361	\$1,972,686	\$540,194	\$718,555	\$1,800,488	\$5,565,048	\$2,340,681	\$3,224,366	2.4
Total C&I and Public Sector	\$8,480,881	\$3,710,905	\$446,077	\$1,745,981	\$3,207,436	\$12,191,786	\$3,653,514	\$8,538,272	3.3
Income Eligible - IHWAP-SF	\$340,351	\$140,617	\$77,305	\$496,362	\$992,725	\$480,968	\$1,070,030	-\$589,062	0.4
Income Eligible - IHWAP-MF	\$239,679	\$103,390	\$60,916	\$477,522	\$955,045	\$343,069	\$1,015,961	-\$672,892	0.3
Income Eligible - MF LIHEAP Kits	\$518,864	\$520,593	\$14,490	\$164,086	\$164,086	\$1,039,457	\$178,575	\$860,882	5.8
Income Eligible - IEMS	\$10,592	\$30,365	\$31,479	\$14,365	\$32,643	\$40,957	\$64,122	-\$23,165	0.6
Income Eligible - PTA	\$21,925	\$9,122	\$0	\$51,846	\$51,846	\$31,047	\$51,846	-\$20,799	0.6
Income Eligible - PHES	\$29,583	\$74,069	\$45,855	\$40,660	\$40,660	\$103,651	\$86,514	\$17,137	1.2
Income Eligible Total	\$1,160,994	\$878,155	\$230,044	\$1,244,841	\$2,237,003	\$2,039,149	\$2,467,047	-\$427,898	0.8
EEPS Portfolio Costs			\$2,769,508			\$0	\$2,769,508	-\$2,769,508	
EEPS Portfolio	\$22,808,069	\$13,221,944	\$6,781,376	\$5,157,468	\$11,718,786	\$36,030,012	\$18,500,161	\$17,529,851	1.9
EEPS Portfolio Without Income Eligible	\$21,647,075	\$12,343,788	\$6,551,332	\$3,912,627	\$9,481,783	\$33,990,863	\$16,033,114	\$17,957,749	2.1

Source: Guidehouse Analysis

**Table 3-2. Summary of Program Level Benefits, Costs and Illinois PACT for 2018-2021**

Program Administrator Cost Test (PACT) Results for North Shore Gas, 2018-2021 Programs, WACC Discount Rate, Plan 3 Avoided Costs									
Program	Benefits		Costs			Program Administrator Cost Test (PACT)			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	PACT Benefits	PACT Costs	PACT Test Net Benefits	PACT Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) =	(h) =	(i) =	(k) =
						(b)	(d+e)	(g-h)	(g/h)
Home Energy Jumpstart	\$448,599	\$0	\$224,987	\$276,568	\$260,193	\$448,599	\$501,555	-\$52,956	0.9
Home Energy Rebate	\$4,885,350	\$0	\$1,342,139	\$1,394,693	\$5,264,041	\$4,885,350	\$2,736,832	\$2,148,518	1.8
Multi-Family	\$914,101	\$0	\$672,400	\$371,047	\$677,165	\$914,101	\$1,043,447	-\$129,346	0.9
Home Energy Reports	\$4,179,519	\$0	\$1,095,176	\$0	\$0	\$4,179,519	\$1,095,176	\$3,084,343	3.8
Elementary Energy Education	\$317,360	\$0	\$1,044	\$124,339	\$124,339	\$317,360	\$125,383	\$191,977	2.5
<b>Residential Subtotal</b>	<b>\$10,744,929</b>	<b>\$0</b>	<b>\$3,335,747</b>	<b>\$2,166,647</b>	<b>\$6,325,738</b>	<b>\$10,744,929</b>	<b>\$5,502,393</b>	<b>\$5,242,536</b>	<b>2.0</b>
C&I and PS Prescriptive	\$3,749,080	\$0	\$770,696	\$1,656,560	\$1,582,107	\$3,749,080	\$2,427,256	\$1,321,823	1.5
C&I and PS Custom	\$405,573	\$0	\$54,541	\$124,951	\$482,861	\$405,573	\$179,491	\$226,081	2.3
Gas Optimization	\$4,267,349	\$0	\$212,171	\$754,657	\$1,466,462	\$4,267,349	\$966,828	\$3,300,521	4.4
Strategic Energy Management	\$481,308	\$0	\$112,340	\$207,288	\$202,958	\$481,308	\$319,629	\$161,680	1.5
C&I and PS Joint Retro-Commissioning	\$634,726	\$0	\$181,146	\$274,509	\$309,224	\$634,726	\$455,655	\$179,071	1.4
C&I and PS Joint New Construction	\$364,111	\$0	\$35,414	\$116,710	\$374,644	\$364,111	\$152,124	\$211,987	2.4
Commercial Food Service	\$23,011	\$0	\$1,815	\$6,195	\$24,609	\$23,011	\$8,010	\$15,001	2.9
Small Business	\$2,962,948	\$0	\$540,194	\$718,555	\$1,800,488	\$2,962,948	\$1,258,749	\$1,704,200	2.4
<b>Total C&amp;I and Public Sector</b>	<b>\$12,888,106</b>	<b>\$0</b>	<b>\$1,908,317</b>	<b>\$3,859,425</b>	<b>\$6,243,354</b>	<b>\$12,888,106</b>	<b>\$5,767,742</b>	<b>\$7,120,364</b>	<b>2.2</b>
Income Eligible - IHWAP-SF	\$248,663	\$0	\$77,305	\$496,362	\$992,725	\$248,663	\$573,667	-\$325,004	0.4
Income Eligible - IHWAP-MF	\$176,517	\$0	\$60,916	\$477,522	\$955,045	\$176,517	\$538,438	-\$361,921	0.3
Income Eligible - MF LIHEAP Kits	\$395,272	\$0	\$14,490	\$164,086	\$164,086	\$395,272	\$178,575	\$216,697	2.2
Income Eligible - IEMS	\$8,388	\$0	\$31,479	\$14,365	\$32,643	\$8,388	\$45,844	-\$37,456	0.2
Income Eligible - PTA	\$17,647	\$0	\$0	\$51,846	\$51,846	\$17,647	\$51,846	-\$34,199	0.3
Income Eligible - PHES	\$24,375	\$0	\$45,855	\$40,660	\$40,660	\$24,375	\$86,514	-\$62,139	0.3
<b>Income Eligible Total</b>	<b>\$870,862</b>	<b>\$0</b>	<b>\$230,044</b>	<b>\$1,244,841</b>	<b>\$2,237,003</b>	<b>\$870,862</b>	<b>\$1,474,885</b>	<b>-\$604,022</b>	<b>0.6</b>
EEPS Portfolio Costs			\$2,769,508			\$0	\$2,769,508	-\$2,769,508	
<b>EEPS Portfolio</b>	<b>\$24,503,897</b>	<b>\$0</b>	<b>\$8,243,615</b>	<b>\$7,270,912</b>	<b>\$14,806,095</b>	<b>\$24,503,897</b>	<b>\$15,514,528</b>	<b>\$8,989,369</b>	<b>1.6</b>
<b>EEPS Portfolio Without Income Eligible</b>	<b>\$23,633,034</b>	<b>\$0</b>	<b>\$8,013,571</b>	<b>\$6,026,072</b>	<b>\$12,569,092</b>	<b>\$23,633,034</b>	<b>\$14,039,643</b>	<b>\$9,593,391</b>	<b>1.7</b>

Source: Guidehouse Analysis

**Table 3-3. Summary of Illinois TRC Benefits and Costs for 2018**

Total Resource Cost Test (TRC) Results for North Shore Gas, 2018 Programs									
Program	Benefits		Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c)	(h) = (d+f)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$133,254	\$331,327	\$46,711	\$74,688	\$74,688	\$464,581	\$121,399	\$343,183	3.8
Home Energy Rebate	\$1,982,239	\$732,630	\$585,644	\$476,108	\$1,429,000	\$2,714,869	\$2,014,644	\$700,225	1.3
Multi-Family	\$97,085	\$174,882	\$158,402	\$55,685	\$55,685	\$271,966	\$214,087	\$57,879	1.3
Home Energy Reports	\$951,701	\$264,303	\$287,131	\$0	\$0	\$1,216,004	\$287,131	\$928,872	4.2
Elementary Energy Education	\$100,339	\$461,880	\$1,043	\$33,532	\$33,532	\$562,219	\$34,575	\$527,644	16.3
Residential Subtotal	\$3,264,618	\$1,965,021	\$1,078,932	\$640,013	\$1,592,905	\$5,229,640	\$2,671,836	\$2,557,803	2.0
C&I and PS Prescriptive	\$689,679	\$223,064	\$221,213	\$405,436	\$316,015	\$912,743	\$537,228	\$375,515	1.7
C&I and PS Custom	\$116,569	\$42,929	\$18,648	\$39,869	\$101,588	\$159,497	\$120,236	\$39,261	1.3
Gas Optimization									
Strategic Energy Management									
C&I and PS Joint Retro-Commissioning	\$242,710	\$79,813	\$133,737	\$172,674	\$156,591	\$322,523	\$290,328	\$32,195	1.1
C&I and PS Joint New Construction	\$47,125	\$17,991	\$6,274	\$13,413	\$41,113	\$65,116	\$47,387	\$17,730	1.4
Commercial Food Service									
Small Business	\$457,027	\$155,662	\$104,283	\$97,876	\$114,554	\$612,689	\$218,837	\$393,852	2.8
Business and Public Sector Subtotal	\$1,553,109	\$519,459	\$484,155	\$729,268	\$729,861	\$2,072,568	\$1,214,016	\$858,553	1.7
Income Eligible - IHWAP-SF	\$202,004	\$79,545	\$37,220	\$292,653	\$585,306	\$281,549	\$622,526	-\$340,977	0.5
Income Eligible - IHWAP-MF	\$51,054	\$20,354	\$13,534	\$106,413	\$212,825	\$71,408	\$226,359	-\$154,951	0.3
Income Eligible - MF LIHEAP Kits									
Income Eligible - IEMS	\$219	\$4,499	\$427	\$272	\$570	\$4,718	\$997	\$3,721	4.7
Income Eligible - PTA									
Income Eligible - PHES	\$14,419	\$59,456	\$30,539	\$19,401	\$19,401	\$73,876	\$49,940	\$23,935	1.5
Income Eligible Total	\$267,697	\$163,854	\$81,721	\$418,738	\$818,102	\$431,551	\$899,823	-\$468,272	0.5
EEPS Portfolio Costs			\$593,769			\$0	\$593,769	-\$593,769	
EEPS Portfolio with Income Eligible	\$5,085,425	\$2,648,335	\$2,238,576	\$1,788,018	\$3,140,868	\$7,733,759	\$5,379,444	\$2,354,316	1.4
EEPS Portfolio w/o Income Eligible	\$4,817,727	\$2,484,480	\$2,156,855	\$1,369,280	\$2,322,765	\$7,302,208	\$4,479,621	\$2,822,587	1.6

