

Matter Number 16-00681, In the Matter of the Clean Energy Fund
Investment Plan

Clean Energy Fund Investment Plan: Budget Accounting and Benefits Chapter

Submitted by:

The New York State Energy Research and Development Authority

Revised November 27, 2018

Budget Accounting and Benefits

This Budget Accounting and Benefits chapter is intended to provide a current and comprehensive compilation of budgets and benefits for all Market Development and Innovation & Research portfolio initiatives contained within the Clean Energy Fund (CEF) Investment Plan as of November 27, 2018. These are compared to the minimum projected benefits identified in the CEF Order and presented in Table 1 for the combined four portfolios of the CEF which also includes NY-Sun and NYGB. All dollars and benefits are reflected in the year in which they are anticipated to be committed.

Table 1. CEF Minimum Projected Benefits 2016 - 2025 (in millions)

		Cumulative Annual	Lifetime
Energy Efficiency	MWh	10.6	*
	MMBtu	13.4	*
	MW	*	*
Renewable Energy	MWh	*	88
	MW	*	*
CO2e Emissions Reductions (tons)		*	133
Customer Bill Savings		*	\$39,131
Private Investment		*	\$29,356

** Denotes metric to be tracked and reported*

Table 2 summarizes the progressive budget schedule by portfolio, admin, and evaluation funding. Two adjustments have been made to the CEF program authorization as of May 1, 2018. The first is to increase the authorization by \$9,604,661 to reinstate the original program authorization amounts per the CEF Order, as there was not a shortfall of uncommitted funds as was previously determined. The second change is to revise the Market Development, Innovation and Research, CEF Administration, and CEF Evaluation budgets to account for a reduction in RGGI funding contributions of \$68,315,532. Table 3 details the budget schedule by all initiatives contained within this Investment Plan.

Table 2. Market Development and Innovation & Research Portfolio Budgets¹

	Program Authorization	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total	% of Program Authorization
Market Development													
Program Funds	\$2,346,051,964	\$133,309,741	\$219,919,448	\$331,176,071	\$281,304,754	\$213,387,435	\$133,005,936	\$45,968,278	\$18,060,037	\$13,653,380	\$9,090,384	\$1,398,875,465	61.13%
NYS Cost Recovery Fee		\$3,355,687	\$5,563,519	\$8,339,211	\$7,121,580	\$5,349,595	\$3,328,574	\$1,187,319	\$477,716	\$360,059	\$256,071	\$35,339,333	
Innovation & Research													
Program Funds	\$619,090,948	\$14,800,000	\$63,325,000	\$67,325,000	\$60,912,500	\$53,612,500	\$47,362,500	\$30,362,500	\$3,300,000	\$5,775,000	\$4,125,000	\$350,900,000	58.11%
NYS Cost Recovery Fee		\$372,547	\$1,601,995	\$1,695,284	\$1,542,076	\$1,344,058	\$1,185,283	\$784,236	\$87,290	\$152,295	\$116,199	\$8,881,262	
Administration	\$268,934,758	\$13,557,215	\$26,056,413	\$36,489,072	\$31,504,204	\$24,340,559	\$16,414,025	\$7,169,290	\$2,054,569	\$1,863,107	\$1,353,709	\$160,802,164	59.79%
Evaluation	\$127,606,798	\$4,070,000	\$9,238,787	\$11,088,764	\$11,417,436	\$6,222,839	\$3,878,999	\$4,144,500	\$1,702,500	\$1,485,000	\$1,980,000	\$55,228,825	43.28%
Total	\$3,361,684,468	\$169,465,190	\$325,705,162	\$456,113,403	\$393,802,551	\$304,256,987	\$205,175,318	\$89,616,123	\$25,682,113	\$23,288,842	\$16,921,362	\$2,010,027,049	59.79%

¹The CEF Order authorized CEF funding and noted that these costs would be funded from the funding authorized for the combined program costs and New York State Cost Recovery Fee (CRF) costs. NYSERDA has revised the presentation in this summary to report CRF separate from program costs, but still subject to the original authorization (as modified by NYSERDA's Uncommitted Funds filing dated April 29, 2016) on a combined basis. This approach improves the transparency of reporting and also recognizes the differences in the timing of commitment/expenditures of program costs vs. CRF costs. The initial budget for CRF assumes the assessment will average 2.2% of funding over the term of the CEF.

Table 3. Market Development and Innovation & Research Budget by Chapter and Initiative

Market Development	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Resource Acquisition Transition Chapter											
<i>Commercial</i>	\$2,472,500	\$10,250,000	\$6,890,000	\$6,780,000							\$26,392,500
<i>Industrial</i>	\$12,611,000	\$19,842,391	\$19,000,057	\$18,109,484							\$69,562,932
<i>Agriculture</i>	\$1,591,700	\$1,238,300	\$770,000								\$3,600,000
<i>Multifamily Market Rate</i>	\$46,554	\$110,074	\$0								\$156,628
<i>Single Family Market Rate</i>	\$7,884,100	\$9,182,557	\$4,870,750	\$2,397,782							\$24,335,189
<i>Commercial New Construction</i>	\$10,855,584	\$13,828,415	\$6,000,000								\$30,683,999
<i>Low Rise New Construction</i>	\$2,734,000	\$4,547,000	\$6,043,000								\$13,324,000
<i>Multifamily New Construction</i>	\$3,904,000	\$4,324,000	\$5,385,000								\$13,613,000
<i>Anaerobic Digesters</i>	\$4,050,000	\$0	\$16,100,000								\$20,150,000
<i>Small Wind</i>	\$2,030,000	\$2,030,000	\$2,030,000								\$6,090,000
<i>Solar Thermal</i>	\$399,000	\$0	\$0								\$399,000
<i>Combined Heat & Power</i>	\$26,050,000	\$13,050,000	\$26,950,000	\$5,500,000							\$71,550,000
Resource Acquisition Transition Chapter Total	\$74,628,438	\$78,402,737	\$94,038,807	\$32,787,266	\$0	\$0	\$0	\$0	\$0	\$0	\$279,857,248
Market Characterization & Design Chapter											
	\$850,000	\$3,075,000	\$7,700,000	\$5,925,000	\$3,600,000	\$0	\$0	\$0	\$0	\$0	\$21,150,000
Commercial Chapter											
<i>Real Estate Tenant</i>	\$1,367,700	\$2,821,331	\$3,435,281	\$4,113,234	\$4,442,662	\$3,547,139	\$2,551,617	\$2,066,642	\$1,054,395	\$100,000	\$25,500,000
<i>Energy Management</i>	\$1,035,212	\$7,240,000	\$9,709,667	\$12,241,333	\$12,189,000	\$9,794,763	\$3,684,776	\$2,093,750	\$1,816,500	\$0	\$59,805,000
<i>REV Campus Challenge</i>	\$409,269	\$3,587,102	\$3,614,637	\$2,114,637	\$2,032,029	\$2,008,986	\$2,008,986	\$2,008,986	\$2,008,986	\$1,856,384	\$21,650,000
<i>K-12</i>	\$0	\$0	\$1,785,000	\$2,885,000	\$2,855,000	\$3,005,000	\$3,905,000	\$2,805,000	\$2,605,000	\$1,755,000	\$21,600,000
Commercial Chapter Total	\$2,812,181	\$13,648,433	\$18,544,585	\$21,354,204	\$21,518,691	\$18,355,887	\$12,150,378	\$8,974,377	\$7,484,880	\$3,711,384	\$128,555,000
Industrial Chapter											
<i>Continuous Energy Improvement</i>	\$0	\$7,101,000	\$4,029,000	\$2,012,000	\$1,789,000	\$1,466,000	\$1,142,000	\$0	\$0	\$0	\$17,539,000
Industrial Chapter Total	\$0	\$7,101,000	\$4,029,000	\$2,012,000	\$1,789,000	\$1,466,000	\$1,142,000	\$0	\$0	\$0	\$17,539,000
Communities Chapter											
<i>Clean Energy Communities</i>	\$12,941	\$2,929,877	\$5,024,675	\$4,556,249	\$1,694,785	\$0	\$0	\$0	\$0	\$0	\$14,218,527
<i>Community Energy Engagement</i>	\$0	\$4,409,882	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,409,882
Communities Chapter Total	\$12,941	\$7,339,759	\$5,024,675	\$4,556,249	\$1,694,785	\$0	\$0	\$0	\$0	\$0	\$18,628,409
Large-Scale Renewables Chapter											
<i>Offshore Wind Master Plan</i>	\$5,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000,000
<i>Offshore Wind Pre-Development Activities</i>	\$10,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,000,000
Large-Scale Renewables Chapter Total	\$15,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,000,000
REV Technical Assistance Chapter											
<i>REV Connect</i>	\$2,500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,500,000
REV Technical Assistance Chapter Total	\$2,500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,500,000
Energy Storage Chapter											
<i>Reducing Barriers to Distributed Deployment</i>	\$30,000	\$7,200,000	\$9,325,000	\$6,775,000	\$1,120,000	\$0	\$0	\$0	\$0	\$0	\$24,450,000
<i>Solar Plus Energy Storage</i>	\$0	\$0	\$5,000,000	\$15,000,000	\$20,000,000	\$0	\$0	\$0	\$0	\$0	\$40,000,000
Energy Storage Chapter Total	\$30,000	\$7,200,000	\$14,325,000	\$21,775,000	\$21,120,000	\$0	\$0	\$0	\$0	\$0	\$64,450,000
Clean Transportation Chapter											
<i>Electric Vehicles</i>	\$0	\$7,150,000	\$15,250,000	\$13,850,000	\$3,250,000	\$0	\$0	\$0	\$0	\$0	\$39,500,000
Clean Transportation Chapter Total	\$0	\$7,150,000	\$15,250,000	\$13,850,000	\$3,250,000	\$0	\$0	\$0	\$0	\$0	\$39,500,000
Agriculture Chapter											
<i>2030 GLASE</i>	\$5,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000,000
<i>Advancing Agricultural Energy Technologies</i>	\$0	\$0	\$20,000	\$895,000	\$940,000	\$940,000	\$920,000	\$45,000	\$0	\$0	\$3,760,000
Agriculture Chapter Total	\$5,000,000	\$0	\$20,000	\$895,000	\$940,000	\$940,000	\$920,000	\$45,000	\$0	\$0	\$8,760,000