Source: Guidehouse Analysis

**Table 3-4. Summary of Illinois TRC Benefits and Costs for 2019**

Total Resource Cost Test (TRC) Results for North Shore Gas, 2019 Programs, Societal Discount Rate									
Program	Benefits		Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c)	(h) = (d+f)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$128,141	\$238,615	\$57,680	\$81,850	\$81,850	\$366,755	\$139,530	\$227,225	2.6
Home Energy Rebate	\$2,008,315	\$1,074,735	\$562,789	\$438,390	\$1,546,239	\$3,083,050	\$2,109,028	\$974,022	1.5
Multi-Family	\$249,146	\$218,261	\$161,046	\$95,667	\$150,327	\$467,407	\$311,373	\$156,034	1.5
Home Energy Reports	\$1,313,831	\$454,470	\$267,416	\$0	\$0	\$1,768,301	\$267,416	\$1,500,885	6.6
Elementary Energy Education	\$130,036	\$625,550	\$1	\$35,860	\$35,860	\$755,586	\$35,861	\$719,725	21.1
Residential Subtotal	\$3,829,469	\$2,611,630	\$1,048,932	\$651,767	\$1,814,276	\$6,441,099	\$2,863,208	\$3,577,891	2.2
C&I and PS Prescriptive	\$1,272,543	\$569,061	\$196,558	\$323,437	\$239,624	\$1,841,604	\$436,182	\$1,405,422	4.2
C&I and PS Custom	\$137,375	\$53,442	\$18,710	\$30,788	\$140,520	\$190,817	\$159,230	\$31,586	1.2
Gas Optimization	\$73,038	\$27,468	\$7,027	\$11,564	\$44,200	\$100,505	\$51,227	\$49,278	2.0
Strategic Energy Management	\$312,305	\$108,030	\$47,972	\$78,938	\$82,894	\$420,335	\$130,866	\$289,470	3.2
C&I and PS Joint Retro-Commissioning	\$187,427	\$70,593	\$20,009	\$32,925	\$55,901	\$258,021	\$75,910	\$182,110	3.4
C&I and PS Joint New Construction	\$79,980	\$31,886	\$4,393	\$7,229	\$56,714	\$111,866	\$61,107	\$50,759	1.8
Commercial Food Service									
Small Business	\$484,165	\$315,512	\$184,360	\$106,214	\$225,915	\$799,677	\$410,276	\$389,402	1.9
Total C&I and Public Sector	\$2,546,833	\$1,175,992	\$479,031	\$591,095	\$845,767	\$3,722,825	\$1,324,798	\$2,398,027	2.8
Income Eligible - IHWAP-SF	\$31,433	\$13,235	\$7,654	\$53,633	\$107,267	\$44,668	\$114,920	-\$70,252	0.4
Income Eligible - IHWAP-MF	\$155,471	\$64,706	\$43,003	\$301,345	\$602,689	\$220,177	\$645,692	-\$425,515	0.3
Income Eligible - MF LIHEAP Kits									
Income Eligible - IEMS	\$8,119	\$4,624	\$7,440	\$10,328	\$28,307	\$12,743	\$35,747	-\$23,004	0.4
Income Eligible - PTA									
Income Eligible - PHES	\$15,163	\$14,613	\$15,315	\$21,259	\$21,259	\$29,776	\$36,574	-\$6,798	0.8
Income Eligible Total	\$210,187	\$97,177	\$73,412	\$386,564	\$759,521	\$307,364	\$832,934	-\$525,570	0.4
EEPS Portfolio Costs			\$720,271			\$0	\$720,271	-\$720,271	
EEPS Portfolio	\$6,586,489	\$3,884,800	\$2,321,647	\$1,629,427	\$3,419,564	\$10,471,288	\$5,741,211	\$4,730,077	1.8
EEPS Portfolio w/o Income Eligible	\$6,376,302	\$3,787,623	\$2,248,235	\$1,242,862	\$2,660,043	\$10,163,925	\$4,908,277	\$5,255,647	2.1

Source: Guidehouse Analysis

### Table 3-5. Summary of Illinois TRC Benefits and Costs for 2020

Total Resource Cost Test (TRC) Results for North Shore Gas, 2020 Programs, Societal Discount Rate, Plan 3 Avoided Costs									
Program	Benefits		Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c)	(h) = (d+f)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$109,429	\$133,539	\$57,697	\$39,753	\$41,685	\$242,968	\$99,382	\$143,586	2.4
Home Energy Rebate	\$1,042,009	\$597,386	\$96,227	\$236,982	\$1,069,374	\$1,639,395	\$1,165,601	\$473,794	1.4
Multi-Family	\$660,894	\$296,857	\$188,516	\$166,380	\$382,953	\$957,751	\$571,469	\$386,282	1.7
Home Energy Reports	\$1,179,526	\$490,746	\$313,347	\$0	\$0	\$1,670,271	\$313,347	\$1,356,925	5.3
Elementary Energy Education	\$46,715	\$222,838	\$0	\$12,345	\$12,345	\$269,552	\$12,345	\$257,208	21.8
Residential Subtotal	\$3,038,572	\$1,741,365	\$655,787	\$455,459	\$1,506,357	\$4,779,938	\$2,162,144	\$2,617,794	2.2
C&I and PS Prescriptive	\$1,240,615	\$583,154	\$218,986	\$383,784	\$526,243	\$1,823,769	\$745,228	\$1,078,540	2.4
C&I and PS Custom	\$97,433	\$40,537	\$6,706	\$11,752	\$92,270	\$137,970	\$98,975	\$38,995	1.4
Gas Optimization	\$1,104,856	\$459,679	\$38,971	\$68,299	\$263,770	\$1,564,535	\$302,741	\$1,261,794	5.2
Strategic Energy Management	\$166,793	\$69,395	\$57,635	\$101,009	\$107,169	\$236,187	\$164,804	\$71,383	1.4
C&I and PS Joint Retro-Commissioning	\$219,179	\$91,190	\$18,350	\$32,159	\$64,146	\$310,369	\$82,496	\$227,874	3.8
C&I and PS Joint New Construction	\$28,468	\$11,844	\$1,916	\$3,359	\$22,278	\$40,312	\$24,194	\$16,118	1.7
Commercial Food Service	\$7,705	\$3,206	\$510	\$893	\$6,318	\$10,911	\$6,828	\$4,083	1.6
Small Business	\$955,510	\$738,181	\$155,980	\$191,827	\$378,097	\$1,693,691	\$534,077	\$1,159,614	3.2
Total C&I and Public Sector	\$3,820,558	\$1,997,186	\$499,054	\$793,081	\$1,460,290	\$5,817,745	\$1,959,344	\$3,858,401	3.0
Income Eligible - IHWAP-SF	\$55,119	\$23,594	\$0	\$139,107	\$278,214	\$78,713	\$278,214	-\$199,501	0.3
Income Eligible - IHWAP-MF	\$26,869	\$15,282	\$0	\$68,284	\$136,568	\$42,151	\$136,568	-\$94,417	0.3
Income Eligible - MF LIHEAP Kits	\$295,606	\$288,388	\$1,205	\$92,528	\$92,528	\$583,994	\$93,733	\$490,260	6.2
Income Eligible - IEMS	\$2,254	\$21,242	\$23,611	\$3,766	\$3,766	\$23,496	\$27,377	-\$3,881	0.9
Income Eligible - PTA	\$21,925	\$9,122	\$0	\$51,846	\$51,846	\$31,047	\$51,846	-\$20,799	0.6
Income Eligible - PHES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible Total	\$401,773	\$357,628	\$24,817	\$355,531	\$562,922	\$759,400	\$587,739	\$171,662	1.3
EEPS Portfolio Costs			\$802,801			\$0	\$802,801	-\$802,801	
EEPS Portfolio	\$7,260,903	\$4,096,179	\$1,982,458	\$1,604,071	\$3,529,569	\$11,357,083	\$5,512,027	\$5,845,056	2.1
EEPS Portfolio Without Income Eligible	\$6,859,131	\$3,738,551	\$1,957,642	\$1,248,540	\$2,966,647	\$10,597,682	\$4,924,288	\$5,673,394	2.2

Source: Guidehouse Analysis

**Table 3-6. Summary of Illinois TRC Benefits and Costs for 2021**

Total Resource Cost Test (TRC) Results for North Shore Gas, 2021 Programs, Societal Discount Rate, Plan 3 Avoided Costs									
Program	Benefits		Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c)	(h) = (d+f)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$180,876	\$231,331	\$62,899	\$80,277	\$80,277	\$412,208	\$143,176	\$269,032	2.9
Home Energy Rebate	\$1,474,100	\$765,529	\$97,478	\$243,214	\$1,149,730	\$2,239,630	\$1,247,207	\$992,422	1.8
Multi-Family	\$143,820	\$102,335	\$164,436	\$53,314	\$88,200	\$246,155	\$252,636	-\$6,481	1.0
Home Energy Reports	\$1,135,400	\$472,387	\$227,283	\$0	\$0	\$1,607,787	\$227,283	\$1,380,505	7.1
Elementary Energy Education	\$99,338	\$743,283	\$0	\$42,602	\$42,602	\$842,621	\$42,602	\$800,019	19.8
Residential Subtotal	\$3,033,534	\$2,314,867	\$552,095	\$419,408	\$1,360,809	\$5,348,401	\$1,912,904	\$3,435,497	2.8
C&I and PS Prescriptive	\$1,077,631	\$573,156	\$133,940	\$543,902	\$500,227	\$1,650,787	\$634,166	\$1,016,621	2.6
C&I and PS Custom	\$169,110	\$70,359	\$10,476	\$42,542	\$148,483	\$239,468	\$158,960	\$80,509	1.5
Gas Optimization	\$5,031,517	\$2,093,380	\$166,173	\$674,795	\$1,158,492	\$7,124,896	\$1,324,665	\$5,800,231	5.4
Strategic Energy Management	\$55,840	\$23,232	\$6,733	\$27,341	\$12,896	\$79,072	\$19,628	\$59,444	4.0
C&I and PS Joint Retro-Commissioning	\$90,394	\$37,609	\$9,050	\$36,751	\$32,587	\$128,002	\$41,637	\$86,365	3.1
C&I and PS Joint New Construction	\$356,351	\$148,261	\$22,830	\$92,710	\$254,540	\$504,612	\$277,371	\$227,241	1.8
Commercial Food Service	\$20,570	\$8,558	\$1,306	\$5,302	\$18,290	\$29,128	\$19,596	\$9,532	1.5
Small Business	\$1,695,660	\$763,330	\$95,570	\$322,638	\$1,081,921	\$2,458,990	\$1,177,491	\$1,281,499	2.1
Total C&I and Public Sector	\$8,497,071	\$3,717,885	\$446,077	\$1,745,981	\$3,207,436	\$12,214,956	\$3,653,514	\$8,561,442	3.3
Income Eligible - IHWAP-SF	\$51,795	\$24,243	\$32,431	\$10,969	\$21,938	\$76,038	\$54,369	\$21,668	1.4
Income Eligible - IHWAP-MF	\$6,284	\$3,048	\$4,379	\$1,481	\$2,962	\$9,333	\$7,341	\$1,992	1.3
Income Eligible - MF LIHEAP Kits	\$223,258	\$232,205	\$13,284	\$71,558	\$71,558	\$455,463	\$84,842	\$370,622	5.4
Income Eligible - IEMS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible - PTA	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible - PHES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible Total	\$281,337	\$259,496	\$50,094	\$84,007	\$96,457	\$540,833	\$146,551	\$394,282	3.7
EEPS Portfolio Costs			\$652,667			\$0	\$652,667	-\$652,667	
EEPS Portfolio	\$11,811,943	\$6,292,247	\$1,700,934	\$2,249,396	\$4,664,703	\$18,104,190	\$6,365,637	\$11,738,553	2.8
EEPS Portfolio Without Income Eligible	\$11,530,606	\$6,032,751	\$1,650,840	\$2,165,388	\$4,568,246	\$17,563,357	\$6,219,085	\$11,344,271	2.8

Source: Guidehouse Analysis

### Table 3-7. Summary of PACT Benefits and Costs for 2018

Program Administrator Cost Test (PACT) Results for North Shore Gas, 2018 Programs									
Program	Benefits		Costs			Program Administrator Cost Test (PACT)			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	PACT Benefits	PACT Costs	PACT Test Net Benefits	PACT Ratio
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b)	(h) = (d+e)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$113,854		\$46,711	\$74,688	\$74,688	\$113,854	\$121,399	-\$7,544	0.9
Home Energy Rebate	\$1,503,001		\$585,644	\$476,108	\$1,429,000	\$1,503,001	\$1,061,752	\$441,249	1.4
Multi-Family	\$80,864		\$158,402	\$55,685	\$55,685	\$80,864	\$214,087	-\$133,223	0.4
Home Energy Reports	\$868,397		\$287,131	\$0	\$0	\$868,397	\$287,131	\$581,265	3.0
Elementary Energy Education	\$84,852		\$1,043	\$33,532	\$33,532	\$84,852	\$34,575	\$50,277	2.5
<b>Residential Subtotal</b>	<b>\$2,650,968</b>	<b>\$0</b>	<b>\$1,078,932</b>	<b>\$640,013</b>	<b>\$1,592,905</b>	<b>\$2,650,968</b>	<b>\$1,718,944</b>	<b>\$932,024</b>	<b>1.5</b>
C&I and PS Prescriptive	\$580,078		\$221,213	\$405,436	\$316,015	\$580,078	\$626,649	-\$46,571	0.9
C&I and PS Custom	\$90,738		\$18,648	\$39,869	\$101,588	\$90,738	\$58,517	\$32,221	1.6
Gas Optimization									
Strategic Energy Management									
C&I and PS Joint Retro-Commissioning	\$210,543		\$133,737	\$172,674	\$156,591	\$210,543	\$306,411	-\$95,868	0.7
C&I and PS Joint New Construction	\$33,518		\$6,274	\$13,413	\$41,113	\$33,518	\$19,687	\$13,832	1.7
Commercial Food Service									
Small Business	\$380,662		\$104,283	\$97,876	\$114,554	\$380,662	\$202,159	\$178,503	1.9
<b>Total C&amp;I and Public Sector</b>	<b>\$1,295,539</b>	<b>\$0</b>	<b>\$484,155</b>	<b>\$729,268</b>	<b>\$729,861</b>	<b>\$1,295,539</b>	<b>\$1,213,423</b>	<b>\$82,117</b>	<b>1.1</b>
Income Eligible - IHWAP-SF	\$146,124		\$37,220	\$292,653	\$585,306	\$146,124	\$329,873	-\$183,749	0.4
Income Eligible - IHWAP-MF	\$38,818		\$13,534	\$106,413	\$212,825	\$38,818	\$119,946	-\$81,128	0.3
Income Eligible - MF LIHEAP Kits									
Income Eligible - IEMS	\$184		\$427	\$272	\$570	\$184	\$699	-\$515	0.3
Income Eligible - PTA									
Income Eligible - PHES	\$12,071		\$30,539	\$19,401	\$19,401	\$12,071	\$49,940	-\$37,869	0.2
<b>Income Eligible Total</b>	<b>\$197,197</b>	<b>\$0</b>	<b>\$81,721</b>	<b>\$418,738</b>	<b>\$818,102</b>	<b>\$197,197</b>	<b>\$500,459</b>	<b>-\$303,262</b>	<b>0.4</b>
EEPS Portfolio Costs			\$593,769			\$0	\$593,769	-\$593,769	
<b>EEPS Portfolio</b>	<b>\$4,143,704</b>	<b>\$0</b>	<b>\$2,238,576</b>	<b>\$1,788,018</b>	<b>\$3,140,868</b>	<b>\$4,143,704</b>	<b>\$4,026,594</b>	<b>\$117,110</b>	<b>1.0</b>
<b>EEPS Portfolio Without Income Eligible</b>	<b>\$3,946,507</b>	<b>\$0</b>	<b>\$2,156,855</b>	<b>\$1,369,280</b>	<b>\$2,322,765</b>	<b>\$3,946,507</b>	<b>\$3,526,136</b>	<b>\$420,372</b>	<b>1.1</b>

Source: Guidehouse Analysis

### Table 3-8. Summary of PACT Benefits and Costs for 2019

Program Administrator Cost Test (PACT) Results for North Shore Gas, 2019 Programs, WACC Discount Rate									
Program	Benefits		Costs			Program Administrator Cost Test (PACT)			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	PACT Benefits	PACT Costs	PACT Test Net Benefits	PACT Ratio
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b)	(h) = (d+e)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$108,402		\$57,680	\$81,850	\$81,850	\$108,402	\$139,530	-\$31,128	0.8
Home Energy Rebate	\$1,513,290		\$562,789	\$438,390	\$1,574,314	\$1,513,290	\$1,001,179	\$512,111	1.5
Multi-Family	\$201,151		\$161,046	\$95,667	\$150,327	\$201,151	\$256,714	-\$55,562	0.8
Home Energy Reports	\$1,198,828		\$267,416	\$0	\$0	\$1,198,828	\$267,416	\$931,412	4.5
Elementary Energy Education	\$109,464		\$1	\$35,860	\$35,860	\$109,464	\$35,861	\$73,603	3.1
<b>Residential Subtotal</b>	<b>\$3,131,136</b>	<b>\$0</b>	<b>\$1,048,932</b>	<b>\$651,767</b>	<b>\$1,842,351</b>	<b>\$3,131,136</b>	<b>\$1,700,700</b>	<b>\$1,430,436</b>	<b>1.8</b>
C&I and PS Prescriptive	\$1,123,704		\$196,558	\$323,437	\$239,624	\$1,123,704	\$519,995	\$603,709	2.2
C&I and PS Custom	\$108,145		\$18,710	\$30,788	\$140,520	\$108,145	\$49,498	\$58,647	2.2
Gas Optimization	\$61,976		\$7,027	\$11,564	\$44,200	\$61,976	\$18,591	\$43,384	3.3
Strategic Energy Management	\$284,968		\$47,972	\$78,938	\$82,894	\$284,968	\$126,911	\$158,058	2.2
C&I and PS Joint Retro-Commissioning	\$159,967		\$20,009	\$32,925	\$55,901	\$159,967	\$52,935	\$107,032	3.0
C&I and PS Joint New Construction	\$56,887		\$4,393	\$7,229	\$56,714	\$56,887	\$11,623	\$45,264	4.9
Commercial Food Service									
Small Business	\$412,245		\$184,360	\$106,214	\$225,915	\$412,245	\$290,574	\$121,672	1.4
<b>Total C&amp;I and Public Sector</b>	<b>\$2,207,892</b>	<b>\$0</b>	<b>\$479,031</b>	<b>\$591,095</b>	<b>\$845,767</b>	<b>\$2,207,892</b>	<b>\$1,070,126</b>	<b>\$1,137,766</b>	<b>2.1</b>
Income Eligible - IHWAP-SF	\$23,043		\$7,654	\$53,633	\$107,267	\$23,043	\$61,287	-\$38,244	0.4
Income Eligible - IHWAP-MF	\$112,927		\$43,003	\$301,345	\$602,689	\$112,927	\$344,348	-\$231,421	0.3
Income Eligible - MF LIHEAP Kits									
Income Eligible - IEMS	\$6,307		\$7,440	\$10,328	\$28,307	\$6,307	\$17,768	-\$11,460	0.4
Income Eligible - PTA									
Income Eligible - PHES	\$12,304		\$15,315	\$21,259	\$21,259	\$12,304	\$36,574	-\$24,270	0.3
<b>Income Eligible Total</b>	<b>\$154,582</b>	<b>\$0</b>	<b>\$73,412</b>	<b>\$386,564</b>	<b>\$759,521</b>	<b>\$154,582</b>	<b>\$459,977</b>	<b>-\$305,395</b>	<b>0.3</b>
EEPS Portfolio Costs			\$720,271			\$0	\$720,271	-\$720,271	
<b>EEPS Portfolio</b>	<b>\$5,493,609</b>	<b>\$0</b>	<b>\$2,321,647</b>	<b>\$1,629,427</b>	<b>\$3,447,639</b>	<b>\$5,493,609</b>	<b>\$3,951,074</b>	<b>\$1,542,535</b>	<b>1.4</b>
<b>EEPS Portfolio Without Income Eligible</b>	<b>\$5,339,027</b>	<b>\$0</b>	<b>\$2,248,235</b>	<b>\$1,242,862</b>	<b>\$2,688,118</b>	<b>\$5,339,027</b>	<b>\$3,491,097</b>	<b>\$1,847,930</b>	<b>1.5</b>

Source: Guidehouse Analysis



### Table 3-9. Summary of PACT Benefits and Costs for 2020

Program Administrator Cost Test (PACT) Results for North Shore Gas, 2020 Programs, WACC Discount Rate, Plan 3 Avoided Costs									
Program	Benefits		Costs			Program Administrator Cost Test (PACT)			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	PACT Benefits	PACT Costs	PACT Test Net Benefits	PACT Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b)	(h) = (d+e)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$86,477		\$57,697	\$39,753	\$41,685	\$86,477	\$97,450	-\$10,973	0.9
Home Energy Rebate	\$755,736		\$96,227	\$236,982	\$1,089,564	\$755,736	\$333,209	\$422,527	2.3
Multi-Family	\$518,241		\$188,516	\$166,380	\$382,953	\$518,241	\$354,896	\$163,345	1.5
Home Energy Reports	\$1,076,279		\$313,347	\$0	\$0	\$1,076,279	\$313,347	\$762,932	3.4
Elementary Energy Education	\$39,439		\$0	\$12,345	\$12,345	\$39,439	\$12,345	\$27,095	3.2
<b>Residential Subtotal</b>	<b>\$2,476,172</b>	<b>\$0</b>	<b>\$655,787</b>	<b>\$455,459</b>	<b>\$1,526,547</b>	<b>\$2,476,172</b>	<b>\$1,111,247</b>	<b>\$1,364,926</b>	<b>2.2</b>
C&I and PS Prescriptive	\$1,106,613		\$218,986	\$383,784	\$526,243	\$1,106,613	\$602,770	\$503,842	1.8
C&I and PS Custom	\$75,720		\$6,706	\$11,752	\$92,270	\$75,720	\$18,457	\$57,263	4.1
Gas Optimization	\$761,284		\$38,971	\$68,299	\$263,770	\$761,284	\$107,270	\$654,015	7.1
Strategic Energy Management	\$147,095		\$57,635	\$101,009	\$107,169	\$147,095	\$158,644	-\$11,549	0.9
C&I and PS Joint Retro-Commissioning	\$187,067		\$18,350	\$32,159	\$64,146	\$187,067	\$50,508	\$136,558	3.7
C&I and PS Joint New Construction	\$20,248		\$1,916	\$3,359	\$22,278	\$20,248	\$5,275	\$14,973	3.8
Commercial Food Service	\$6,271		\$510	\$893	\$6,318	\$6,271	\$1,403	\$4,868	4.5
Small Business	\$805,530		\$155,980	\$191,827	\$378,097	\$805,530	\$347,808	\$457,722	2.3
<b>Total C&amp;I and Public Sector</b>	<b>\$3,109,827</b>	<b>\$0</b>	<b>\$499,054</b>	<b>\$793,081</b>	<b>\$1,460,290</b>	<b>\$3,109,827</b>	<b>\$1,292,135</b>	<b>\$1,817,692</b>	<b>2.4</b>
Income Eligible - IHWAP-SF	\$40,789		\$0	\$139,107	\$278,214	\$40,789	\$139,107	-\$98,318	0.3
Income Eligible - IHWAP-MF	\$20,020		\$0	\$68,284	\$136,568	\$20,020	\$68,284	-\$48,264	0.3
Income Eligible - MF LIHEAP Kits	\$225,297		\$1,205	\$92,528	\$92,528	\$225,297	\$93,733	\$131,564	2.4
Income Eligible - IEMS	\$1,897		\$23,611	\$3,766	\$3,766	\$1,897	\$27,377	-\$25,481	0.1
Income Eligible - PTA	\$17,647		\$0	\$51,846	\$51,846	\$17,647	\$51,846	-\$34,199	0.3
Income Eligible - PHES	\$0		\$0	\$0	\$0	\$0	\$0	\$0	
<b>Income Eligible Total</b>	<b>\$305,650</b>	<b>\$0</b>	<b>\$24,817</b>	<b>\$355,531</b>	<b>\$562,922</b>	<b>\$305,650</b>	<b>\$380,348</b>	<b>-\$74,698</b>	<b>0.8</b>
EEPS Portfolio Costs			\$802,801			\$0	\$802,801	-\$802,801	
<b>EEPS Portfolio</b>	<b>\$5,891,649</b>	<b>\$0</b>	<b>\$1,982,458</b>	<b>\$1,604,071</b>	<b>\$3,549,759</b>	<b>\$5,891,649</b>	<b>\$3,586,530</b>	<b>\$2,305,120</b>	<b>1.6</b>
<b>EEPS Portfolio Without Income Eligible</b>	<b>\$5,586,000</b>	<b>\$0</b>	<b>\$1,957,642</b>	<b>\$1,248,540</b>	<b>\$2,986,837</b>	<b>\$5,586,000</b>	<b>\$3,206,182</b>	<b>\$2,379,817</b>	<b>1.7</b>