Low- to Moderate-Income Chapter											
<i>RetrofitNY</i>	\$0	\$6,413,000	\$6,177,000	\$5,417,750	\$4,817,750	\$3,869,500	\$2,219,500	\$969,500	\$469,500	\$150,000	\$30,503,500
<i>REVitalize</i>	\$0	\$600,000	\$125,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$725,000
<i>Low-Income Forum on Energy</i>	\$0	\$245,000	\$75,000	\$184,000	\$162,000	\$97,000	\$122,000	\$145,000	\$195,000	\$75,000	\$1,300,000
<i>Healthy Homes Feasibility Study</i>	\$215,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$215,000
<i>LMI Single Family</i>	\$31,202,557	\$57,910,000	\$45,335,000	\$31,604,768	\$31,604,768	\$31,604,759					\$229,261,852
<i>LMI Multifamily</i>	\$848,624	\$13,520,377	\$8,136,000	\$7,624,417	\$11,730,000	\$8,330,000					\$50,189,418
<i>Low Income Community Solar</i>	\$0	\$1,445,000	\$9,900,000	\$5,940,000	\$3,960,000	\$0	\$0	\$0	\$0	\$0	\$21,245,000
Low- to Moderate-Income Chapter Total	\$32,266,181	\$80,133,377	\$69,748,000	\$50,770,935	\$52,274,518	\$43,901,259	\$2,341,500	\$1,114,500	\$664,500	\$225,000	\$333,439,770
Workforce Development and Training Chapter											
<i>Industry Partnerships</i>	\$210,000	\$3,735,000	\$1,950,000	\$6,750,000	\$6,950,000	\$1,750,000	\$0	\$0	\$0	\$0	\$21,345,000
<i>Clean Technology and Energy Efficiency Talent Pipeline</i>	\$0	\$0	\$1,000,000	\$9,000,000	\$9,500,000	\$11,250,000	\$10,700,000	\$2,550,000	\$1,500,000	\$1,500,000	\$47,000,000
Workforce Dev. and Training Chapter Total	\$210,000	\$3,735,000	\$2,950,000	\$15,750,000	\$16,450,000	\$13,000,000	\$10,700,000	\$2,550,000	\$1,500,000	\$1,500,000	\$68,345,000
Renewable Heating & Cooling Chapter											
<i>Heat Pumps and Solar Thermal</i>	\$0	\$6,551,143	\$12,029,600	\$9,949,600	\$2,807,000	\$1,874,500	\$0	\$0	\$0	\$0	\$33,211,843
<i>Renewable Heat NY</i>	\$0	\$2,326,000	\$2,888,000	\$3,233,000	\$2,878,000	\$2,162,000	\$0	\$0	\$0	\$0	\$13,487,000
Renewable Heating & Cooling Chapter Total	\$0	\$8,877,143	\$14,917,600	\$13,182,600	\$5,685,000	\$4,036,500	\$0	\$0	\$0	\$0	\$46,698,843
Clean Energy Products Chapter											
<i>Underutilized Product Support</i>	\$0	\$1,630,000	\$5,440,000	\$11,144,000	\$9,101,000	\$8,090,000	\$3,140,000	\$2,640,000	\$2,640,000	\$2,640,000	\$46,465,000
Clean Energy Products Chapter Total	\$0	\$1,630,000	\$5,440,000	\$11,144,000	\$9,101,000	\$8,090,000	\$3,140,000	\$2,640,000	\$2,640,000	\$2,640,000	\$46,465,000
Multi-Sector Solutions Chapter											
<i>Soft Cost Challenge</i>	\$0	\$1,342,000	\$5,000,000	\$3,658,000	\$0	\$0	\$0	\$0	\$0	\$0	\$10,000,000
<i>Technical Services</i>	\$0	\$125,000	\$2,945,000	\$2,845,440	\$4,519,000	\$3,305,440	\$3,044,000	\$2,736,160	\$1,364,000	\$1,014,000	\$21,898,040
<i>Clean Energy AMP Challenge</i>	\$0	\$0	\$10,500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,500,000
<i>Clean Energy Siting & Soft Cost Reduction</i>	\$0	\$0	\$2,965,000	\$2,965,000	\$2,865,000	\$0	\$0	\$0	\$0	\$0	\$8,795,000
<i>Pay for Performance</i>	\$0	\$0	\$4,000,000	\$8,436,579	\$15,428,880	\$27,260,850	\$630,400	\$0	\$0	\$0	\$55,756,709
Multi-Sector Solutions Chapter Total	\$0	\$1,467,000	\$25,410,000	\$17,905,019	\$22,812,880	\$30,566,290	\$3,674,400	\$2,736,160	\$1,364,000	\$1,014,000	\$106,949,749
Codes Chapter											
<i>Code to Zero</i>	\$0	\$160,000	\$3,320,000	\$11,540,000	\$3,980,000	\$1,300,000	\$700,000	\$0	\$0	\$0	\$21,000,000
Codes Chapter Total	\$0	\$160,000	\$3,320,000	\$11,540,000	\$3,980,000	\$1,300,000	\$700,000	\$0	\$0	\$0	\$21,000,000
On-Site Power Chapter											
<i>Fuel Cells</i>	\$0	\$0	\$7,500,000	\$7,500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$15,000,000
On-Site Power Chapter Total	\$0	\$0	\$7,500,000	\$7,500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$15,000,000
New Construction Chapter											
<i>New Construction</i>	\$0	\$0	\$34,753,100	\$45,948,166	\$45,948,166	\$11,200,000	\$11,200,000	\$0	\$0	\$0	\$149,049,432
New Construction Chapter Total	\$0	\$0	\$34,753,100	\$45,948,166	\$45,948,166	\$11,200,000	\$11,200,000	\$0	\$0	\$0	\$149,049,432
Residential Chapter											
<i>Engaging New Markets</i>	\$0	\$0	\$8,205,305	\$4,409,315	\$3,223,395	\$150,000	\$0	\$0	\$0	\$0	\$15,988,015
Residential Chapter Total	\$0	\$0	\$8,205,305	\$4,409,315	\$3,223,395	\$150,000	\$0	\$0	\$0	\$0	\$15,988,015
<i>NYS Cost Recovery Fee</i>	\$3,355,687	\$5,563,519	\$8,339,211	\$7,121,580	\$5,349,595	\$3,328,574	\$1,187,319	\$477,716	\$360,059	\$256,071	\$35,339,333
Total Market Development	\$136,665,428	\$225,482,967	\$339,515,283	\$288,426,335	\$218,737,030	\$136,334,511	\$47,155,597	\$18,537,754	\$14,013,439	\$9,346,455	\$1,434,214,798

Innovation & Research	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Market Characterization & Design Chapter	\$0	\$0	\$0	\$250,000	\$0	\$0	\$0	\$0	\$0	\$0	\$250,000
Grid Modernization Chapter											
<i>DER Interconnection</i>	\$3,800,000	\$2,500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,300,000
<i>High Performing Electric Grid</i>	\$5,000,000	\$18,350,000	\$20,350,000	\$16,700,000	\$16,700,000	\$16,700,000	\$16,700,000	\$0	\$0	\$0	\$110,500,000
<i>Next Generation Power Electronics</i>	\$0	\$16,700,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,700,000
Grid Modernization Chapter Total	\$8,800,000	\$37,550,000	\$20,350,000	\$16,700,000	\$16,700,000	\$16,700,000	\$16,700,000	\$0	\$0	\$0	\$133,500,000
Innovation Capacity and Business Development Chapter											
<i>CleanTech Startup Growth</i>	\$6,000,000	\$6,500,000	\$10,950,000	\$13,950,000	\$8,650,000	\$7,650,000	\$4,500,000	\$0	\$0	\$0	\$58,200,000
<i>Manufacturing Corps</i>	\$0	\$0	\$4,000,000	\$3,000,000	\$5,000,000	\$0	\$0	\$0	\$0	\$0	\$12,000,000
<i>Novel Business Models and Offerings</i>	\$0	\$0	\$3,150,000	\$3,500,000	\$4,550,000	\$4,900,000	\$0	\$0	\$0	\$0	\$16,100,000
Innovation Capacity and Bus. Dev. Chapter Total	\$6,000,000	\$6,500,000	\$18,100,000	\$20,450,000	\$18,200,000	\$12,550,000	\$4,500,000	\$0	\$0	\$0	\$86,300,000
Building Innovation Chapter											
<i>NextGen HVAC</i>	\$0	\$4,000,000	\$6,000,000	\$5,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$15,000,000
Building Innovation Chapter Total	\$0	\$4,000,000	\$6,000,000	\$5,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$15,000,000
Clean Transportation Chapter											
<i>Public Transportation and Electrified Rail</i>	\$0	\$0	\$4,750,000	\$4,250,000	\$3,500,000	\$3,000,000	\$3,000,000	\$0	\$0	\$0	\$18,500,000
<i>Electric Vehicles</i>	\$0	\$2,850,000	\$3,000,000	\$2,250,000	\$2,250,000	\$1,500,000	\$0	\$0	\$0	\$0	\$11,850,000
Clean Transportation Chapter Total	\$0	\$2,850,000	\$7,750,000	\$6,500,000	\$5,750,000	\$4,500,000	\$3,000,000	\$0	\$0	\$0	\$30,350,000
Energy-Related Environmental Research Chapter											
<i>Energy-Related Environmental Research</i>	\$0	\$10,600,000	\$8,400,000	\$4,850,000	\$4,150,000	\$2,000,000	\$0	\$0	\$0	\$0	\$30,000,000
Energy-Related Environ. Research Chapter Total	\$0	\$10,600,000	\$8,400,000	\$4,850,000	\$4,150,000	\$2,000,000	\$0	\$0	\$0	\$0	\$30,000,000
Renewables Optimization Chapter											
<i>Energy Storage Technology and Product Development</i>	\$0	\$1,825,000	\$4,475,000	\$3,600,000	\$3,300,000	\$3,300,000	\$3,300,000	\$3,300,000	\$5,775,000	\$4,125,000	\$33,000,000
<i>National Offshore Wind Research & Development Consortium</i>	\$0	\$0	\$2,250,000	\$3,562,500	\$5,512,500	\$8,312,500	\$2,862,500	\$0	\$0	\$0	\$22,500,000
Renewables Optimization Chapter Total	\$0	\$1,825,000	\$6,725,000	\$7,162,500	\$8,812,500	\$11,612,500	\$6,162,500	\$3,300,000	\$5,775,000	\$4,125,000	\$55,500,000
NYS Cost Recovery Fee	\$372,547.18	\$1,601,927	\$1,694,977	\$1,541,285	\$1,343,353	\$1,186,084	\$785,969	\$88,199	\$153,996	\$119,979	\$8,888,314
Total Innovation & Research	\$15,172,547	\$64,926,927	\$69,019,977	\$62,453,785	\$54,955,853	\$48,548,584	\$31,148,469	\$3,388,199	\$5,928,996	\$4,244,979	\$359,788,314

Similarly, Tables 4 through 12 present the associated benefits of these investments. Benefits are rounded to three significant figures therefore totals may not sum. Table 4 includes estimated indirect savings from market effects expected to accrue over the longer term as a result of NYSERDA's investment and follow on market activity. Indirect impact across NYSERDA initiatives may not be additive due to multiple initiatives operating within market sectors. Therefore, indirect savings shown in Table 4 reflect a 50% discount, as a basis for conservative estimation at this time. The indirect savings will be quantified and reported based on periodic Market Evaluation studies. Customer Bill Savings are calculated as direct energy bill savings realized by customers participating in NYSERDA's programs. For Tables 7 through 10, emissions reductions, energy metrics, and bill savings are measured on a 'lifetime' basis to account for the repeating benefits that are realized year-after-year from the implementation of clean energy activity. The carbon benefits are estimated using standard factors to convert electricity, natural gas, and petroleum savings into carbon (1,160 lbs/MWh, 117 lbs/MMBtu, 162 lbs/MMBtu respectively). Estimated bill savings are based on avoided retail rates and include electric, natural gas and petroleum bill savings.