Source: Guidehouse Analysis

### Table 3-10. Summary of PACT Benefits and Costs for 2021

Program Administrator Cost Test (PACT) Results for North Shore Gas, 2021 Programs, WACC Discount Rate, Plan 3 Avoided Costs									
Program	Benefits		Costs			Program Administrator Cost Test (PACT)			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	PACT Benefits	PACT Costs	PACT Test Net Benefits	PACT Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b)	(h) = (d+e)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$139,865		\$62,899	\$80,277	\$61,970	\$139,865	\$143,176	-\$3,312	1.0
Home Energy Rebate	\$1,113,323		\$97,478	\$243,214	\$1,171,163	\$1,113,323	\$340,692	\$772,631	3.3
Multi-Family	\$113,845		\$164,436	\$53,314	\$88,200	\$113,845	\$217,750	-\$103,905	0.5
Home Energy Reports	\$1,036,016		\$227,283	\$0	\$0	\$1,036,016	\$227,283	\$808,733	4.6
Elementary Energy Education	\$83,605		\$0	\$42,602	\$42,602	\$83,605	\$42,602	\$41,003	2.0
<b>Residential Subtotal</b>	<b>\$2,486,653</b>	<b>\$0</b>	<b>\$552,095</b>	<b>\$419,408</b>	<b>\$1,363,935</b>	<b>\$2,486,653</b>	<b>\$971,503</b>	<b>\$1,515,150</b>	<b>2.6</b>
C&I and PS Prescriptive	\$938,686		\$133,940	\$543,902	\$500,227	\$938,686	\$677,842	\$260,844	1.4
C&I and PS Custom	\$130,969		\$10,476	\$42,542	\$148,483	\$130,969	\$53,018	\$77,950	2.5
Gas Optimization	\$3,444,089		\$166,173	\$674,795	\$1,158,492	\$3,444,089	\$840,968	\$2,603,121	4.1
Strategic Energy Management	\$49,245		\$6,733	\$27,341	\$12,896	\$49,245	\$34,074	\$15,171	1.4
C&I and PS Joint Retro-Commissioning	\$77,150		\$9,050	\$36,751	\$32,587	\$77,150	\$45,801	\$31,349	1.7
C&I and PS Joint New Construction	\$253,458		\$22,830	\$92,710	\$254,540	\$253,458	\$115,540	\$137,918	2.2
Commercial Food Service	\$16,740		\$1,306	\$5,302	\$18,290	\$16,740	\$6,607	\$10,133	2.5
Small Business	\$1,364,511		\$95,570	\$322,638	\$1,081,921	\$1,364,511	\$418,208	\$946,303	3.3
<b>Total C&amp;I and Public Sector</b>	<b>\$6,274,847</b>	<b>\$0</b>	<b>\$446,077</b>	<b>\$1,745,981</b>	<b>\$3,207,436</b>	<b>\$6,274,847</b>	<b>\$2,192,058</b>	<b>\$4,082,789</b>	<b>2.9</b>
Income Eligible - IHWAP-SF	\$38,707		\$32,431	\$10,969	\$21,938	\$38,707	\$43,400	-\$4,693	0.9
Income Eligible - IHWAP-MF	\$4,752		\$4,379	\$1,481	\$2,962	\$4,752	\$5,860	-\$1,108	0.8
Income Eligible - MF LIHEAP Kits	\$169,975		\$13,284	\$71,558	\$71,558	\$169,975	\$84,842	\$85,133	2.0
Income Eligible - IEMS	\$0		\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible - PTA	\$0		\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible - PHES	\$0		\$0	\$0	\$0	\$0	\$0	\$0	
<b>Income Eligible Total</b>	<b>\$213,433</b>	<b>\$0</b>	<b>\$50,094</b>	<b>\$84,007</b>	<b>\$96,457</b>	<b>\$213,433</b>	<b>\$134,102</b>	<b>\$79,332</b>	<b>1.6</b>
EEPS Portfolio Costs			\$652,667			\$0	\$652,667	-\$652,667	
<b>EEPS Portfolio</b>	<b>\$8,974,934</b>	<b>\$0</b>	<b>\$1,700,934</b>	<b>\$2,249,396</b>	<b>\$4,667,829</b>	<b>\$8,974,934</b>	<b>\$3,950,330</b>	<b>\$5,024,604</b>	<b>2.3</b>
<b>EEPS Portfolio Without Income Eligible</b>	<b>\$8,761,500</b>	<b>\$0</b>	<b>\$1,650,840</b>	<b>\$2,165,388</b>	<b>\$4,571,371</b>	<b>\$8,761,500</b>	<b>\$3,816,228</b>	<b>\$4,945,272</b>	<b>2.3</b>

Source: Guidehouse Analysis

Table 3-11. Summary of TRC Benefits and Costs for 2020 Plan 4 Avoided Costs

Total Resource Cost Test (TRC) Results for North Shore Gas, 2020 Programs, Societal Discount Rate, Plan 4 Avoided Costs									
Program	Benefits		Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c)	(h) = (d+f)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$102,110	\$207,658	\$57,697	\$39,753	\$41,685	\$309,769	\$99,382	\$210,387	3.1
Home Energy Rebate	\$987,781	\$1,303,485	\$96,227	\$236,982	\$1,069,374	\$2,291,267	\$1,165,601	\$1,125,666	2.0
Multi-Family	\$621,921	\$750,370	\$188,516	\$166,380	\$382,953	\$1,372,292	\$571,469	\$800,822	2.4
Home Energy Reports	\$1,024,919	\$1,231,428	\$313,347	\$0	\$0	\$2,256,347	\$313,347	\$1,943,000	7.2
Elementary Energy Education	\$43,129	\$253,712	\$0	\$12,345	\$12,345	\$296,841	\$12,345	\$284,496	24.0
Residential Subtotal	\$2,779,861	\$3,746,654	\$655,787	\$455,459	\$1,506,357	\$6,526,515	\$2,162,144	\$4,364,371	3.0
C&I and PS Prescriptive	\$1,094,827	\$1,375,655	\$218,986	\$383,784	\$526,243	\$2,470,483	\$745,228	\$1,725,254	3.3
C&I and PS Custom	\$92,018	\$107,694	\$6,706	\$11,752	\$92,270	\$199,712	\$98,975	\$100,736	2.0
Gas Optimization	\$1,047,547	\$1,214,400	\$38,971	\$68,299	\$263,770	\$2,261,947	\$302,741	\$1,959,206	7.5
Strategic Energy Management	\$148,553	\$176,663	\$57,635	\$101,009	\$107,169	\$325,215	\$164,804	\$160,411	2.0
C&I and PS Joint Retro-Commissioning	\$200,855	\$235,080	\$18,350	\$32,159	\$64,146	\$435,935	\$82,496	\$353,440	5.3
C&I and PS Joint New Construction	\$27,028	\$31,596	\$1,916	\$3,359	\$22,278	\$58,624	\$24,194	\$34,430	2.4
Commercial Food Service	\$7,211	\$8,400	\$510	\$893	\$6,318	\$15,611	\$6,828	\$8,783	2.3
Small Business	\$866,361	\$1,385,642	\$155,980	\$191,827	\$378,097	\$2,252,003	\$534,077	\$1,717,926	4.2
Total C&I and Public Sector	\$3,484,400	\$4,535,130	\$499,054	\$793,081	\$1,460,290	\$8,019,530	\$1,959,344	\$6,060,187	4.1
Income Eligible - IHWAP-SF	\$52,092	\$61,758	\$0	\$139,107	\$278,214	\$113,850	\$278,214	-\$164,364	0.4
Income Eligible - IHWAP-MF	\$25,407	\$33,863	\$0	\$68,284	\$136,568	\$59,270	\$136,568	-\$77,299	0.4
Income Eligible - MF LIHEAP Kits	\$277,410	\$491,252	\$1,205	\$92,528	\$92,528	\$768,662	\$93,733	\$674,929	8.2
Income Eligible - IEMS	\$2,085	\$22,734	\$23,611	\$3,766	\$3,766	\$24,819	\$27,377	-\$2,558	0.9
Income Eligible - PTA	\$20,093	\$23,575	\$0	\$51,846	\$51,846	\$43,667	\$51,846	-\$8,178	0.8
Income Eligible - PHES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible Total	\$377,086	\$633,183	\$24,817	\$355,531	\$562,922	\$1,010,268	\$587,739	\$422,530	1.7
EEPS Portfolio Costs			\$802,801			\$0	\$802,801	-\$802,801	
EEPS Portfolio	\$6,641,347	\$8,914,967	\$1,982,458	\$1,604,071	\$3,529,569	\$15,556,314	\$5,512,027	\$10,044,287	2.8
EEPS Portfolio Without Income Eligible	\$6,264,261	\$8,281,784	\$1,957,642	\$1,248,540	\$2,966,647	\$14,546,045	\$4,924,288	\$9,621,757	3.0

Source: Guidehouse Analysis

Table 3-12. Summary of TRC Benefits and Costs for 2021 Plan 4 Avoided Costs

Total Resource Cost Test (TRC) Results for North Shore Gas, 2021 Programs, Societal Discount Rate, Plan 4 Avoided Costs									
Program	Benefits		Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c)	(h) = (d+f)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$169,872	\$355,051	\$62,899	\$80,277	\$80,277	\$524,923	\$143,176	\$381,747	3.7
Home Energy Rebate	\$1,390,553	\$1,766,259	\$97,478	\$243,214	\$1,149,730	\$3,156,813	\$1,247,207	\$1,909,605	2.5
Multi-Family	\$134,793	\$200,548	\$164,436	\$53,314	\$88,200	\$335,341	\$252,636	\$82,704	1.3
Home Energy Reports	\$986,577	\$1,185,361	\$227,283	\$0	\$0	\$2,171,938	\$227,283	\$1,944,655	9.6
Elementary Energy Education	\$91,870	\$809,049	\$0	\$42,602	\$42,602	\$900,919	\$42,602	\$858,317	21.1
Residential Subtotal	\$2,773,665	\$4,316,268	\$552,095	\$419,408	\$1,360,809	\$7,089,934	\$1,912,904	\$5,177,029	3.7
C&I and PS Prescriptive	\$960,476	\$1,283,910	\$133,940	\$543,902	\$500,227	\$2,244,386	\$634,166	\$1,610,219	3.5
C&I and PS Custom	\$159,751	\$186,990	\$10,476	\$42,542	\$148,483	\$346,741	\$158,960	\$187,781	2.2
Gas Optimization	\$4,772,018	\$5,520,491	\$166,173	\$674,795	\$1,158,492	\$10,292,509	\$1,324,665	\$8,967,844	7.8
Strategic Energy Management	\$49,733	\$59,144	\$6,733	\$27,341	\$12,896	\$108,877	\$19,628	\$89,249	5.5
C&I and PS Joint Retro-Commissioning	\$82,836	\$96,952	\$9,050	\$36,751	\$32,587	\$179,788	\$41,637	\$138,151	4.3
C&I and PS Joint New Construction	\$338,325	\$395,509	\$22,830	\$92,710	\$254,540	\$733,834	\$277,371	\$456,463	2.6
Commercial Food Service	\$19,251	\$22,424	\$1,306	\$5,302	\$18,290	\$41,675	\$19,596	\$22,079	2.1
Small Business	\$1,575,251	\$1,914,513	\$95,570	\$322,638	\$1,081,921	\$3,489,764	\$1,177,491	\$2,312,273	3.0
Total C&I and Public Sector	\$7,957,641	\$9,479,933	\$446,077	\$1,745,981	\$3,207,436	\$17,437,574	\$3,653,514	\$13,784,060	4.8
Income Eligible - IHWAP-SF	\$48,878	\$59,999	\$32,431	\$10,969	\$21,938	\$108,877	\$54,369	\$54,508	2.0
Income Eligible - IHWAP-MF	\$5,920	\$7,370	\$4,379	\$1,481	\$2,962	\$13,289	\$7,341	\$5,949	1.8
Income Eligible - MF LIHEAP Kits	\$209,547	\$383,479	\$13,284	\$71,558	\$71,558	\$593,026	\$84,842	\$508,184	7.0
Income Eligible - IEMS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible - PTA	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible - PHES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible Total	\$264,344	\$450,848	\$50,094	\$84,007	\$96,457	\$715,192	\$146,551	\$568,641	4.9
EEPS Portfolio Costs			\$652,667			\$0	\$652,667	-\$652,667	
EEPS Portfolio	\$10,995,651	\$14,247,049	\$1,700,934	\$2,249,396	\$4,664,703	\$25,242,700	\$6,365,637	\$18,877,063	4.0
EEPS Portfolio Without Income Eligible	\$10,731,307	\$13,796,201	\$1,650,840	\$2,165,388	\$4,568,246	\$24,527,508	\$6,219,085	\$18,308,422	3.9

Source: Guidehouse Analysis

**Table 3-13. Summary of PACT Benefits and Costs for 2020 Plan 4 Avoided Costs**

Program Administrator Cost Test (PACT) Results for North Shore Gas, 2020 Programs, WACC Discount Rate, Plan 4 Avoided Costs									
Program	Benefits		Costs			Program Administrator Cost Test (PACT)			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	PACT Benefits	PACT Costs	PACT Test Net Benefits	PACT Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b)	(h) = (d+e)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$79,970		\$57,697	\$39,753	\$41,685	\$79,970	\$97,450	-\$17,480	0.8
Home Energy Rebate	\$710,651		\$96,227	\$236,982	\$1,089,564	\$710,651	\$333,209	\$377,442	2.1
Multi-Family	\$483,536		\$188,516	\$166,380	\$382,953	\$483,536	\$354,896	\$128,640	1.4
Home Energy Reports	\$933,943		\$313,347	\$0	\$0	\$933,943	\$313,347	\$620,597	3.0
Elementary Energy Education	\$36,156		\$0	\$12,345	\$12,345	\$36,156	\$12,345	\$23,812	2.9
Residential Subtotal	\$2,244,257	\$0	\$655,787	\$455,459	\$1,526,547	\$2,244,257	\$1,111,247	\$1,133,010	2.0
C&I and PS Prescriptive	\$972,187		\$218,986	\$383,784	\$526,243	\$972,187	\$602,770	\$369,417	1.6
C&I and PS Custom	\$70,926		\$6,706	\$11,752	\$92,270	\$70,926	\$18,457	\$52,469	3.8
Gas Optimization	\$716,746		\$38,971	\$68,299	\$263,770	\$716,746	\$107,270	\$609,476	6.7
Strategic Energy Management	\$130,583		\$57,635	\$101,009	\$107,169	\$130,583	\$158,644	-\$28,061	0.8
C&I and PS Joint Retro-Commissioning	\$170,410		\$18,350	\$32,159	\$64,146	\$170,410	\$50,508	\$119,902	3.4
C&I and PS Joint New Construction	\$19,077		\$1,916	\$3,359	\$22,278	\$19,077	\$5,275	\$13,802	3.6
Commercial Food Service	\$5,824		\$510	\$893	\$6,318	\$5,824	\$1,403	\$4,421	4.2
Small Business	\$724,932		\$155,980	\$191,827	\$378,097	\$724,932	\$347,808	\$377,125	2.1
Total C&I and Public Sector	\$2,810,685	\$0	\$499,054	\$793,081	\$1,460,290	\$2,810,685	\$1,292,135	\$1,518,551	2.2
Income Eligible - IHWAP-SF	\$38,227		\$0	\$139,107	\$278,214	\$38,227	\$139,107	-\$100,880	0.3
Income Eligible - IHWAP-MF	\$18,775		\$0	\$68,284	\$136,568	\$18,775	\$68,284	-\$49,509	0.3
Income Eligible - MF LIHEAP Kits	\$209,392		\$1,205	\$92,528	\$92,528	\$209,392	\$93,733	\$115,658	2.2
Income Eligible - IEMS	\$1,742		\$23,611	\$3,766	\$3,766	\$1,742	\$27,377	-\$25,636	0.1
Income Eligible - PTA	\$15,997		\$0	\$51,846	\$51,846	\$15,997	\$51,846	-\$35,849	0.3
Income Eligible - PHES	\$0		\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible Total	\$284,132	\$0	\$24,817	\$355,531	\$562,922	\$284,132	\$380,348	-\$96,215	0.7
EEPS Portfolio Costs			\$802,801			\$0	\$802,801	-\$802,801	
EEPS Portfolio	\$5,339,075	\$0	\$1,982,458	\$1,604,071	\$3,549,759	\$5,339,075	\$3,586,530	\$1,752,545	1.5
EEPS Portfolio Without Income Eligible	\$5,054,942	\$0	\$1,957,642	\$1,248,540	\$2,986,837	\$5,054,942	\$3,206,182	\$1,848,760	1.6

Source: Guidehouse Analysis

Table 3-14. Summary of PACT Benefits and Costs for 2021 Plan 4 Avoided Costs

Program Administrator Cost Test (PACT) Results for North Shore Gas, 2021 Programs, WACC Discount Rate, Plan 4 Avoided Costs									
Program	Benefits		Costs			Program Administrator Cost Test (PACT)			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	PACT Benefits	PACT Costs	PACT Test Net Benefits	PACT Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b)	(h) = (d+e)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$130,200		\$62,899	\$80,277	\$61,970	\$130,200	\$143,176	-\$12,976	0.9
Home Energy Rebate	\$1,041,474		\$97,478	\$243,214	\$1,171,163	\$1,041,474	\$340,692	\$700,782	3.1
Multi-Family	\$105,779		\$164,436	\$53,314	\$88,200	\$105,779	\$217,750	-\$111,971	0.5
Home Energy Reports	\$899,005		\$227,283	\$0	\$0	\$899,005	\$227,283	\$671,722	4.0
Elementary Energy Education	\$76,781		\$0	\$42,602	\$42,602	\$76,781	\$42,602	\$34,179	1.8
Residential Subtotal	\$2,253,239	\$0	\$552,095	\$419,408	\$1,363,935	\$2,253,239	\$971,503	\$1,281,736	2.3
C&I and PS Prescriptive	\$831,799		\$133,940	\$543,902	\$500,227	\$831,799	\$677,842	\$153,957	1.2
C&I and PS Custom	\$122,708		\$10,476	\$42,542	\$148,483	\$122,708	\$53,018	\$69,690	2.3
Gas Optimization	\$3,244,295		\$166,173	\$674,795	\$1,158,492	\$3,244,295	\$840,968	\$2,403,327	3.9
Strategic Energy Management	\$43,717		\$6,733	\$27,341	\$12,896	\$43,717	\$34,074	\$9,643	1.3
C&I and PS Joint Retro-Commissioning	\$70,280		\$9,050	\$36,751	\$32,587	\$70,280	\$45,801	\$24,479	1.5
C&I and PS Joint New Construction	\$238,800		\$22,830	\$92,710	\$254,540	\$238,800	\$115,540	\$123,260	2.1
Commercial Food Service	\$15,547		\$1,306	\$5,302	\$18,290	\$15,547	\$6,607	\$8,940	2.4
Small Business	\$1,256,716		\$95,570	\$322,638	\$1,081,921	\$1,256,716	\$418,208	\$838,508	3.0
Total C&I and Public Sector	\$5,823,863	\$0	\$446,077	\$1,745,981	\$3,207,436	\$5,823,863	\$2,192,058	\$3,631,805	2.7
Income Eligible - IHWAP-SF	\$36,217		\$32,431	\$10,969	\$21,938	\$36,217	\$43,400	-\$7,184	0.8
Income Eligible - IHWAP-MF	\$4,437		\$4,379	\$1,481	\$2,962	\$4,437	\$5,860	-\$1,422	0.8
Income Eligible - MF LIHEAP Kits	\$158,000		\$13,284	\$71,558	\$71,558	\$158,000	\$84,842	\$73,159	1.9
Income Eligible - IEMS	\$0		\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible - PTA	\$0		\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible - PHES	\$0		\$0	\$0	\$0	\$0	\$0	\$0	
Income Eligible Total	\$198,654	\$0	\$50,094	\$84,007	\$96,457	\$198,654	\$134,102	\$64,553	1.5
EEPS Portfolio Costs			\$652,667			\$0	\$652,667	-\$652,667	
EEPS Portfolio	\$8,275,756	\$0	\$1,700,934	\$2,249,396	\$4,667,829	\$8,275,756	\$3,950,330	\$4,325,426	2.1
EEPS Portfolio Without Income Eligible	\$8,077,102	\$0	\$1,650,840	\$2,165,388	\$4,571,371	\$8,077,102	\$3,816,228	\$4,260,874	2.1

Source: Guidehouse Analysis

### **3.2 Program Specific Verified Savings and Costs Summary**

A summary of the components of the verified savings and costs for each program are shown in Table 3-15 through Table 3-19 for each program year and the total over four years. The tables include the component values for each program, as well as portfolio level totals for each component.

## Table 3-15. Summary of Verified Savings and Program Costs for 2018-2021

North Shore Gas 2018-2021 Verified Savings Summary																	
	Ex Ante Gross	Realization Rate	Verified Gross		Deemed / Used	Verified Net				Actual Costs	Participation		GHG Savings		Water Savings		Verified Gross Weighted Average Measure Life
	Annual Energy Savings	Energy Savings (Verified Gross / Ex Ante Gross)	Annual Energy Savings	Lifetime Savings	Net-to-Gross Ratio	Annual Energy Savings	Lifetime Savings	First Year Cost per First Year Annual Savings	First Year Cost per Lifetime Savings	Utility Program Costs	# Units	Units Definition	Annual Verified Net CO2 Savings	Lifetime Verified Net CO2 Savings	Annual Verified Net Water Savings	Lifetime Verified Net Water Savings	Years
			Therms	%	Therms	%	Therms	\$/Therms	\$/Therms	\$			metric tons CO2	metric tons CO2	Gallons	Gallons	
(a)	(b)	(c=d/b)	(d)	(e)	(f=g/d)	(g)	(h)	(i=k/g)	(j=k/h)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r=e/d)
Home Energy Jumpstart	174,207	102%	177,699	1,591,291	92%	164,291	1,489,834	\$ 3.05	\$ 0.34	\$ 501,555	4,815	Participants	869	7,883	10,217,317	93,814,871	9.0
Home Energy Rebate	1,415,120	102%	1,437,742	24,179,233	77%	1,109,778	17,878,740	\$ 2.47	\$ 0.15	\$ 2,736,832	10,517	Participants	5,872	94,596	-	-	16.8
Multi-Family	279,575	101%	282,272	3,499,263	89%	250,552	3,092,587	\$ 4.16	\$ 0.34	\$ 1,043,447	2,928	Projects	1,326	16,363	4,618,940	42,589,509	12.4
Home Energy Reports	1,615,525	150%	2,425,409	12,127,045	100%	2,425,409	12,127,045	\$ 0.45	\$ 0.09	\$ 1,095,176	255,990	Participants	12,833	64,164	-	-	5.0
Elementary Energy Education	89,038	122%	108,857	1,014,026	100%	108,857	1,014,026	\$ 1.15	\$ 0.12	\$ 125,383	7,101	Kits Distributed	576	5,365	25,821,749	245,081,809	9.3
<b>Residential Total</b>	<b>3,573,465</b>	<b>124%</b>	<b>4,431,979</b>	<b>42,410,858</b>	<b>92%</b>	<b>4,058,887</b>	<b>35,602,232</b>	<b>\$ 1.36</b>	<b>\$ 0.15</b>	<b>\$ 5,502,393</b>	<b>NA</b>		<b>21,476</b>	<b>188,371</b>	<b>40,658,007</b>	<b>381,166,189</b>	<b>9.6</b>
C&I and PS Prescriptive	2,321,654	100%	2,327,859	13,943,875	82%	1,900,584	11,388,728	\$ 1.25	\$ 0.21	\$ 2,369,684	135	Projects	10,056	60,258	4,186,045	25,116,270	6.0
C&I and PS Custom	159,173	86%	136,456	1,980,088	71%	97,341	1,414,433	\$ 1.66	\$ 0.11	\$ 161,348	18	Projects	515	7,484	-	-	14.5
Gas Optimization	805,748	100%	808,706	18,582,800	91%	735,923	16,910,356	\$ 1.31	\$ 0.06	\$ 966,828	13	Projects	3,894	89,473	-	-	23.0
Strategic Energy Management	405,916	61%	249,115	1,412,231	100%	249,115	1,412,231	\$ 1.28	\$ 0.23	\$ 319,629	7	Projects	1,318	7,472	-	-	5.7
C&I and PS Joint Retro-Commissioning	325,576	73%	238,150	1,936,031	97%	230,446	1,869,254	\$ 2.33	\$ 0.29	\$ 537,475	26	Projects	1,219	9,890	-	-	8.1
C&I and PS Joint New Construction	119,669	96%	114,878	2,366,487	58%	66,606	1,372,087	\$ 2.19	\$ 0.11	\$ 146,020	13	Projects	352	7,260	-	-	20.6
Commercial Food Service	6,896	103%	7,129	85,548	88%	6,253	75,036	\$ 1.28	\$ 0.11	\$ 8,010	5	Projects	33	397	-	-	12.0
Small Business	1,137,937	101%	1,150,589	10,418,063	92%	1,060,322	9,600,954	\$ 1.19	\$ 0.13	\$ 1,258,749	1,290	Projects	5,610	50,799	5,900,584	46,810,671	9.1
<b>C&amp;I and Public Sector Total</b>	<b>5,282,569</b>	<b>95%</b>	<b>5,032,882</b>	<b>50,725,123</b>	<b>86%</b>	<b>4,346,590</b>	<b>44,043,079</b>	<b>\$ 1.33</b>	<b>\$ 0.13</b>	<b>\$ 5,767,742</b>	<b>NA</b>		<b>22,998</b>	<b>233,032</b>	<b>10,086,629</b>	<b>71,926,941</b>	<b>10.1</b>
Income Eligible - IHWAP-SF	49,493	105%	52,201	949,654	100%	52,201	949,654	\$ 10.99	\$ 0.60	\$ 573,656	122	Participants	276	5,025	95,331	932,896	18.2
Income Eligible - IHWAP-MF	39,708	92%	36,550	661,591	100%	36,550	661,591	\$ 14.73	\$ 0.81	\$ 538,450	433	Projects	193	3,500	115,545	1,135,237	18.1
Income Eligible - MF LIHEAP Kits	126,803	106%	135,039	1,391,649	100%	135,039	1,391,649	\$ 1.32	\$ 0.13	\$ 178,575	3,539	Kits Distributed	714	7,363	3,754,299	36,938,824	10.3
Income Eligible - IEMS	2,569	100%	2,575	28,695	100%	2,575	28,695	\$ 17.80	\$ 1.60	\$ 45,844	48	Projects	14	152	353,756	3,336,291	11.1
Income Eligible - PTA	8,402	104%	8,710	58,344	100%	8,710	58,344	\$ 5.95	\$ 0.89	\$ 51,846	16	Projects	46	309	-	-	6.7
Income Eligible - PHES	8,238	91%	7,465	81,180	100%	7,465	81,180	\$ 11.59	\$ 1.07	\$ 86,514	7	Projects	39	430	847,531	8,303,484	10.9
<b>Income Eligible Total</b>	<b>235,213</b>	<b>103%</b>	<b>242,540</b>	<b>3,171,113</b>	<b>100%</b>	<b>242,540</b>	<b>3,171,113</b>	<b>\$ 6.08</b>	<b>\$ 0.47</b>	<b>\$ 1,474,885</b>	<b>NA</b>		<b>1,283</b>	<b>16,778</b>	<b>5,166,462</b>	<b>50,647,731</b>	<b>13.1</b>
<b>EEPS Program Total</b>	<b>9,091,247</b>	<b>107%</b>	<b>9,707,400</b>	<b>96,307,094</b>	<b>89%</b>	<b>8,648,016</b>	<b>82,816,423</b>	<b>\$ 1.47</b>	<b>\$ 0.15</b>	<b>\$ 12,745,020</b>			<b>45,757</b>	<b>438,182</b>	<b>55,911,098</b>	<b>503,740,862</b>	<b>9.9</b>
Other EEPS Portfolio Costs										\$ 2,769,508							
<b>EEPS Portfolio Total</b>	<b>9,091,247</b>	<b>107%</b>	<b>9,707,400</b>	<b>96,307,094</b>	<b>89%</b>	<b>8,648,016</b>	<b>82,816,423</b>	<b>\$ 1.79</b>	<b>\$ 0.19</b>	<b>\$ 15,514,528</b>	<b>NA</b>		<b>45,757</b>	<b>438,182</b>	<b>55,911,098</b>	<b>503,740,862</b>	<b>9.9</b>