Table 4. Market Development and Innovation & Research Portfolio Energy Efficiency Cumulative First Year Annual Benefits (MWh and MMBtu)

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total (Direct)	% of 10 yr Min. Goals (Direct)	Cumulative Annual 2025 Indirect Savings	% of 10 yr Min. Goals (Direct + Indirect)
Market Development														
MWh	364,700	447,600	677,900	829,700	569,100	263,000	100,300	71,930	84,240	91,610	3,385,000	32%	4,952,000	79%
MMBtu	1,158,000	4,312,000	3,866,000	4,527,000	2,467,000	1,195,000	1,120,000	824,700	1,149,000	1,392,000	21,630,000	161%	9,005,000	229%
Innovation and Research														
MWh	-	-	-	-	-	-	-	-	-	-	-	0%	-	0%
MMBtu	-	-	-	-	-	-	-	-	-	-	-	0%	-	0%
Total MWh	364,700	447,600	677,900	829,700	569,100	263,000	100,300	71,930	84,240	91,610	3,385,000	32%	4,952,000	79%
Total MMBtu	1,158,000	4,312,000	3,866,000	4,527,000	2,467,000	1,195,000	1,120,000	824,700	1,149,000	1,392,000	21,630,000	161%	9,005,000	229%

Table 5. Market Development and Innovation & Research Energy Efficiency Cumulative First Year Annual Benefits by Chapter and Initiative (MWh)

Market Development	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Resource Acquisition Transition Chapter											
Commercial	7,500	37,100	33,000	32,000	-	-	-	-	-	-	109,600
Industrial	153,000	92,400	88,000	88,000	-	-	-	-	-	-	421,700
Agriculture	4,000	5,000	5,000	14,000	-	-	-	-	-	-	14,000
Multifamily Market Rate	-	41	-	41	-	-	-	-	-	-	41
Single Family Market Rate	1,290	938	852	727	-	-	-	-	-	-	3,807
Commercial New Construction	19,600	18,400	28,200	66,200	-	-	-	-	-	-	66,200
Low Rise New Construction	3,630	4,680	6,470	14,780	-	-	-	-	-	-	14,780
Multifamily New Construction	5,690	6,870	8,230	20,790	-	-	-	-	-	-	20,790
Anaerobic Digesters	-	-	-	-	-	-	-	-	-	-	-
Small Wind	-	-	-	-	-	-	-	-	-	-	-
Solar Thermal	-	-	-	-	-	-	-	-	-	-	-
Combined Heat & Power	158,000	28,900	106,000	27,400	-	-	-	-	-	-	320,300
Resource Acquisition Transition Chapter Total	352,700	194,300	275,800	263,900	-	-	-	-	-	-	971,200
Commercial Chapter											
Real Estate Tenant	121	13,100	24,100	22,400	26,100	18,600	11,200	5,600	3,700	-	124,900
Energy Management	2,450	56,100	106,000	119,000	112,000	33,700	10,200	3,410	945	242	444,300
REV Campus Challenge	-	23,200	23,200	11,600	11,600	7,720	7,720	7,720	7,720	7,720	108,100
K-12	-	-	5,800	11,600	11,700	11,700	17,500	11,700	11,700	8,770	90,480
Commercial Chapter Total	2,571	92,400	159,100	164,600	161,400	71,720	46,620	28,430	24,070	16,730	767,800
Industrial Chapter											
Continuous Energy Improvement	-	67,500	20,000	23,200	20,700	17,700	12,500	-	-	-	161,600
Industrial Chapter Total	-	67,500	20,000	23,200	20,700	17,700	12,500	-	-	-	161,600
Communities Chapter											
Clean Energy Communities	-	24,600	41,900	38,000	14,100	-	-	-	-	-	118,600
Community Energy Engagement	-	-	-	-	-	-	-	-	-	-	-
Communities Chapter Total	-	24,600	41,900	38,000	14,100	-	-	-	-	-	118,600
Large-Scale Renewables Chapter											
Offshore Wind Master Plan	-	-	-	-	-	-	-	-	-	-	-
Offshore Wind Pre-Development Activities	-	-	-	-	-	-	-	-	-	-	-
Large-Scale Renewables Chapter Total	-	-	-	-	-	-	-	-	-	-	-
REV Technical Assistance Chapter											
REV Connect	-	-	-	-	-	-	-	-	-	-	-
REV Technical Assistance Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Energy Storage Chapter											
Reducing Barriers to Distributed Deployment	-	2,600	4,700	4,600	1,900	-	-	-	-	-	13,800
Solar Plus Energy Storage	-	-	-	-	-	-	-	-	-	-	-
Energy Storage Chapter Total	-	2,600	4,700	4,600	1,900	-	-	-	-	-	13,800
Clean Transportation Chapter											
Electric Vehicles	-	-	-	-	-	-	-	-	-	-	-
Clean Transportation Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Agriculture Chapter											
2030 GLASE	3,470	-	-	-	-	-	-	-	-	-	3,470
Advancing Agricultural Energy Technologies	-	-	-	410	410	410	410	-	-	-	1,642
Agriculture Chapter Total	3,470	-	-	410	410	410	410	-	-	-	5,112

Low- to Moderate-Income Chapter											
RetrofitNY	-	-	270	342	743	1,620	17,600	37,800	56,700	72,000	187,100
REVitalize	-	-	-	-	-	-	-	-	-	-	-
Low-Income Forum on Energy	-	-	-	-	-	-	-	-	-	-	-
Healthy Homes Feasibility Study	-	-	-	-	-	-	-	-	-	-	-
LMI Single Family	4,950	6,820	6,820	5,090	5,090	5,090	-	-	-	-	33,860
LMI Multifamily	1,000	4,140	9,380	10,400	11,400	11,400	-	-	-	-	47,720
Low Income Community Solar	-	-	-	-	-	-	-	-	-	-	-
Low- to Moderate-Income Chapter Total	5,950	10,960	16,470	15,830	17,230	18,110	17,600	37,800	56,700	72,000	268,700
Workforce Development and Training Chapter											
Industry Partnerships	-	55,200	30,100	100,000	115,000	35,100	-	-	-	-	336,000
Clean Technology and Energy Efficiency Talent Pipeline	-	-	-	-	-	-	-	-	-	-	-
Workforce Dev. and Training Chapter Total	-	55,200	30,100	100,000	115,000	35,100	-	-	-	-	336,000
Renewable Heating & Cooling Chapter											
Heat Pumps and Solar Thermal	-	-	-	-	-	-	-	-	-	-	-
Renewable Heat NY	-	-	-	-	-	-	-	-	-	-	-
Renewable Heating & Cooling Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Clean Energy Products Chapter											
Underutilized Product Support	-	-	-	6,370	10,900	21,500	-	-	-	-	38,800
Clean Energy Products Chapter Total	-	-	-	6,370	10,900	21,500	-	-	-	-	38,800
Multi-Sector Solutions Chapter											
Soft Cost Challenge	-	-	8,860	8,860	-	-	-	-	-	-	17,720
Technical Services	-	-	20,200	12,300	19,600	10,900	12,300	5,700	3,470	2,880	87,310
Clean Energy AMP Challenge	-	-	25,900	-	-	-	-	-	-	-	25,900
Clean Energy Siting & Soft Cost Reduction	-	-	-	-	-	-	-	-	-	-	-
Pay for Performance	-	-	-	14,083	32,843	77,920	-	-	-	-	124,846
Multi-Sector Solutions Chapter Total	-	-	54,960	35,240	52,440	88,820	12,300	5,700	3,470	2,880	255,800
Codes Chapter											
Code to Zero	-	-	-	66,300	99,400	-	-	-	-	-	165,700
Codes Chapter Total	-	-	-	66,300	99,400	-	-	-	-	-	165,700
On-Site Power Chapter											
Fuel Cells	-	-	33,300	33,300	-	-	-	-	-	-	66,580
On-Site Power Chapter Total	-	-	33,300	33,300	-	-	-	-	-	-	66,580
New Construction Chapter											
New Construction	-	-	41,500	77,500	74,900	9,620	10,900	-	-	-	214,500
New Construction Chapter Total	-	-	41,500	77,500	74,900	9,620	10,900	-	-	-	214,500
Residential Chapter											
Engaging New Markets	-	-	25	465	704	-	-	-	-	-	1,194
Residential Chapter Total	-	-	25	465	704	-	-	-	-	-	1,194
Total Market Development	364,700	447,600	677,900	829,700	569,100	263,000	100,300	71,930	84,240	91,610	3,385,000

Innovation and Research	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Grid Modernization Chapter											
<i>DER Interconnection</i>	-	-	-	-	-	-	-	-	-	-	-
<i>High Performing Electric Grid</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Next Generation Power Electronics</i>	-	-	-	-	-	-	-	-	-	-	-
Grid Modernization Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Innovation Capacity and Business Development Chapter											
<i>CleanTech Startup Growth</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Manufacturing Corps</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Novel Business Models and Offerings</i>	-	-	-	-	-	-	-	-	-	-	-
Innovation Capacity and Bus. Dev. Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Building Innovation Chapter											
<i>NextGen HVAC</i>	-	-	-	-	-	-	-	-	-	-	-
Building Innovation Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Clean Transportation Chapter											
<i>Public Transportation and Electrified Rail</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Electric Vehicles</i>	-	-	-	-	-	-	-	-	-	-	-
Clean Transportation Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Energy-Related Environmental Research Chapter											
<i>Energy-Related Environmental Research</i>	-	-	-	-	-	-	-	-	-	-	-
Energy-Related Environ. Research Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Renewables Optimization Chapter											
<i>Energy Storage Technology and Product Development</i>	-	-	-	-	-	-	-	-	-	-	-
<i>National Offshore Wind Research & Development Consortium</i>	-	-	-	-	-	-	-	-	-	-	-
Renewables Optimization Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Total Innovation & Research	-	-	-	-	-	-	-	-	-	-	-

	Increased First Year Annual MWh										
<i>Heat Pumps and Solar Thermal</i>	-	(2,117)	(4,873)	(6,407)	(7,524)	(7,540)	-	-	-	-	(28,462)
<i>Underutilized Product Support</i>	-	(4,638)	(16,001)	(22,340)	(9,044)	-	-	-	-	-	(52,023)
<i>Electric Vehicles</i>	-	(18,500)	(41,400)	(37,300)	(8,400)	-	-	-	-	-	(105,600)
Total	-	(25,255)	(62,275)	(66,047)	(24,968)	(7,540)	-	-	-	-	(186,085)

Table 6. Market Development and Innovation & Research Energy Efficiency Cumulative First Year Annual Benefits by Chapter and Initiative (MMBtu)