Source: Guidehouse Analysis



### Table 3-16. Summary of Verified Savings and Program Costs for 2018

North Shore Gas 2018 Verified Savings Summary																			
	Ex Ante Gross		Realization Rate		Verified Gross		Deemed / Used	Verified Net				Actual Costs	Participation		GHG Savings		Water Savings		Verified Gross Weighted Average Measure Life
	Annual Energy Savings	Energy Savings (Verified Gross / Ex Ante Gross)	Annual Energy Savings	Lifetime Savings	Net-to-Gross Ratio	Annual Energy Savings	Lifetime Savings	First Year Cost per First Year Annual Savings	First Year Cost per Lifetime Savings	Utility Program Costs	# Units	Units Definition	Annual Verified Net CO2 Savings	Lifetime Verified Net CO2 Savings	Annual Verified Net Water Savings	Lifetime Verified Net Water Savings	Years		
	Therms	%	Therms	Therms	%	Therms	Therms	\$/Therms	\$/Therms	\$			metric tons CO2	metric tons CO2	Gallons	Gallons			
(a)	(b)	(c=d/b)	(d)	(e)	(f=g/d)	(g)	(h)	(i=k/g)	(j=k/h)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r=s/d)		
Home Energy Jumpstart	48,497	110%	53,289	380,319	97%	51,607	369,509	\$ 2.35	\$ 0.33	\$ 121,399	1,671	Participants	273	1,955	3,843,866	38,079,444	7.1		
Home Energy Rebate	444,199	103%	457,992	7,453,830	80%	365,200	5,604,838	\$ 2.91	\$ 0.19	\$ 1,061,752	3,740	Participants	1,932	29,655	-	-	16.3		
Multi-Family	31,953	110%	35,209	317,291	86%	30,337	270,429	\$ 7.06	\$ 0.79	\$ 214,087	1,039	Projects	161	1,431	1,920,888	18,728,140	9.0		
Home Energy Reports	406,173	129%	522,118	2,610,590	100%	522,118	2,610,590	\$ 0.55	\$ 0.11	\$ 287,131	54,485	Participants	2,763	13,813	-	-	5.0		
Elementary Energy Education	17,273	177%	30,606	278,747	100%	30,606	278,747	\$ 1.13	\$ 0.12	\$ 34,575	1,915	Kits Distributed	162	1,475	6,054,275	56,346,529	9.1		
<b>Residential Total</b>	<b>948,095</b>	<b>116%</b>	<b>1,099,214</b>	<b>11,040,777</b>	<b>91%</b>	<b>999,868</b>	<b>9,134,113</b>	<b>\$ 1.72</b>	<b>\$ 0.19</b>	<b>\$ 1,718,944</b>	<b>NA</b>		<b>5,290</b>	<b>48,329</b>	<b>11,819,029</b>	<b>113,154,113</b>	<b>10.0</b>		
C&I and PS Prescriptive	314,925	102%	320,674	2,428,547	79%	253,332	1,918,548	\$ 2.25	\$ 0.30	\$ 569,077	30	Projects	1,340	10,151	-	-	7.6		
C&I and PS Custom	29,445	109%	32,014	475,495	69%	22,090	328,095	\$ 1.83	\$ 0.12	\$ 40,374	4	Projects	117	1,736	-	-	14.9		
Gas Optimization																			
Strategic Energy Management																			
C&I and PS Joint Retro-Commissioning	153,519	54%	82,297	617,228	102%	83,944	629,577	\$ 4.62	\$ 0.62	\$ 388,231	9	Projects	444	3,331	-	-	7.5		
C&I and PS Joint New Construction	9,906	84%	8,321	171,413	77%	6,407	131,988	\$ 2.12	\$ 0.10	\$ 13,583	2	Projects	34	698	-	-	20.6		
Commercial Food Service																			
Small Business	158,868	100%	159,179	1,379,852	92%	146,445	1,269,482	\$ 1.38	\$ 0.16	\$ 202,159	87	Projects	775	6,717	47,902	319,549	8.7		
<b>C&amp;I and Public Sector Total</b>	<b>666,663</b>	<b>90%</b>	<b>602,485</b>	<b>5,072,534</b>	<b>85%</b>	<b>512,218</b>	<b>4,277,690</b>	<b>\$ 2.37</b>	<b>\$ 0.28</b>	<b>\$ 1,213,423</b>	<b>NA</b>		<b>2,710</b>	<b>22,633</b>	<b>47,902</b>	<b>319,549</b>	<b>8.4</b>		
Income Eligible - IHWAP-SF	27,862	108%	30,131	575,442	100%	30,131	575,442	\$ 10.95	\$ 0.57	\$ 329,861	55	Participants	159	3,045	42,843	408,010	19.1		
Income Eligible - MF LIHEAP-MF	10,131	89%	9,004	144,276	100%	9,004	144,276	\$ 13.32	\$ 0.83	\$ 119,958	51	Participants	48	763	20,210	181,893	16.0		
Income Eligible - IEMS																			
Income Eligible - PTA	61	100%	61	610	100%	61	610	\$ 11.46	\$ 1.15	\$ 699	19	Participants	0	3	58,314	583,143	10.0		
Income Eligible - PHES	4,358	82%	3,590	40,127	100%	3,590	40,127	\$ 13.91	\$ 1.24	\$ 49,940	3	Projects	19	212	733,483	7,163,002	11.2		
<b>Income Eligible Total</b>	<b>42,412</b>	<b>101%</b>	<b>42,786</b>	<b>760,455</b>	<b>100%</b>	<b>42,786</b>	<b>760,455</b>	<b>\$ 11.70</b>	<b>\$ 0.66</b>	<b>\$ 500,459</b>	<b>NA</b>		<b>226</b>	<b>4,024</b>	<b>854,850</b>	<b>8,336,049</b>	<b>17.8</b>		
<b>EEPS Program Total</b>	<b>1,657,170</b>	<b>105%</b>	<b>1,744,485</b>	<b>16,873,766</b>	<b>89%</b>	<b>1,554,872</b>	<b>14,172,258</b>	<b>\$ 2.21</b>	<b>\$ 0.24</b>	<b>\$ 3,432,826</b>	<b>NA</b>		<b>8,227</b>	<b>74,985</b>	<b>12,721,781</b>	<b>121,809,711</b>	<b>9.7</b>		
Other EEPS Portfolio Costs										\$ 593,769									
<b>EEPS Portfolio Total</b>	<b>1,657,170</b>	<b>105%</b>	<b>1,744,485</b>	<b>16,873,766</b>	<b>89%</b>	<b>1,554,872</b>	<b>14,172,258</b>	<b>\$ 2.59</b>	<b>\$ 0.28</b>	<b>\$ 4,026,594</b>	<b>NA</b>		<b>8,227</b>	<b>74,985</b>	<b>12,721,781</b>	<b>121,809,711</b>	<b>9.7</b>		

Source: Guidehouse Analysis

### Table 3-17. Summary of Verified Savings and Program Costs for 2019

North Shore Gas 2019 Verified Savings Summary																			
	Ex Ante Gross		Realization Rate		Verified Gross		Deemed / Used	Verified Net				Actual Costs	Participation		GHG Savings		Water Savings		Verified Gross Weighted Average Measure Life
	Annual Energy Savings	Energy Savings (Verified Gross / Ex Ante Gross)	Annual Energy Savings	Lifetime Savings	Net-to-Gross Ratio	Annual Energy Savings	Lifetime Savings	First Year Cost per First Year Annual Savings	First Year Cost per Lifetime Savings	Utility Program Costs	# Units	Units Definition	Annual Verified Net CO2 Savings	Lifetime Verified Net CO2 Savings	Annual Verified Net Water Savings	Lifetime Verified Net Water Savings	Years		
	(b)	(c=d/b)	(d)	(e)	(f=g/d)	(g)	(h)	(i=k/g)	(j=k/h)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r=e/d)		
	Therms	%	Therms	Therms	%	Therms	Therms	\$/Therms	\$/Therms	\$			metric tons CO2	metric tons CO2	Gallons	Gallons			
Home Energy Jumpstart	51,679	98%	50,389	358,827	91%	45,837	344,363	\$ 3.04	\$ 0.41	\$ 139,530	1,394	Participants	243	1,822	2,475,517	24,755,171	7.1		
Home Energy Rebate	449,510	100%	450,409	7,526,173	77%	346,075	5,498,985	\$ 2.89	\$ 0.18	\$ 1,001,179	3,523	Participants	1,831	29,095	-	-	16.7		
Multi-Family	62,845	97%	61,191	734,293	92%	56,463	674,661	\$ 4.55	\$ 0.38	\$ 256,714	783	Projects	299	3,570	1,580,309	15,790,737	12.0		
Home Energy Reports	456,028	153%	697,446	3,487,230	100%	697,446	3,487,230	\$ 0.38	\$ 0.08	\$ 267,416	59,203	Participants	3,690	18,451	-	-	5.0		
Elementary Energy Education	32,732	113%	36,987	349,805	100%	36,987	349,805	\$ 0.97	\$ 0.10	\$ 35,861	2,048	Kits Distributed	196	1,851	7,806,361	74,533,331	9.5		
<b>Residential Total</b>	<b>1,052,803</b>	<b>123%</b>	<b>1,296,422</b>	<b>12,456,328</b>	<b>91%</b>	<b>1,182,808</b>	<b>10,355,044</b>	<b>\$ 1.44</b>	<b>\$ 0.16</b>	<b>\$ 1,700,700</b>	<b>NA</b>		<b>6,258</b>	<b>54,789</b>	<b>11,862,187</b>	<b>115,079,239</b>	<b>9.6</b>		
C&I and PS Prescriptive	679,285	100%	679,623	4,300,351	79%	536,902	3,397,279	\$ 0.97	\$ 0.15	\$ 519,995	14	Projects	2,841	17,975	2,078,621	12,471,725	6.3		
C&I and PS Custom	64,661	63%	40,731	541,443	69%	28,104	373,593	\$ 1.76	\$ 0.13	\$ 49,498	5	Projects	149	1,977	-	-	13.3		
Gas Optimization	24,286	100%	24,286	205,058	91%	22,100	186,600	\$ 0.84	\$ 0.10	\$ 18,591	2	Projects	117	987	-	-	8.4		
Strategic Energy Management	165,787	100%	165,787	828,935	100%	165,787	828,935	\$ 0.77	\$ 0.15	\$ 126,911	2	Projects	877	4,386	-	-	5.0		
C&I and PS Joint Retro-Commissioning	69,150	86%	59,469	499,540	94%	55,901	469,568	\$ 0.95	\$ 0.11	\$ 52,935	5	Projects	296	2,484	-	-	8.4		
C&I and PS Joint New Construction	15,183	99%	15,031	309,639	70%	10,522	216,753	\$ 1.10	\$ 0.05	\$ 11,623	2	Projects	56	1,147	-	-	20.6		
Commercial Food Service																			
Small Business	196,988	100%	197,360	1,412,503	92%	181,662	1,300,119	\$ 1.60	\$ 0.22	\$ 290,574	98	Projects	961	6,879	1,041,233	6,586,138	7.2		
<b>C&amp;I and Public Sector Total</b>	<b>1,215,340</b>	<b>97%</b>	<b>1,182,287</b>	<b>8,097,467</b>	<b>85%</b>	<b>1,000,978</b>	<b>6,772,847</b>	<b>\$ 1.07</b>	<b>\$ 0.16</b>	<b>\$ 1,070,126</b>	<b>NA</b>		<b>5,296</b>	<b>35,835</b>	<b>3,119,854</b>	<b>19,057,863</b>	<b>6.8</b>		
Income Eligible - IHWAP-SF	4,298	110%	4,736	86,412	100%	4,736	86,412	\$ 12.94	\$ 0.71	\$ 61,287	13	Participants	25	457	10,132	101,323	18.2		
Income Eligible - IHWAP-MF	24,147	92%	22,108	428,109	100%	22,108	428,109	\$ 15.58	\$ 0.80	\$ 344,348	358	Projects	117	2,265	38,066	380,661	19.4		
Income Eligible - MF LIHEAP Kits																			
Income Eligible - IEMS	1,885	100%	1,891	22,135	100%	1,891	22,135	\$ 9.40	\$ 0.80	\$ 17,768	23	Projects	10	117	19,345	193,452	11.7		
Income Eligible - PTA																			
Income Eligible - PHES	3,880	100%	3,875	41,053	100%	3,875	41,053	\$ 9.44	\$ 0.89	\$ 36,574	4	Projects	21	217	114,048	1,140,482	10.6		
<b>Income Eligible Total</b>	<b>34,210</b>	<b>95%</b>	<b>32,610</b>	<b>577,709</b>	<b>100%</b>	<b>32,610</b>	<b>577,709</b>	<b>\$ 14.11</b>	<b>\$ 0.80</b>	<b>\$ 459,977</b>	<b>NA</b>		<b>173</b>	<b>3,057</b>	<b>181,592</b>	<b>1,815,918</b>	<b>17.7</b>		
<b>EEPS Program Total</b>	<b>2,302,353</b>	<b>109%</b>	<b>2,511,319</b>	<b>21,131,503</b>	<b>88%</b>	<b>2,216,396</b>	<b>17,705,600</b>	<b>\$ 1.46</b>	<b>\$ 0.18</b>	<b>\$ 3,230,802</b>			<b>11,727</b>	<b>93,680</b>	<b>15,163,632</b>	<b>135,953,020</b>	<b>8.4</b>		
Other EEPS Portfolio Costs										\$ 720,271									
<b>EEPS Portfolio Total</b>	<b>2,302,353</b>	<b>109%</b>	<b>2,511,319</b>	<b>21,131,503</b>	<b>88%</b>	<b>2,216,396</b>	<b>17,705,600</b>	<b>\$ 1.78</b>	<b>\$ 0.22</b>	<b>\$ 3,951,074</b>	<b>NA</b>		<b>11,727</b>	<b>93,680</b>	<b>15,163,632</b>	<b>135,953,020</b>	<b>8.4</b>		

Source: Guidehouse Analysis

### Table 3-18. Summary of Verified Savings and Program Costs for 2020

North Shore Gas 2020 Verified Savings Summary																			
(a)	Ex Ante Gross		Realization Rate		Verified Gross		Deemed / Used	Verified Net				Actual Costs	Participation		GHG Savings		Water Savings		Verified Gross Weighted Average Measure Life
	Annual Energy Savings		Energy Savings (Verified Gross / Ex Ante Gross)		Annual Energy Savings	Lifetime Savings	Net-to-Gross Ratio	Annual Energy Savings	Lifetime Savings	First Year Cost per First Year Annual Savings	First Year Cost per Lifetime Savings	Utility Program Costs	# Units	Units Definition	Annual Verified Net CO2 Savings	Lifetime Verified Net CO2 Savings	Annual Verified Net Water Savings	Lifetime Verified Net Water Savings	Years
	Therms		%		Therms	Therms	%	Therms	Therms	\$/Therms	\$/Therms	\$	(l)	(m)	metric tons CO2	metric tons CO2	Gallons	Gallons	(r=e/d)
Home Energy Jumpstart	30,952	100%	30,942	316,240	91%	28,050	291,882	\$ 3.47	\$ 0.33	\$ 97,450	695	Participants	148	1,544	1,399,427	11,056,321	10.2		
Home Energy Rebate	217,076	100%	218,142	4,187,170	67%	147,115	2,815,468	\$ 2.26	\$ 0.12	\$ 333,209	951	Participants	778	14,897	-	-	19.2		
Multi-Family	150,894	101%	151,980	2,022,685	87%	132,813	1,764,116	\$ 2.67	\$ 0.20	\$ 354,896	485	Projects	703	9,334	478,163	2,724,836	13.3		
Home Energy Reports	297,590	206%	614,415	3,072,075	100%	614,415	3,072,075	\$ 0.51	\$ 0.10	\$ 313,347	73,602	Participants	3,251	16,254	-	-	5.0		
Elementary Energy Education	11,268	121%	13,676	123,249	100%	13,676	123,249	\$ 0.90	\$ 0.10	\$ 12,345	705	Kits Distributed	72	652	2,687,248	25,657,226	9.0		
<b>Residential Total</b>	<b>707,780</b>	<b>145%</b>	<b>1,029,155</b>	<b>9,721,418</b>	<b>91%</b>	<b>936,069</b>	<b>8,066,789</b>	<b>\$ 1.19</b>	<b>\$ 0.14</b>	<b>\$ 1,111,247</b>	<b>NA</b>		<b>4,953</b>	<b>42,681</b>	<b>4,564,839</b>	<b>39,438,383</b>	<b>9.4</b>		
C&I and PS Prescriptive	814,381	100%	814,414	4,105,636	79%	643,387	3,243,447	\$ 0.94	\$ 0.19	\$ 602,770	30	Projects	3,404	17,161	1,344,717	8,068,300	5.0		
C&I and PS Custom	24,937	94%	23,463	351,945	74%	17,363	260,445	\$ 1.06	\$ 0.07	\$ 18,457	4	Projects	92	1,378	-	-	15.0		
Gas Optimization	144,928	100%	145,039	3,294,126	91%	131,986	2,997,660	\$ 0.81	\$ 0.04	\$ 107,270	6	Projects	698	15,861	-	-	22.7		
Strategic Energy Management	214,338	29%	62,428	436,996	100%	62,428	436,996	\$ 2.54	\$ 0.36	\$ 158,644	3	Projects	330	2,312	-	-	7.0		
C&I and PS Joint Retro-Commissioning	68,240	100%	68,240	580,040	94%	64,146	545,241	\$ 0.79	\$ 0.09	\$ 50,508	6	Projects	339	2,885	-	-	8.5		
C&I and PS Joint New Construction	7,127	89%	6,337	130,542	58%	3,675	75,705	\$ 1.44	\$ 0.07	\$ 5,275	2	Projects	19	401	-	-	20.6		
Commercial Food Service	1,895	112%	2,130	25,560	80%	1,704	20,448	\$ 0.82	\$ 0.07	\$ 1,403	2	Projects	9	108	-	-	12.0		
Small Business	354,153	99%	351,792	2,728,867	92%	325,133	2,522,548	\$ 1.07	\$ 0.14	\$ 347,808	990	Projects	1,720	13,347	4,098,933	35,749,937	7.8		
<b>C&amp;I and Public Sector Total</b>	<b>1,629,999</b>	<b>90%</b>	<b>1,473,843</b>	<b>11,651,712</b>	<b>85%</b>	<b>1,249,822</b>	<b>10,102,489</b>	<b>\$ 1.03</b>	<b>\$ 0.13</b>	<b>\$ 1,292,135</b>	<b>NA</b>		<b>6,613</b>	<b>53,452</b>	<b>5,443,650</b>	<b>43,818,236</b>	<b>7.9</b>		
Income Eligible - IHWAP-SF	8,682	100%	8,682	148,507	100%	8,682	148,507	\$ 16.02	\$ 0.94	\$ 139,107	24	Participants	46	786	8,354	83,538	17.1		
Income Eligible - IHWAP-MF	4,262	100%	4,262	72,327	100%	4,262	72,327	\$ 16.02	\$ 0.94	\$ 68,284	19	Projects	23	383	51,795	517,951	17.0		
Income Eligible - MF LIHEAP Kits	71,860	108%	77,130	792,788	100%	77,130	792,788	\$ 1.22	\$ 0.12	\$ 93,733	2,000	Kits Distributed	408	4,195	2,121,672	20,875,854	10.3		
Income Eligible - IEMS	623	100%	623	5,950	100%	623	5,950	\$ 43.94	\$ 4.60	\$ 27,377	6	Projects	3	31	276,097	2,559,695	9.6		
Income Eligible - PTA	8,402	104%	8,710	58,344	100%	8,710	58,344	\$ 5.95	\$ 0.89	\$ 51,846	16	Projects	46	309	-	-	6.7		
Income Eligible - PHES	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	-	Projects	-	-	-	-	-		
<b>Income Eligible Total</b>	<b>93,629</b>	<b>106%</b>	<b>99,407</b>	<b>1,077,916</b>	<b>100%</b>	<b>99,407</b>	<b>1,077,916</b>	<b>\$ 3.83</b>	<b>\$ 0.35</b>	<b>\$ 380,348</b>	<b>NA</b>		<b>526</b>	<b>5,703</b>	<b>2,457,918</b>	<b>24,037,038</b>	<b>10.8</b>		
<b>EEPS Program Total</b>	<b>2,431,408</b>	<b>107%</b>	<b>2,602,406</b>	<b>22,451,047</b>	<b>88%</b>	<b>2,285,299</b>	<b>19,247,194</b>	<b>\$ 1.22</b>	<b>\$ 0.14</b>	<b>\$ 2,783,729</b>			<b>12,092</b>	<b>101,837</b>	<b>12,466,406</b>	<b>107,293,658</b>	<b>8.6</b>		
Other EEPS Portfolio Costs	-	-	-	-	-	-	-	\$ -	\$ -	\$ 802,801									
<b>EEPS Portfolio Total</b>	<b>2,431,408</b>	<b>107%</b>	<b>2,602,406</b>	<b>22,451,047</b>	<b>88%</b>	<b>2,285,299</b>	<b>19,247,194</b>	<b>\$ 1.57</b>	<b>\$ 0.19</b>	<b>\$ 3,586,530</b>	<b>NA</b>		<b>12,092</b>	<b>101,837</b>	<b>12,466,406</b>	<b>107,293,658</b>	<b>8.6</b>		