Market Development	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Resource Acquisition Transition Chapter											
<i>Commercial</i>	61,000	339,000	290,000	290,000	-	-	-	-	-	-	980,000
<i>Industrial</i>	740,000	1,890,000	480,000	480,000	-	-	-	-	-	-	3,586,000
<i>Agriculture</i>	1,000	3,000	3,000	7,000	-	-	-	-	-	-	7,000
<i>Multifamily Market Rate</i>	-	9,870	-	9,871	-	-	-	-	-	-	9,871
<i>Single Family Market Rate</i>	67,100	51,300	65,500	56,000	-	-	-	-	-	-	239,900
<i>Commercial New Construction</i>	36,200	14,000	54,900	105,100	-	-	-	-	-	-	105,100
<i>Low Rise New Construction</i>	38,300	47,200	60,300	145,800	-	-	-	-	-	-	145,800
<i>Multifamily New Construction</i>	31,000	31,200	47,400	109,600	-	-	-	-	-	-	109,600
<i>Anaerobic Digesters</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Small Wind</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Solar Thermal</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Combined Heat & Power</i>	-	-	-	-	-	-	-	-	-	-	-
Resource Acquisition Transition Chapter Total	974,600	2,386,000	1,001,000	1,203,000	-	-	-	-	-	-	5,183,000
Commercial Chapter											
<i>Real Estate Tenant</i>	128	13,800	25,500	23,600	27,500	19,700	11,800	5,900	3,900	-	131,800
<i>Energy Management</i>	2,100	24,800	44,600	47,100	44,100	15,000	4,530	1,520	420	108	184,200
<i>REV Campus Challenge</i>	-	144,000	144,000	71,800	71,800	47,900	47,900	47,900	47,900	47,900	670,000
<i>K-12</i>	-	-	32,300	64,500	64,500	64,500	96,800	64,500	64,500	48,400	500,000
Commercial Chapter Total	2,228	182,600	246,400	207,000	207,900	147,100	161,000	119,800	116,700	96,410	1,486,000
Industrial Chapter											
<i>Continuous Energy Improvement</i>	-	581,000	214,000	236,000	160,000	137,000	571,000	-	-	-	1,899,000
Industrial Chapter Total	-	581,000	214,000	236,000	160,000	137,000	571,000	-	-	-	1,899,000
Communities Chapter											
<i>Clean Energy Communities</i>	-	138,000	236,000	214,000	79,500	-	-	-	-	-	667,500
<i>Community Energy Engagement</i>	-	-	-	-	-	-	-	-	-	-	-
Communities Chapter Total	-	138,000	236,000	214,000	79,500	-	-	-	-	-	667,500
Large-Scale Renewables Chapter											
<i>Offshore Wind Master Plan</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Offshore Wind Pre-Development Activities</i>	-	-	-	-	-	-	-	-	-	-	-
Large-Scale Renewables Chapter Total	-	-	-	-	-	-	-	-	-	-	-
REV Technical Assistance Chapter											
<i>REV Connect</i>	-	-	-	-	-	-	-	-	-	-	-
REV Technical Assistance Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Energy Storage Chapter											
<i>Reducing Barriers to Distributed Deployment</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Solar Plus Energy Storage</i>	-	-	-	-	-	-	-	-	-	-	-
Energy Storage Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Clean Transportation Chapter											
<i>Electric Vehicles</i>	-	250,000	560,000	505,000	114,000	-	-	-	-	-	1,430,000
Clean Transportation Chapter Total	-	250,000	560,000	505,000	114,000	-	-	-	-	-	1,430,000
Agriculture Chapter											
<i>2030 GLASE</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Advancing Agricultural Energy Technologies</i>	-	-	-	-	-	-	-	-	-	-	-
Agriculture Chapter Total	-	-	-	-	-	-	-	-	-	-	-

Low- to Moderate-Income Chapter											
<i>RetrofitNY</i>	-	-	4,840	6,130	13,300	29,100	315,000	678,000	1,020,000	1,290,000	3,356,000
<i>REVitalize</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Low-Income Forum on Energy</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Healthy Homes Feasibility Study</i>	-	-	-	-	-	-	-	-	-	-	-
<i>LMI Single Family</i>	168,000	203,000	203,000	146,000	146,000	146,000	-	-	-	-	1,012,000
<i>LMI Multifamily</i>	13,600	56,500	128,000	142,000	155,000	155,000	-	-	-	-	650,100
<i>Low Income Community Solar</i>	-	-	-	-	-	-	-	-	-	-	-
Low- to Moderate-Income Chapter Total	181,600	259,500	335,800	294,100	314,300	330,100	315,000	678,000	1,020,000	1,290,000	5,018,000
Workforce Development and Training Chapter											
<i>Industry Partnerships</i>	-	365,000	199,000	664,000	764,000	232,000	-	-	-	-	2,225,000
<i>Clean Technology and Energy Efficiency Talent Pipeline</i>	-	-	-	-	-	-	-	-	-	-	-
Workforce Dev. and Training Chapter Total	-	365,000	199,000	664,000	764,000	232,000	-	-	-	-	2,225,000
Renewable Heating & Cooling Chapter											
<i>Heat Pumps and Solar Thermal</i>	-	76,200	190,000	207,000	191,000	178,000	-	-	-	-	841,600
<i>Renewable Heat NY</i>	-	3,460	4,130	4,400	3,870	1,780	-	-	-	-	17,640
Renewable Heating & Cooling Chapter Total	-	79,660	194,100	211,400	194,900	179,800	-	-	-	-	859,200
Clean Energy Products Chapter											
<i>Underutilized Product Support</i>	-	69,800	241,000	336,000	136,000	-	-	-	-	-	782,900
Clean Energy Products Chapter Total	-	69,800	241,000	336,000	136,000	-	-	-	-	-	782,900
Multi-Sector Solutions Chapter											
<i>Soft Cost Challenge</i>	-	-	295,000	295,000	-	-	-	-	-	-	590,600
<i>Technical Services</i>	-	-	114,000	54,900	121,000	62,900	73,200	26,900	12,500	5,930	471,300
<i>Clean Energy AMP Challenge</i>	-	-	152,000	-	-	-	-	-	-	-	152,000
<i>Clean Energy Siting & Soft Cost Reduction</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Pay for Performance</i>	-	-	-	20,280	44,920	106,000	-	-	-	-	171,200
Multi-Sector Solutions Chapter Total	-	-	561,000	370,200	165,900	168,900	73,200	26,900	12,500	5,930	1,385,000
Codes Chapter											
<i>Code to Zero</i>	-	-	-	52,900	79,300	-	-	-	-	-	132,200
Codes Chapter Total	-	-	-	52,900	79,300	-	-	-	-	-	132,200
On-Site Power Chapter											
<i>Fuel Cells</i>	-	-	-	-	-	-	-	-	-	-	-
On-Site Power Chapter Total	-	-	-	-	-	-	-	-	-	-	-
New Construction Chapter											
<i>New Construction</i>	-	-	76,000	198,000	198,000	-	-	-	-	-	472,300
New Construction Chapter Total	-	-	76,000	198,000	198,000	-	-	-	-	-	472,300
Residential Chapter											
<i>Engaging New Markets</i>	-	-	1,880	34,900	52,800	-	-	-	-	-	89,580
Residential Chapter Total	-	-	1,880	34,900	52,800	-	-	-	-	-	89,580
Total Market Development	1,158,000	4,312,000	3,866,000	4,527,000	2,467,000	1,195,000	1,120,000	824,700	1,149,000	1,392,000	21,630,000

Innovation and Research	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Grid Modernization Chapter											
DER Interconnection	-	-	-	-	-	-	-	-	-	-	-
High Performing Electric Grid	-	-	-	-	-	-	-	-	-	-	-
Next Generation Power Electronics	-	-	-	-	-	-	-	-	-	-	-
Grid Modernization Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Innovation Capacity and Business Development Chapter											
CleanTech Startup Growth	-	-	-	-	-	-	-	-	-	-	-
Manufacturing Corps	-	-	-	-	-	-	-	-	-	-	-
Novel Business Models and Offerings	-	-	-	-	-	-	-	-	-	-	-
Innovation Capacity and Bus. Dev. Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Building Innovation Chapter											
NextGen HVAC	-	-	-	-	-	-	-	-	-	-	-
Building Innovation Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Clean Transportation Chapter											
Public Transportation and Electrified Rail	-	-	-	-	-	-	-	-	-	-	-
Electric Vehicles	-	-	-	-	-	-	-	-	-	-	-
Clean Transportation Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Energy-Related Environmental Research Chapter											
Energy-Related Environmental Research	-	-	-	-	-	-	-	-	-	-	-
Energy-Related Environ. Research Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Renewables Optimization Chapter											
Energy Storage Technology and Product Development	-	-	-	-	-	-	-	-	-	-	-
National Offshore Wind Research & Development Consortium	-	-	-	-	-	-	-	-	-	-	-
Renewables Optimization Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Total Innovation & Research	-	-	-	-	-	-	-	-	-	-	-

Increased MMBTU											
CHP	(955,000)	(175,000)	(643,000)	(166,000)	-	-	-	-	-	-	(1,939,000)
Fuel Cells	-	-	(259,000)	(259,000)	-	-	-	-	-	-	(518,700)
Total	(955,000)	(175,000)	(902,000)	(425,000)	-	-	-	-	-	-	(2,457,700)

Table 7. Market Development and Innovation & Research Portfolio Lifetime Benefits

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total	% of 10 yr Min. Goals
Market Development												
Renewable Energy (MWh)	104,900	480,200	1,484,000	837,500	399,500	227,000	254,000	15,000	15,000	11,850	3,828,000	4%
CO2e Reductions (metric tons)	3,499,000	8,222,000	8,376,000	8,626,000	6,338,000	2,662,000	1,790,000	1,542,000	2,079,000	2,479,000	45,610,000	34%
Customer Bill Savings (\$ million)	\$ 861.9	\$ 1,224.0	\$ 1,852.0	\$ 1,874.0	\$ 1,403.0	\$ 558.2	\$ 325.2	\$ 304.5	\$ 407.2	\$ 483.1	\$ 9,291.0	24%
Private Investment (\$ million)	\$ 462.4	\$ 717.9	\$ 1,207.0	\$ 1,283.0	\$ 765.6	\$ 334.4	\$ 229.8	\$ 259.6	\$ 495.6	\$ 699.60	\$ 6,456.0	22%
Innovation and Research												
Renewable Energy (MWh)	-	-	-	-	-	-	-	-	-	-	-	0%
CO2e Reductions (metric tons)	-	-	-	-	-	-	-	-	-	-	-	0%
Customer Bill Savings (\$ million)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%
Private Investment (\$ million)	\$ 106.40	\$ 231.50	\$ 285.00	\$ 245.00	\$ 211.20	\$ 197.90	\$ 101.30	\$ 16.50	\$ 28.90	\$ 20.60	\$ 1,444.00	5%
Total Renewable Energy (MWh)	104,900	480,200	1,484,000	837,500	399,500	227,000	254,000	15,000	15,000	11,850	3,828,000	4%
Total CO2e Reductions (metric tons)	3,499,000	8,222,000	8,376,000	8,626,000	6,338,000	2,662,000	1,790,000	1,542,000	2,079,000	2,479,000	45,610,000	34%
Total Customer Bill Savings (\$ million)	\$ 861.90	\$ 1,224.00	\$ 1,852.00	\$ 1,874.00	\$ 1,403.00	\$ 558.20	\$ 325.20	\$ 304.50	\$ 407.20	\$ 483.10	\$ 9,291.00	24%
Total Private Investment (\$ million)	\$ 568.80	\$ 949.40	\$ 1,492.00	\$ 1,528.00	\$ 976.80	\$ 532.30	\$ 331.10	\$ 276.10	\$ 524.50	\$ 720.20	\$ 7,900.00	27%

Table 8. Market Development and Innovation & Research Renewable Energy Lifetime Benefits by Chapter/Initiative (MWh)

Market Development	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Resource Acquisition Transition Chapter											
<i>Commercial</i>	-	-	-	-							-
<i>Industrial</i>	-	-	-	-							-
<i>Agriculture</i>	-	-	-								-
<i>Multifamily Market Rate</i>	-	-	-								-
<i>Single Family Market Rate</i>	-	-	-								-
<i>Commercial New Construction</i>	-	-	-								-
<i>Low Rise New Construction</i>	-	-	-								-
<i>Multifamily New Construction</i>	-	-	-								-
<i>Anaerobic Digesters</i>	74,400	-	495,000								569,400
<i>Small Wind</i>	18,000	32,000	32,000								82,000
<i>Solar Thermal</i>	12,500	-	-								12,500
<i>Combined Heat & Power</i>	-	-	-								-
Resource Acquisition Transition Chapter Total	104,900	32,000	527,000	-	-	-	-	-	-	-	663,900
Commercial Chapter											
<i>Real Estate Tenant</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Energy Management</i>	-	-	-	-	-	-	-	-	-	-	-
<i>REV Campus Challenge</i>	-	22,000	22,000	16,500	16,500	11,000	11,000	11,000	11,000	11,000	132,100
<i>K-12</i>	-	-	-	-	-	-	-	-	-	-	-
Commercial Chapter Total	-	22,000	22,000	16,500	16,500	11,000	11,000	11,000	11,000	11,000	132,100
Industrial Chapter											
<i>Continuous Energy Improvement</i>	-	-	-	-	-	-	-	-	-	-	-
Industrial Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Communities Chapter											
<i>Clean Energy Communities</i>	-	391,000	668,000	605,000	225,000	-	-	-	-	-	1,889,000
<i>Community Energy Engagement</i>	-	-	-	-	-	-	-	-	-	-	-
Communities Chapter Total	-	391,000	668,000	605,000	225,000	-	-	-	-	-	1,889,000
Large-Scale Renewables Chapter											
<i>Offshore Wind Master Plan</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Offshore Wind Pre-Development Activities</i>	-	-	-	-	-	-	-	-	-	-	-
Large-Scale Renewables Chapter Total	-	-	-	-	-	-	-	-	-	-	-
REV Technical Assistance Chapter											
<i>REV Connect</i>	-	-	-	-	-	-	-	-	-	-	-
REV Technical Assistance Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Energy Storage Chapter											
<i>Reducing Barriers to Distributed Deployment</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Solar Plus Energy Storage</i>	-	-	-	-	-	-	-	-	-	-	-
Energy Storage Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Clean Transportation Chapter											
<i>Electric Vehicles</i>	-	-	-	-	-	-	-	-	-	-	-
Clean Transportation Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Agriculture Chapter											
<i>2030 GLASE</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Advancing Agricultural Energy Technologies</i>	-	-	-	-	-	-	-	-	-	-	-
Agriculture Chapter Total	-	-	-	-	-	-	-	-	-	-	-

Low- to Moderate-Income Chapter											
RetrofitNY	-	-	-	-	-	-	-	-	-	-	-
REVitalize	-	35,200	24,700	-	-	-	-	-	-	-	59,880
Low-Income Forum on Energy	-	-	-	-	-	-	-	-	-	-	-
Healthy Homes Feasibility Study	-	-	-	-	-	-	-	-	-	-	-
LMI Single Family	-	-	-	-	-	-	-	-	-	-	-
LMI Multifamily	-	-	-	-	-	-	-	-	-	-	-
Low Income Community Solar	-	-	-	-	-	-	-	-	-	-	-
Low- to Moderate-Income Chapter Total	-	35,200	24,700	-	-	-	-	-	-	-	59,880
Workforce Development and Training Chapter											
Industry Partnerships	-	-	-	-	-	-	-	-	-	-	-
Clean Technology and Energy Efficiency Talent Pipeline	-	-	-	-	-	-	-	-	-	-	-
Workforce Dev. and Training Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Renewable Heating & Cooling Chapter											
Heat Pumps and Solar Thermal	-	-	-	-	-	-	-	-	-	-	-
Renewable Heat NY	-	-	-	-	-	-	-	-	-	-	-
Renewable Heating & Cooling Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Clean Energy Products Chapter											
Underutilized Product Support	-	-	-	-	-	-	-	-	-	-	-
Clean Energy Products Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Multi-Sector Solutions Chapter											
Soft Cost Challenge	-	-	-	-	-	-	-	-	-	-	-
Technical Services	-	-	3,150	4,000	4,000	4,000	4,000	4,000	4,000	850	27,970
Clean Energy AMP Challenge	-	-	70,400	-	-	-	-	-	-	-	70,400
Clean Energy Siting & Soft Cost Reduction	-	-	-	-	-	-	-	-	-	-	-
Pay for Performance	-	-	-	-	-	-	-	-	-	-	-
Multi-Sector Solutions Chapter Total	-	-	73,550	4,000	4,000	4,000	4,000	4,000	4,000	850	98,370
Codes Chapter											
Code to Zero	-	-	-	-	-	-	-	-	-	-	-
Codes Chapter Total	-	-	-	-	-	-	-	-	-	-	-
On-Site Power Chapter											
Fuel Cells	-	-	-	-	-	-	-	-	-	-	-
On-Site Power Chapter Total	-	-	-	-	-	-	-	-	-	-	-
New Construction Chapter											
New Construction	-	-	169,000	212,000	154,000	212,000	239,000	-	-	-	985,100
New Construction Chapter Total	-	-	169,000	212,000	154,000	212,000	239,000	-	-	-	985,100
Residential Chapter											
Engaging New Markets	-	-	-	-	-	-	-	-	-	-	-
Residential Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Total Market Development	104,900	480,200	1,484,000	837,500	399,500	227,000	254,000	15,000	15,000	11,850	3,828,000

Innovation and Research	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Grid Modernization Chapter											
<i>DER Interconnection</i>	-	-	-	-	-	-	-	-	-	-	-
<i>High Performing Electric Grid</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Next Generation Power Electronics</i>	-	-	-	-	-	-	-	-	-	-	-
Grid Modernization Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Innovation Capacity and Business Development Chapter											
<i>CleanTech Startup Growth</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Manufacturing Corps</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Novel Business Models and Offerings</i>	-	-	-	-	-	-	-	-	-	-	-
Innovation Capacity and Bus. Dev. Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Building Innovation Chapter											
<i>NextGen HVAC</i>	-	-	-	-	-	-	-	-	-	-	-
Building Innovation Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Clean Transportation Chapter											
<i>Public Transportation and Electrified Rail</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Electric Vehicles</i>	-	-	-	-	-	-	-	-	-	-	-
Clean Transportation Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Energy-Related Environmental Research Chapter											
<i>Energy-Related Environmental Research</i>	-	-	-	-	-	-	-	-	-	-	-
Energy-Related Environ. Research Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Renewables Optimization Chapter											
<i>Energy Storage Technology and Product Development</i>	-	-	-	-	-	-	-	-	-	-	-
<i>National Offshore Wind Research & Development Consortium</i>	-	-	-	-	-	-	-	-	-	-	-
Renewables Optimization Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Total Innovation & Research	-	-	-	-	-	-	-	-	-	-	-

Table 9. Market Development and Innovation & Research Lifetime Benefits by Chapter/Initiative (tons CO2e Reductions)

Market Development	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Resource Acquisition Transition Chapter											
<i>Commercial</i>	123,000	647,000	565,000	556,000							1,891,000
<i>Industrial</i>	1,790,000	3,880,000	1,080,000	1,080,000							7,821,000
<i>Agriculture</i>	30,000	45,000	45,000								120,000
<i>Multifamily Market Rate</i>	-	8,970	-								8,967
<i>Single Family Market Rate</i>	109,000	83,300	104,000	88,500							384,800
<i>Commercial New Construction</i>	245,000	208,000	355,000								808,000
<i>Low Rise New Construction</i>	78,800	99,200	132,000								310,000
<i>Multifamily New Construction</i>	92,700	105,000	137,000								334,700
<i>Anaerobic Digesters</i>	39,200	-	263,000								302,200
<i>Small Wind</i>	10,000	17,000	17,000								44,000
<i>Solar Thermal</i>	6,550	-	-								6,550
<i>Combined Heat & Power</i>	648,000	119,000	436,000	112,000							1,315,000
Resource Acquisition Transition Chapter Total	3,172,000	5,212,000	3,134,000	1,837,000	-	-	-	-	-	-	13,350,000
Commercial Chapter											
<i>Real Estate Tenant</i>	564	61,000	112,000	104,000	122,000	86,600	52,100	26,100	17,200	-	581,600
<i>Energy Management</i>	11,200	246,000	467,000	520,000	490,000	148,000	44,800	15,000	4,160	1,060	1,948,000
<i>REV Campus Challenge</i>	-	309,000	309,000	157,000	157,000	105,000	105,000	105,000	105,000	105,000	1,455,000
<i>K-12</i>	-	-	73,400	147,000	147,000	148,000	221,000	148,000	148,000	111,000	1,143,000
Commercial Chapter Total	11,760	616,000	961,400	928,000	916,000	487,600	422,900	294,100	274,400	217,100	5,128,000
Industrial Chapter											
<i>Continuous Energy Improvement</i>	-	773,000	315,000	330,000	199,000	171,000	389,000	-	-	-	2,177,000
Industrial Chapter Total	-	773,000	315,000	330,000	199,000	171,000	389,000	-	-	-	2,177,000
Communities Chapter											
<i>Clean Energy Communities</i>	-	518,000	884,000	802,000	298,000	-	-	-	-	-	2,502,000
<i>Community Energy Engagement</i>	-	-	-	-	-	-	-	-	-	-	-
Communities Chapter Total	-	518,000	884,000	802,000	298,000	-	-	-	-	-	2,502,000
Large-Scale Renewables Chapter											
<i>Offshore Wind Master Plan</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Offshore Wind Pre-Development Activities</i>	-	-	-	-	-	-	-	-	-	-	-
Large-Scale Renewables Chapter Total	-	-	-	-	-	-	-	-	-	-	-
REV Technical Assistance Chapter											
<i>REV Connect</i>	-	-	-	-	-	-	-	-	-	-	-
REV Technical Assistance Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Energy Storage Chapter											
<i>Reducing Barriers to Distributed Deployment</i>	-	13,700	24,700	24,200	10,000	-	-	-	-	-	72,600
<i>Solar Plus Energy Storage</i>	-	-	-	-	-	-	-	-	-	-	-
Energy Storage Chapter Total	-	13,700	24,700	24,200	10,000	-	-	-	-	-	72,600
Clean Transportation Chapter											
<i>Electric Vehicles</i>	-	134,000	301,000	271,000	61,000	-	-	-	-	-	767,300
Clean Transportation Chapter Total	-	134,000	301,000	271,000	61,000	-	-	-	-	-	767,300
Agriculture Chapter											
<i>2030 GLASE</i>	18,300	-	-	-	-	-	-	-	-	-	18,300
<i>Advancing Agricultural Energy Technologies</i>	-	-	-	3,240	3,240	3,240	3,240	-	-	-	12,960
Agriculture Chapter Total	18,300	-	-	3,240	3,240	3,240	3,240	-	-	-	31,260