Source: Guidehouse Analysis

### Table 3-19. Summary of Verified Savings and Program Costs for 2021

North Shore Gas 2021 Verified Savings Summary																			
	Ex Ante Gross		Realization Rate		Verified Gross		Deemed / Used	Verified Net				Actual Costs	Participation		GHG Savings		Water Savings		Verified Gross Weighted Average Measure Life
	Annual Energy Savings		Energy Savings (Verified Gross / Ex Ante Gross)		Annual Energy Savings	Lifetime Savings	Net-to-Gross Ratio	Annual Energy Savings	Lifetime Savings	First Year Cost per First Year Annual Savings	First Year Cost per Lifetime Savings	Utility Program Costs	# Units	Units Definition	Annual Verified Net CO2 Savings	Lifetime Verified Net CO2 Savings	Annual Verified Net Water Savings	Lifetime Verified Net Water Savings	Years
	Therms		%		Therms	Therms	%	Therms	Therms	\$/Therms	\$/Therms	\$	(l)	(m)	metric tons CO2	metric tons CO2	Gallons	Gallons	(r=e/d)
(a)	(b)	(c=d/b)	(d)	(e)	(f=g/d)	(g)	(h)	(i=k/g)	(j=l/h)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	
Home Energy Jumpstart	43,079	100%	43,079	535,905	90%	38,797	484,081	\$ 3.69	\$ 0.30	\$ 143,176	1,055	Participants	205.27	2,561.27	2,498,507	19,603,935	12.4		
Home Energy Rebate	304,326	102%	311,199	5,012,060	81%	251,388	3,959,449	\$ 1.36	\$ 0.09	\$ 340,692	2,303	Participants	1,330.09	20,949.45	-	-	16.1		
Multi-Family	33,883	100%	33,892	424,995	91%	30,939	383,381	\$ 7.04	\$ 0.57	\$ 217,750	622	Projects	163.70	2,028.47	639,581	5,345,796	12.5		
Home Energy Reports	455,734	130%	591,430	2,957,150	100%	591,430	2,957,150	\$ 0.38	\$ 0.08	\$ 227,283	68,700	Participants	3,129.26	15,646.28	-	-	5.0		
Elementary Energy Education	27,765	99%	27,587	262,225	100%	27,587	262,225	\$ 1.54	\$ 0.16	\$ 42,602	2,433	Kits Distributed	145.97	1,387.43	9,273,865	88,544,724	9.5		
<b>Residential Total</b>	<b>864,787</b>	<b>116%</b>	<b>1,007,187</b>	<b>9,192,335</b>	<b>93%</b>	<b>940,141</b>	<b>8,046,286</b>	<b>\$ 1.03</b>	<b>\$ 0.12</b>	<b>\$ 971,503</b>	<b>NA</b>		<b>4,974</b>	<b>42,573</b>	<b>12,411,953</b>	<b>113,494,454</b>	<b>9.1</b>		
C&I and PS Prescriptive	513,063	100%	513,148	3,109,341	91%	466,963	2,829,454	\$ 1.45	\$ 0.24	\$ 677,842	61	Projects	2,470.70	14,970.64	762,707	4,576,245	6.1		
C&I and PS Custom	40,130	100%	40,248	611,205	74%	29,784	452,300	\$ 1.78	\$ 0.12	\$ 53,018	5	Projects	157.59	2,393.12	-	-	15.2		
Gas Optimization	636,534	100%	639,381	15,083,616	91%	581,837	13,726,096	\$ 1.45	\$ 0.06	\$ 840,968	5	Projects	3,078.50	72,624.77	-	-	23.6		
Strategic Energy Management	25,791	81%	20,900	146,300	100%	20,900	146,300	\$ 1.63	\$ 0.23	\$ 34,074	2	Projects	110.58	774.07	-	-	7.0		
C&I and PS Joint Retro-Commissioning	34,667	81%	28,144	239,224	94%	26,455	224,868	\$ 1.73	\$ 0.20	\$ 45,801	6	Projects	139.97	1,189.77	-	-	8.5		
C&I and PS Joint New Construction	87,453	97%	85,189	1,754,893	54%	46,002	947,641	\$ 2.51	\$ 0.12	\$ 115,540	7	Projects	243.40	5,013.97	-	-	20.6		
Commercial Food Service	5,001	100%	4,999	59,988	91%	4,549	54,588	\$ 1.45	\$ 0.12	\$ 6,607	3	Projects	24.07	288.83	-	-	12.0		
Small Business	427,928	103%	442,258	4,898,842	92%	407,082	4,508,806	\$ 1.03	\$ 0.09	\$ 418,208	115	Projects	2,153.87	23,856.09	712,516	4,155,048	11.1		
<b>C&amp;I and Public Sector Total</b>	<b>1,770,567</b>	<b>100%</b>	<b>1,774,267</b>	<b>25,903,409</b>	<b>89%</b>	<b>1,583,572</b>	<b>22,890,052</b>	<b>\$ 1.38</b>	<b>\$ 0.10</b>	<b>\$ 2,192,058</b>	<b>NA</b>		<b>8,379</b>	<b>121,111</b>	<b>1,475,223</b>	<b>8,731,293</b>	<b>14.6</b>		
Income Eligible - IHWAP-SF	8,651	100%	8,651	139,293	100%	8,651	139,293	\$ 5.02	\$ 0.31	\$ 43,400	30	Participants	45.77	737.00	34,003	340,025	16.1		
Income Eligible - IHWAP-MF	1,168	101%	1,176	16,879	100%	1,176	16,879	\$ 4.98	\$ 0.35	\$ 5,860	5	Projects	6.22	89.31	5,473	54,731	14.4		
Income Eligible - MF LIHEAP Kits	55,143	105%	57,909	598,861	100%	57,909	598,861	\$ 1.47	\$ 0.14	\$ 84,842	1,539	Kits Distributed	306.40	3,168.57	1,632,627	16,063,970	10.3		
Income Eligible - IEMS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Income Eligible - PTA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Income Eligible - PHES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Income Eligible Total</b>	<b>64,962</b>	<b>104%</b>	<b>67,736</b>	<b>755,033</b>	<b>100%</b>	<b>67,736</b>	<b>755,033</b>	<b>\$ 1.98</b>	<b>\$ 0.18</b>	<b>\$ 134,102</b>	<b>NA</b>		<b>358</b>	<b>3,995</b>	<b>1,672,102</b>	<b>16,458,726</b>	<b>11.1</b>		
<b>EEPS Program Total</b>	<b>2,700,316</b>	<b>106%</b>	<b>2,849,190</b>	<b>35,850,777</b>	<b>91%</b>	<b>2,591,449</b>	<b>31,691,371</b>	<b>\$ 1.27</b>	<b>\$ 0.10</b>	<b>\$ 3,297,662</b>			<b>13,711</b>	<b>167,679</b>	<b>15,559,278</b>	<b>138,684,473</b>	<b>12.6</b>		
Other EEPS Portfolio Costs										\$ 652,667									
<b>EEPS Portfolio Total</b>	<b>2,700,316</b>	<b>106%</b>	<b>2,849,190</b>	<b>35,850,777</b>	<b>91%</b>	<b>2,591,449</b>	<b>31,691,371</b>	<b>\$ 1.52</b>	<b>\$ 0.12</b>	<b>\$ 3,950,330</b>	<b>NA</b>		<b>13,711</b>	<b>167,679</b>	<b>15,559,278</b>	<b>138,684,473</b>	<b>12.6</b>		

Source: Guidehouse Analysis.

## 4. Joint Program Cost Effectiveness Summary

In 2018-2021, there were 10 programs and one pilot (referred to collectively as “programs”) that were jointly implemented by ComEd, Nicor Gas, Peoples Gas (PGL), and North Shore Gas (NSG). Guidehouse used ComEd’s and the gas utilities’ cost-effectiveness test information each program year to prepare annual memos on cost-effectiveness test results of jointly implemented programs.<sup>13</sup>

Table 4-1 lists the programs jointly implemented by ComEd and the gas utilities and indicates which utilities jointly implemented the programs in 2018-2021.

**Table 4-1. Summary of Jointly Implemented Programs for 2018-2021**

Sector	Program	ComEd	Nicor Gas	PGL	NSG
Income Eligible	<b>Single-Family Retrofits - CBA and IHWAP*</b>	x			
	Illinois Home Weatherization Assistance Program (IHWAP)**		x	x	x
	Chicago Bungalow Association (CBA)**			x	
Income Eligible	<b>Multi-Family Retrofits - IEMS and IHWAP*</b>	x			
	Multi-Family IHWAP**		x	x	x
	Income Eligible Multifamily Savings (IEMS)**			x	x
Income Eligible	Public Housing Energy Savings	x	x	x	x
Income Eligible	Affordable Housing New Construction	x	x	x	x
Business & Public Sector	Coordinated Non-Residential New Construction	x	x	x	x
Business & Public Sector	Coordinated Retro Commissioning	x	x	x	x
Business & Public Sector	Upstream Commercial Food Service Equipment (Pilot)	x	x	x	x
Residential	Single Family Assessment	x	x	x	x
Residential	Elementary Education Kits	x	x	x	x
Residential	Multi-Family Assessments	x	x	x	x

\* Programs reported by ComEd as combined.

\*\* Programs reported by gas utilities individually

A summary of the TRC calculations for each joint program for each program year is shown in Table 4-2 through Table 4-5. The tables include values of each benefit and cost component for each program, when aggregated across all utilities that were involved in its joint implementation.

<sup>13</sup> Annual memos are available on the SAG web site at: [https://www.ilsag.info/evaluation-documents/trc\\_reports/](https://www.ilsag.info/evaluation-documents/trc_reports/)

**Table 4-2. Summary of TRC Test Values by Program and Utility – CY2018**

Sector	Program	All	ComEd	Nicor Gas	PG	NSG
Income Eligible	Single Family Retrofits – Illinois Home Weatherization Assistance Program (IHWAP)	0.49	0.38	0.65	0.70	0.76
Income Eligible	Multi-Family Retrofits - IHWAP	0.45	0.24	0.67	0.71	0.60
Income Eligible	Single Family Retrofits - Chicago Bungalow Association (CBA)	0.70	0.68	NA	0.71	NA
Income Eligible	Multi-Family Savings– IEMS	0.76	0.75	NA	0.79	4.73
Income Eligible	Public Housing Energy Savings	0.79	1.22	0.48	0.47	1.48
Income Eligible	Affordable Housing New Construction (AHNC)	0.62	0.53	0.82	0.88	NA
Income Eligible	Coordinated Non-Residential New Construction	2.00	2.03	2.52	1.47	1.37
Business & Public Sector	Coordinated Retro Commissioning	1.99	2.01	2.45	1.49	1.48
Business & Public Sector	Strategic Energy Management (SEM)	1.70	1.68	3.42	NA	NA
Residential	Home Energy Savings/HEA/Home Energy Jumpstart	1.40	1.01	2.17	3.18	3.83
Residential	Elementary Education Kits (EEE)	8.43	8.21	5.55	14.88	15.90
Residential	Multi-Family Assessments	1.80	1.36	2.31	2.09	1.27
Residential	Residential New Construction	2.02	0.99	2.61	NA	NA

Source: Guidehouse analysis

**Table 4-3. Summary of TRC Test Values by Program and Utility – CY2019**

Sector	Program	All	ComEd	Nicor Gas	PG	NSG
Income Eligible	Single Family Retrofits – Illinois Home Weatherization Assistance Program (IHWAP)	0.54	0.30	0.88	0.58	0.50
Income Eligible	Multi-Family Retrofits - IHWAP	0.47	0.44	0.25	0.79	0.64
Income Eligible	Single Family Retrofits - Chicago Bungalow Association (CBA)	0.45	0.34	NA	0.70	NA
Income Eligible	Multi-Family Savings– IEMS	0.49	0.37	NA	1.08	0.36
Income Eligible	Public Housing Energy Savings	0.61	0.30	0.91	0.94	0.81
Income Eligible	Affordable Housing New Construction (AHNC)	0.57	0.50	1.48	2.01	NA
Income Eligible	Coordinated Non-Residential New Construction	1.23	1.05	3.36	1.72	1.83
Business & Public Sector	Coordinated Retro Commissioning	1.11	0.94	3.92	2.75	3.40
Residential	Home Energy Savings/HEA/Home Energy Jumpstart	0.99	0.68	1.58	2.40	2.63
Residential	Elementary Education Kits (EEE)	6.06	3.55	6.86	18.31	20.39
Residential	Multi-Family Assessments	2.01	1.06	2.09	2.65	1.50
Residential	Residential New Construction	1.17	0.58	1.52	NA	NA

Source: Guidehouse analysis

**Table 4-4. Summary of TRC Test Values by Program and Utility – CY2020**

Sector	Program	All	ComEd	Nicor Gas	PGL	NSG
Income Eligible	Single-Family Retrofits - CBA and IHWAP	0.66	0.68	0.59	0.72	0.28
Income Eligible	Multi-Family Retrofits - IEMS and IHWAP	0.65	0.72	0.27	0.55	0.40
Income Eligible	Public Housing Energy Savings	0.40	0.31	0.78	0.44	--
Income Eligible	Affordable Housing New Construction	1.07	0.67	2.72	1.94	--
Business & Public Sector	Coordinated Non-Residential New Construction	2.16	2.19	2.52	1.58	1.67
Business & Public Sector	Coordinated Retro Commissioning	2.88	2.86	2.64	3.25	3.76
Business & Public Sector	Upstream Commercial Food Service Equipment (Pilot)	1.56	0.35	2.24	2.69	1.60
Residential	Single Family Assessment	1.30	0.90	1.96	1.38	2.44
Residential	Elementary Education Kits	6.49	4.56	7.20	17.07	21.84
Residential	Multi-Family Assessments	2.27	0.79	4.34	2.95	1.68

Source: Guidehouse analysis

**Table 4-5. Summary of TRC Test Values by Program and Utility – CY2021**

Sector	Program	All	ComEd	Nicor Gas	PGL	NSG
Income Eligible	Single-Family Retrofits - CBA and IHWAP	0.74	0.76	0.62	0.85	1.42
Income Eligible	Multi-Family Retrofits - IEMS and IHWAP	0.77	0.84	0.28	0.59	1.27
Income Eligible	Public Housing Energy Savings	0.55	0.61	0.70	0.34	--*
Income Eligible	Affordable Housing New Construction	1.14	0.81	1.93	2.76	--*
Business & Public Sector	Coordinated Non-Residential New Construction	2.09	2.07	2.68	1.72	1.82
Business & Public Sector	Coordinated Retro-Commissioning	4.04	4.36	2.81	2.68	3.07
Business & Public Sector	Upstream Commercial Food Service Equipment (Pilot)	1.89	1.39	2.40	1.95	1.49
Residential	Single Family Assessment	2.45	2.64	2.44	1.32	2.88
Residential	Elementary Education Kits	8.86	6.52	7.30	19.11	19.78
Residential	Multi-Family Assessments	1.87	1.37	2.56	2.09	1.10

\* NSG did not implement projects in CY2021.

Source: Guidehouse analysis