Low- to Moderate-Income Chapter											
<i>RetrofitNY</i>	-	-	8,370	10,600	23,000	50,300	545,000	1,170,000	1,760,000	2,230,000	5,804,000
<i>REVitalize</i>	-	18,500	13,000	-	-	-	-	-	-	-	31,500
<i>Low-Income Forum on Energy</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Healthy Homes Feasibility Study</i>	-	-	-	-	-	-	-	-	-	-	-
<i>LMI Single Family</i>	277,000	338,000	338,000	164,000	164,000	164,000	-	-	-	-	1,445,000
<i>LMI Multifamily</i>	19,800	82,100	186,000	206,000	226,000	226,000	-	-	-	-	945,900
<i>Low Income Community Solar</i>	-	-	-	-	-	-	-	-	-	-	-
Low- to Moderate-Income Chapter Total	296,800	438,600	545,400	380,600	413,000	440,300	545,000	1,170,000	1,760,000	2,230,000	8,226,000
Workforce Development and Training Chapter											
<i>Industry Partnerships</i>	-	387,000	211,000	704,000	810,000	246,000	-	-	-	-	2,359,000
<i>Clean Technology and Energy Efficiency Talent Pipeline</i>	-	-	-	-	-	-	-	-	-	-	-
Workforce Dev. and Training Chapter Total	-	387,000	211,000	704,000	810,000	246,000	-	-	-	-	2,359,000
Renewable Heating & Cooling Chapter											
<i>Heat Pumps and Solar Thermal</i>	-	84,800	217,000	221,000	183,000	164,000	-	-	-	-	870,300
<i>Renewable Heat NY</i>	-	5,090	6,070	6,460	5,690	2,620	-	-	-	-	25,920
Renewable Heating & Cooling Chapter Total	-	89,890	223,100	227,500	188,700	166,600	-	-	-	-	896,200
Clean Energy Products Chapter											
<i>Underutilized Product Support</i>	-	40,300	139,000	242,000	161,000	162,000	-	-	-	-	744,400
Clean Energy Products Chapter Total	-	40,300	139,000	242,000	161,000	162,000	-	-	-	-	744,400
Multi-Sector Solutions Chapter											
<i>Soft Cost Challenge</i>	-	-	233,000	233,000	-	-	-	-	-	-	465,700
<i>Technical Services</i>	-	-	287,000	162,000	288,000	158,000	179,000	77,800	44,600	31,700	1,229,000
<i>Clean Energy AMP Challenge</i>	-	-	370,000	-	-	-	-	-	-	-	370,000
<i>Clean Energy Siting & Soft Cost Reduction</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Pay for Performance</i>	-	-	-	111,800	256,500	604,000	-	-	-	-	972,300
Multi-Sector Solutions Chapter Total	-	-	890,000	506,800	544,500	762,000	179,000	77,800	44,600	31,700	3,037,000
Codes Chapter											
<i>Code to Zero</i>	-	-	-	949,000	1,420,000	-	-	-	-	-	2,371,000
Codes Chapter Total	-	-	-	949,000	1,420,000	-	-	-	-	-	2,371,000
On-Site Power Chapter											
<i>Fuel Cells</i>	-	-	75,000	75,000	-	-	-	-	-	-	150,000
On-Site Power Chapter Total	-	-	75,000	75,000	-	-	-	-	-	-	150,000
New Construction Chapter											
<i>New Construction</i>	-	-	669,000	1,290,000	1,230,000	223,000	251,000	-	-	-	3,658,000
New Construction Chapter Total	-	-	669,000	1,290,000	1,230,000	223,000	251,000	-	-	-	3,658,000
Residential Chapter											
<i>Engaging New Markets</i>	-	-	2,970	55,300	83,700	-	-	-	-	-	142,000
Residential Chapter Total	-	-	2,970	55,300	83,700	-	-	-	-	-	142,000
Total Market Development	3,499,000	8,222,000	8,376,000	8,626,000	6,338,000	2,662,000	1,790,000	1,542,000	2,079,000	2,479,000	45,610,000

Innovation and Research	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Grid Modernization Chapter											
<i>DER Interconnection</i>	-	-	-	-	-	-	-	-	-	-	-
<i>High Performing Electric Grid</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Next Generation Power Electronics</i>	-	-	-	-	-	-	-	-	-	-	-
Grid Modernization Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Innovation Capacity and Business Development Chapter											
<i>CleanTech Startup Growth</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Manufacturing Corps</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Novel Business Models and Offerings</i>	-	-	-	-	-	-	-	-	-	-	-
Innovation Capacity and Bus. Dev. Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Building Innovation Chapter											
<i>NextGen HVAC</i>	-	-	-	-	-	-	-	-	-	-	-
Building Innovation Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Clean Transportation Chapter											
<i>Public Transportation and Electrified Rail</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Electric Vehicles</i>	-	-	-	-	-	-	-	-	-	-	-
Clean Transportation Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Energy-Related Environmental Research Chapter											
<i>Energy-Related Environmental Research</i>	-	-	-	-	-	-	-	-	-	-	-
Energy-Related Environ. Research Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Renewables Optimization Chapter											
<i>Energy Storage Technology and Product Development</i>	-	-	-	-	-	-	-	-	-	-	-
<i>National Offshore Wind Research & Development Consortium</i>	-	-	-	-	-	-	-	-	-	-	-
Renewables Optimization Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Total Innovation & Research	-	-	-	-	-	-	-	-	-	-	-

Table 10. Market Development and Innovation & Research Lifetime Benefits by Chapter/Initiative (Customer Bill Savings in \$ million)

Market Development	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Resource Acquisition Transition Chapter											
Commercial	\$ 26.80	\$ 139.00	\$ 122.00	\$ 119.00							\$ 406.80
Industrial	\$ 303.00	\$ 308.00	\$ 175.00	\$ 175.00							\$ 961.80
Agriculture	\$ 8.85	\$ 11.30	\$ 11.30								\$ 31.35
Multifamily Market Rate	\$ -	\$ 1.63	\$ -								\$ 1.63
Single Family Market Rate	\$ 27.10	\$ 20.60	\$ 25.50	\$ 21.80							\$ 95.00
Commercial New Construction	\$ 56.20	\$ 51.10	\$ 81.00								\$ 188.30
Low Rise New Construction	\$ 18.80	\$ 23.70	\$ 32.00								\$ 74.50
Multifamily New Construction	\$ 18.50	\$ 21.70	\$ 27.10								\$ 67.30
Anaerobic Digesters	\$ 9.99	\$ -	\$ 66.00								\$ 75.99
Small Wind	\$ 3.20	\$ 5.60	\$ 5.60								\$ 14.40
Solar Thermal	\$ 1.66	\$ -	\$ -								\$ 1.66
Combined Heat & Power	\$ 315.00	\$ 57.70	\$ 212.00	\$ 54.50							\$ 639.20
Resource Acquisition Transition Chapter Total	\$ 789.10	\$ 640.30	\$ 757.50	\$ 370.30	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,558.00
Commercial Chapter											
Real Estate Tenant	\$ 0.13	\$ 14.50	\$ 26.70	\$ 24.90	\$ 29.00	\$ 20.70	\$ 12.40	\$ 6.22	\$ 4.11	\$ -	\$ 138.70
Energy Management	\$ 2.70	\$ 60.80	\$ 115.00	\$ 129.00	\$ 122.00	\$ 36.50	\$ 11.00	\$ 3.70	\$ 1.02	\$ 0.26	\$ 480.90
REV Campus Challenge	\$ -	\$ 58.10	\$ 58.10	\$ 29.00	\$ 29.00	\$ 19.40	\$ 19.40	\$ 19.40	\$ 19.40	\$ 19.40	\$ 271.10
K-12	\$ -	\$ -	\$ 16.10	\$ 32.20	\$ 32.30	\$ 32.40	\$ 48.50	\$ 32.40	\$ 32.40	\$ 24.30	\$ 250.40
Commercial Chapter Total	\$ 2.83	\$ 133.40	\$ 215.90	\$ 215.10	\$ 212.30	\$ 109.00	\$ 91.30	\$ 61.72	\$ 56.93	\$ 43.96	\$ 1,141.00
Industrial Chapter											
Continuous Energy Improvement	\$ -	\$ 120.00	\$ 48.80	\$ 51.20	\$ 31.10	\$ 26.60	\$ 59.30	\$ -	\$ -	\$ -	\$ 337.00
Industrial Chapter Total	\$ -	\$ 120.00	\$ 48.80	\$ 51.20	\$ 31.10	\$ 26.60	\$ 59.30	\$ -	\$ -	\$ -	\$ 337.00
Communities Chapter											
Clean Energy Communities	\$ -	\$ 120.00	\$ 205.00	\$ 186.00	\$ 69.30	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 580.30
Community Energy Engagement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Communities Chapter Total	\$ -	\$ 120.00	\$ 205.00	\$ 186.00	\$ 69.30	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 580.30
Large-Scale Renewables Chapter											
Offshore Wind Master Plan	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Offshore Wind Pre-Development Activities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Large-Scale Renewables Chapter Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
REV Technical Assistance Chapter											
REV Connect	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
REV Technical Assistance Chapter Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Energy Storage Chapter											
Reducing Barriers to Distributed Deployment	\$ -	\$ 3.46	\$ 6.25	\$ 6.12	\$ 2.53	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18.35
Solar Plus Energy Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Energy Storage Chapter Total	\$ -	\$ 3.46	\$ 6.25	\$ 6.12	\$ 2.53	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18.35
Clean Transportation Chapter											
Electric Vehicles	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Clean Transportation Chapter Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Agriculture Chapter											
2030 GLASE	\$ 2.92	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2.92
Advancing Agricultural Energy Technologies	\$ -	\$ -	\$ -	\$ 0.90	\$ 0.90	\$ 0.90	\$ 0.90	\$ -	\$ -	\$ -	\$ 3.58
Agriculture Chapter Total	\$ 2.92	\$ -	\$ -	\$ 0.90	\$ 0.90	\$ 0.90	\$ 0.90	\$ -	\$ -	\$ -	\$ 6.50

Low- to Moderate-Income Chapter											
RetrofitNY	\$ -	\$ -	\$ 1.62	\$ 2.05	\$ 4.45	\$ 9.73	\$ 106.00	\$ 227.00	\$ 341.00	\$ 432.00	\$ 1,123.00
REVitalize	\$ -	\$ 5.56	\$ 3.90	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9.46
Low-Income Forum on Energy	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Healthy Homes Feasibility Study	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
LMI Single Family	\$ 62.90	\$ 77.50	\$ 77.50	\$ 38.70	\$ 38.70	\$ 38.70	\$ -	\$ -	\$ -	\$ -	\$ 334.00
LMI Multifamily	\$ 4.10	\$ 17.10	\$ 38.80	\$ 43.00	\$ 47.00	\$ 47.00	\$ -	\$ -	\$ -	\$ -	\$ 197.00
Low Income Community Solar	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Low- to Moderate-Income Chapter Total	\$ 67.00	\$ 100.20	\$ 121.80	\$ 83.75	\$ 90.15	\$ 95.43	\$ 106.00	\$ 227.00	\$ 341.00	\$ 432.00	\$ 1,663.00
Workforce Development and Training Chapter											
Industry Partnerships	\$ -	\$ 74.80	\$ 40.80	\$ 136.00	\$ 156.00	\$ 47.60	\$ -	\$ -	\$ -	\$ -	\$ 455.80
Clean Technology and Energy Efficiency Talent Pipeline	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Workforce Dev. and Training Chapter Total	\$ -	\$ 74.80	\$ 40.80	\$ 136.00	\$ 156.00	\$ 47.60	\$ -	\$ -	\$ -	\$ -	\$ 455.80
Renewable Heating & Cooling Chapter											
Heat Pumps and Solar Thermal	\$ -	\$ 14.30	\$ 37.00	\$ 36.50	\$ 28.30	\$ 24.80	\$ -	\$ -	\$ -	\$ -	\$ 140.80
Renewable Heat NY	\$ -	\$ 1.77	\$ 2.11	\$ 2.25	\$ 1.98	\$ 0.91	\$ -	\$ -	\$ -	\$ -	\$ 9.03
Renewable Heating & Cooling Chapter Total	\$ -	\$ 16.07	\$ 39.11	\$ 38.75	\$ 30.28	\$ 25.71	\$ -	\$ -	\$ -	\$ -	\$ 149.80
Clean Energy Products Chapter											
Underutilized Product Support	\$ -	\$ 15.80	\$ 54.50	\$ 88.20	\$ 51.60	\$ 41.00	\$ -	\$ -	\$ -	\$ -	\$ 251.10
Clean Energy Products Chapter Total	\$ -	\$ 15.80	\$ 54.50	\$ 88.20	\$ 51.60	\$ 41.00	\$ -	\$ -	\$ -	\$ -	\$ 251.10
Multi-Sector Solutions Chapter											
Soft Cost Challenge	\$ -	\$ -	\$ 55.60	\$ 55.60	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 111.10
Technical Services	\$ -	\$ -	\$ 58.20	\$ 33.70	\$ 57.50	\$ 31.70	\$ 35.90	\$ 15.80	\$ 9.23	\$ 7.17	\$ 249.20
Clean Energy AMP Challenge	\$ -	\$ -	\$ 51.90	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 51.90
Clean Energy Siting & Soft Cost Reduction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pay for Performance	\$ -	\$ -	\$ -	\$ 28.49	\$ 65.10	\$ 152.20	\$ -	\$ -	\$ -	\$ -	\$ 245.79
Multi-Sector Solutions Chapter Total	\$ -	\$ -	\$ 165.70	\$ 117.80	\$ 122.60	\$ 183.90	\$ 35.90	\$ 15.80	\$ 9.23	\$ 7.17	\$ 658.00
Codes Chapter											
Code to Zero	\$ -	\$ -	\$ -	\$ 234.00	\$ 351.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 584.30
Codes Chapter Total	\$ -	\$ -	\$ -	\$ 234.00	\$ 351.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 584.30
On-Site Power Chapter											
Fuel Cells	\$ -	\$ -	\$ 59.90	\$ 59.90	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 119.80
On-Site Power Chapter Total	\$ -	\$ -	\$ 59.90	\$ 59.90	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 119.80
New Construction Chapter											
New Construction	\$ -	\$ -	\$ 136.00	\$ 272.00	\$ 265.00	\$ 28.10	\$ 31.80	\$ -	\$ -	\$ -	\$ 733.20
New Construction Chapter Total	\$ -	\$ -	\$ 136.00	\$ 272.00	\$ 265.00	\$ 28.10	\$ 31.80	\$ -	\$ -	\$ -	\$ 733.20
Residential Chapter											
Engaging New Markets	\$ -	\$ -	\$ 0.73	\$ 13.60	\$ 20.60	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 34.99
Residential Chapter Total	\$ -	\$ -	\$ 0.73	\$ 13.60	\$ 20.60	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 34.99
Total Market Development	\$ 861.90	\$ 1,224.00	\$ 1,852.00	\$ 1,874.00	\$ 1,403.00	\$ 558.20	\$ 325.20	\$ 304.50	\$ 407.20	\$ 483.10	\$ 9,291.00

Innovation and Research	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Grid Modernization Chapter											
<i>DER Interconnection</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>High Performing Electric Grid</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Next Generation Power Electronics</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grid Modernization Chapter Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Innovation Capacity and Business Development Chapter											
<i>CleanTech Startup Growth</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Manufacturing Corps</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Novel Business Models and Offerings</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Innovation Capacity and Bus. Dev. Chapter Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Building Innovation Chapter											
<i>NextGen HVAC</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Building Innovation Chapter Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Clean Transportation Chapter											
<i>Public Transportation and Electrified Rail</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Electric Vehicles</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Clean Transportation Chapter Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Energy-Related Environmental Research Chapter											
<i>Energy-Related Environmental Research</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Energy-Related Environ. Research Chapter Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Renewables Optimization Chapter											
<i>Energy Storage Technology and Product Development</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>National Offshore Wind Research & Development Consortium</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Renewables Optimization Chapter Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Innovation & Research	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Table 11. Market Development and Innovation & Research Lifetime Benefits by Chapter/Initiative (Private Investment in \$ million)

Market Development	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Resource Acquisition Transition Chapter											
Commercial	\$ 7.20	\$ 36.40	\$ 24.40	\$ 24.00							\$ 92.00
Industrial	\$ 157.00	\$ 176.00	\$ 213.00	\$ 215.00							\$ 761.10
Agriculture	\$ 3.49	\$ 4.56	\$ 4.19								\$ 12.24
Multifamily Market Rate	\$ -	\$ 0.42	\$ -								\$ 0.42
Single Family Market Rate	\$ 19.30	\$ 19.60	\$ 21.00	\$ 17.90							\$ 77.80
Commercial New Construction	\$ 17.10	\$ 20.40	\$ 4.57								\$ 42.07
Low Rise New Construction	\$ 10.30	\$ 14.50	\$ 18.70								\$ 43.50
Multifamily New Construction	\$ 25.10	\$ 26.40	\$ 31.70								\$ 83.20
Anaerobic Digesters	\$ 19.00	\$ -	\$ 82.70								\$ 101.70
Small Wind	\$ 1.60	\$ 2.80	\$ 2.80								\$ 7.20
Solar Thermal	\$ 0.82	\$ -	\$ -								\$ 0.82
Combined Heat & Power	\$ 176.00	\$ 14.00	\$ 38.00	\$ 10.00							\$ 238.00
Resource Acquisition Transition Chapter Total	\$ 436.90	\$ 315.10	\$ 441.10	\$ 266.90	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,460.00
Commercial Chapter											
Real Estate Tenant	\$ 0.01	\$ 1.27	\$ 2.35	\$ 2.18	\$ 2.54	\$ 1.81	\$ 1.09	\$ 0.54	\$ 0.36	\$ -	\$ 12.15
Energy Management	\$ 3.34	\$ 19.30	\$ 33.90	\$ 44.20	\$ 51.30	\$ 78.70	\$ 92.00	\$ 9.58	\$ 11.20	\$ 14.40	\$ 357.80
REV Campus Challenge	\$ -	\$ 13.30	\$ 13.40	\$ 7.43	\$ 7.10	\$ 5.98	\$ 5.98	\$ 5.98	\$ 5.98	\$ 5.98	\$ 71.20
K-12	\$ -	\$ -	\$ 7.14	\$ 11.50	\$ 11.40	\$ 12.00	\$ 15.60	\$ 11.20	\$ 10.40	\$ 7.02	\$ 86.40
Commercial Chapter Total	\$ 3.35	\$ 33.87	\$ 56.79	\$ 65.31	\$ 72.34	\$ 98.49	\$ 114.70	\$ 27.30	\$ 27.94	\$ 27.40	\$ 527.60
Industrial Chapter											
Continuous Energy Improvement	\$ -	\$ 104.00	\$ 20.40	\$ 15.90	\$ 0.90	\$ 0.87	\$ 0.74	\$ -	\$ -	\$ -	\$ 142.80
Industrial Chapter Total	\$ -	\$ 104.00	\$ 20.40	\$ 15.90	\$ 0.90	\$ 0.87	\$ 0.74	\$ -	\$ -	\$ -	\$ 142.80
Communities Chapter											
Clean Energy Communities	\$ -	\$ 16.70	\$ 28.50	\$ 25.90	\$ 9.63	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 80.73
Community Energy Engagement	\$ -	\$ 1.73	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1.73
Communities Chapter Total	\$ -	\$ 18.43	\$ 28.50	\$ 25.90	\$ 9.63	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 82.46
Large-Scale Renewables Chapter											
Offshore Wind Master Plan	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Offshore Wind Pre-Development Activities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Large-Scale Renewables Chapter Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
REV Technical Assistance Chapter											
REV Connect	\$ -	\$ 0.25	\$ 0.25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.50
REV Technical Assistance Chapter Total	\$ -	\$ 0.25	\$ 0.25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.50
Energy Storage Chapter											
Reducing Barriers to Distributed Deployment	\$ -	\$ 8.50	\$ 11.60	\$ 9.50	\$ 0.40	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30.00
Solar Plus Energy Storage	\$ -	\$ -	\$ 5.00	\$ 15.00	\$ 20.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 40.00
Energy Storage Chapter Total	\$ -	\$ 8.50	\$ 16.60	\$ 24.50	\$ 20.40	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 70.00
Clean Transportation Chapter											
Electric Vehicles	\$ -	\$ 180.00	\$ 403.00	\$ 363.00	\$ 81.70	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,027.00
Clean Transportation Chapter Total	\$ -	\$ 180.00	\$ 403.00	\$ 363.00	\$ 81.70	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,027.00
Agriculture Chapter											
2030 GLASE	\$ 9.46	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9.46
Advancing Agricultural Energy Technologies	\$ -	\$ -	\$ -	\$ 0.19	\$ 0.19	\$ 0.19	\$ 0.19	\$ -	\$ -	\$ -	\$ 0.75
Agriculture Chapter Total	\$ 9.46	\$ -	\$ -	\$ 0.19	\$ 0.19	\$ 0.19	\$ 0.19	\$ -	\$ -	\$ -	\$ 10.21

Low- to Moderate-Income Chapter											
RetrofitNY	\$ -	\$ -	\$ -	\$ 0.61	\$ 2.55	\$ 6.23	\$ 77.00	\$ 210.00	\$ 450.00	\$ 664.00	\$ 1,411.00
REVitalize	\$ -	\$ 3.75	\$ 2.13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5.88
Low-Income Forum on Energy	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Healthy Homes Feasibility Study	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
LMI Single Family	\$ 9.51	\$ 9.42	\$ 10.20	\$ 6.55	\$ 6.55	\$ 6.55	\$ -	\$ -	\$ -	\$ -	\$ 48.78
LMI Multifamily	\$ 3.14	\$ 19.40	\$ 35.90	\$ 36.70	\$ 40.20	\$ 40.20	\$ -	\$ -	\$ -	\$ -	\$ 175.50
Low Income Community Solar	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Low- to Moderate-Income Chapter Total	\$ 12.65	\$ 32.57	\$ 48.23	\$ 43.86	\$ 49.30	\$ 52.98	\$ 77.00	\$ 210.00	\$ 450.00	\$ 664.00	\$ 1,641.00
Workforce Development and Training Chapter											
Industry Partnerships	\$ -	\$ 4.59	\$ 3.00	\$ 5.25	\$ 5.85	\$ 3.23	\$ -	\$ -	\$ -	\$ -	\$ 21.92
Clean Technology and Energy Efficiency Talent Pipeline	\$ -	\$ -	\$ 0.03	\$ 1.23	\$ 8.65	\$ 12.88	\$ 15.18	\$ 14.95	\$ 11.88	\$ 3.87	\$ 68.64
Workforce Dev. and Training Chapter Total	\$ -	\$ 4.59	\$ 3.03	\$ 6.48	\$ 14.50	\$ 16.11	\$ 15.18	\$ 14.95	\$ 11.88	\$ 3.87	\$ 90.56
Renewable Heating & Cooling Chapter											
Heat Pumps and Solar Thermal	\$ -	\$ 4.56	\$ 15.70	\$ 27.80	\$ 30.20	\$ 44.70	\$ -	\$ -	\$ -	\$ -	\$ 122.90
Renewable Heat NY	\$ -	\$ 2.55	\$ 3.26	\$ 3.57	\$ 3.37	\$ 2.61	\$ -	\$ -	\$ -	\$ -	\$ 15.36
Renewable Heating & Cooling Chapter Total	\$ -	\$ 7.11	\$ 18.96	\$ 31.37	\$ 33.57	\$ 47.31	\$ -	\$ -	\$ -	\$ -	\$ 138.30
Clean Energy Products Chapter											
Underutilized Product Support	\$ -	\$ 13.50	\$ 46.60	\$ 71.50	\$ 39.00	\$ 27.20	\$ -	\$ -	\$ -	\$ -	\$ 197.80
Clean Energy Products Chapter Total	\$ -	\$ 13.50	\$ 46.60	\$ 71.50	\$ 39.00	\$ 27.20	\$ -	\$ -	\$ -	\$ -	\$ 197.80
Multi-Sector Solutions Chapter											
Soft Cost Challenge	\$ -	\$ -	\$ 3.66	\$ 3.66	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7.32
Technical Services	\$ -	\$ -	\$ 19.30	\$ 13.40	\$ 17.60	\$ 11.30	\$ 12.00	\$ 7.30	\$ 5.77	\$ 4.37	\$ 91.12
Clean Energy AMP Challenge	\$ -	\$ -	\$ 54.50	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 54.50
Clean Energy Siting & Soft Cost Reduction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pay for Performance	\$ -	\$ -	\$ -	\$ 15.41	\$ 32.60	\$ 70.00	\$ -	\$ -	\$ -	\$ -	\$ 118.01
Multi-Sector Solutions Chapter Total	\$ -	\$ -	\$ 77.46	\$ 32.47	\$ 50.20	\$ 81.30	\$ 12.00	\$ 7.30	\$ 5.77	\$ 4.37	\$ 270.90
Codes Chapter											
Code to Zero	\$ -	\$ -	\$ -	\$ 220.00	\$ 293.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 513.50
Codes Chapter Total	\$ -	\$ -	\$ -	\$ 220.00	\$ 293.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 513.50
On-Site Power Chapter											
Fuel Cells	\$ -	\$ -	\$ 20.50	\$ 20.50	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 41.00
On-Site Power Chapter Total	\$ -	\$ -	\$ 20.50	\$ 20.50	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 41.00
New Construction Chapter											
New Construction	\$ -	\$ -	\$ 25.30	\$ 84.30	\$ 84.30	\$ 10.00	\$ 10.00	\$ -	\$ -	\$ -	\$ 213.90
New Construction Chapter Total	\$ -	\$ -	\$ 25.30	\$ 84.30	\$ 84.30	\$ 10.00	\$ 10.00	\$ -	\$ -	\$ -	\$ 213.90
Residential Chapter											
Engaging New Markets	\$ -	\$ -	\$ 0.76	\$ 10.80	\$ 16.60	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28.17
Residential Chapter Total	\$ -	\$ -	\$ 0.76	\$ 10.80	\$ 16.60	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28.17
Total Market Development	\$ 462.40	\$ 717.90	\$ 1,207.00	\$ 1,283.00	\$ 765.60	\$ 334.40	\$ 229.80	\$ 259.60	\$ 495.60	\$ 699.60	\$ 6,456.00

Innovation and Research	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Grid Modernization Chapter											
<i>DER Interconnection</i>	\$ 3.35	\$ 2.48	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5.83
<i>High Performing Electric Grid</i>	\$ 13.00	\$ 53.00	\$ 59.00	\$ 52.00	\$ 44.00	\$ 44.00	\$ 44.00	\$ -	\$ -	\$ -	\$ 309.00
<i>Next Generation Power Electronics</i>	\$ -	\$ 47.00	\$ 33.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 80.00
Grid Modernization Chapter Total	\$ 16.35	\$ 102.50	\$ 92.00	\$ 52.00	\$ 44.00	\$ 44.00	\$ 44.00	\$ -	\$ -	\$ -	\$ 394.80
Innovation Capacity and Business Development Chapter											
<i>CleanTech Startup Growth</i>	\$ 90.00	\$ 90.00	\$ 58.80	\$ 63.90	\$ 34.00	\$ 32.00	\$ 18.50	\$ -	\$ -	\$ -	\$ 387.20
<i>Manufacturing Corps</i>	\$ -	\$ -	\$ 20.00	\$ 15.00	\$ 25.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 60.00
<i>Novel Business Models and Offerings</i>	\$ -	\$ -	\$ 32.90	\$ 36.60	\$ 47.60	\$ 51.30	\$ -	\$ -	\$ -	\$ -	\$ 168.40
Innovation Capacity and Bus. Dev. Chapter Total	\$ 90.00	\$ 90.00	\$ 111.70	\$ 115.50	\$ 106.60	\$ 83.30	\$ 18.50	\$ -	\$ -	\$ -	\$ 615.60
Building Innovation Chapter											
<i>NextGen HVAC</i>	\$ -	\$ 20.00	\$ 30.00	\$ 25.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 75.00
Building Innovation Chapter Total	\$ -	\$ 20.00	\$ 30.00	\$ 25.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 75.00
Clean Transportation Chapter											
<i>Public Transportation and Electrified Rail</i>	\$ -	\$ -	\$ 8.00	\$ 9.00	\$ 9.00	\$ 8.00	\$ 8.00	\$ -	\$ -	\$ -	\$ 42.00
<i>Electric Vehicles</i>	\$ -	\$ 7.20	\$ 7.50	\$ 6.50	\$ 6.50	\$ 4.00	\$ -	\$ -	\$ -	\$ -	\$ 31.70
Clean Transportation Chapter Total	\$ -	\$ 7.20	\$ 15.50	\$ 15.50	\$ 15.50	\$ 12.00	\$ 8.00	\$ -	\$ -	\$ -	\$ 73.70
Energy-Related Environmental Research Chapter											
<i>Energy-Related Environmental Research</i>	\$ -	\$ 2.65	\$ 2.10	\$ 1.21	\$ 1.04	\$ 0.50	\$ -	\$ -	\$ -	\$ -	\$ 7.50
Energy-Related Environ. Research Chapter Total	\$ -	\$ 2.65	\$ 2.10	\$ 1.21	\$ 1.04	\$ 0.50	\$ -	\$ -	\$ -	\$ -	\$ 7.50
Renewables Optimization Chapter											
<i>Energy Storage Technology and Product Development</i>	\$ -	\$ 9.10	\$ 22.40	\$ 18.00	\$ 16.50	\$ 16.50	\$ 16.50	\$ 16.50	\$ 28.90	\$ 20.60	\$ 165.00
<i>National Offshore Wind Research & Development Consortium</i>	\$ -	\$ -	\$ 11.30	\$ 17.80	\$ 27.60	\$ 41.60	\$ 14.30	\$ -	\$ -	\$ -	\$ 112.60
Renewables Optimization Chapter Total	\$ -	\$ 9.10	\$ 33.70	\$ 35.80	\$ 44.10	\$ 58.10	\$ 30.80	\$ 16.50	\$ 28.90	\$ 20.60	\$ 277.60
Total Innovation & Research	\$ 106.40	\$ 231.50	\$ 285.00	\$ 245.00	\$ 211.20	\$ 197.90	\$ 101.30	\$ 16.50	\$ 28.90	\$ 20.60	\$ 1,444.00

Table 12. Market Development and Innovation & Research Participants

Market Development	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Resource Acquisition Transition Chapter											
<i>Commercial</i>	53	120	100	67							340
<i>Industrial</i>	78	76	72	72							298
<i>Agriculture</i>	218	285	262								765
<i>Multifamily Market Rate</i>	-	186	-								186
<i>Single Family Market Rate</i>	2,484	3,408	2,620	2,238							10,750
<i>Commercial New Construction</i>	45	55	47								147
<i>Low Rise New Construction</i>	2,015	2,803	3,437								8,255
<i>Multifamily New Construction</i>	2,846	3,500	4,200								10,546
<i>Anaerobic Digesters</i>	2	-	34								36
<i>Small Wind</i>	29	50	50								129
<i>Solar Thermal</i>	62	-	-								62
<i>Combined Heat & Power</i>	43	27	56	13							139
Resource Acquisition Transition Chapter Total	7,875	10,510	10,880	2,390	-	-	-	-	-	-	31,650
Commercial Chapter											
<i>Real Estate Tenant</i>	1	141	186	151	168	188	178	168	168	-	1,349
<i>Energy Management</i>	17	72	231	391	391	110	90	80	80	-	1,462
<i>REV Campus Challenge</i>	63	20	20	17	10	5	5	5	3	2	150
<i>K-12</i>	-	-	200	360	360	360	560	360	360	240	2,800
Commercial Chapter Total	81	233	637	919	929	663	833	613	611	242	5,761
Industrial Chapter											
<i>Continuous Energy Improvement</i>	-	35	44	23	23	19	15	-	-	-	159
Industrial Chapter Total	-	35	44	23	23	19	15	-	-	-	159
Communities Chapter											
<i>Clean Energy Communities</i>	-	40	80	51	-	-	-	-	-	-	171
<i>Community Energy Engagement</i>	-	3,355	-	-	-	-	-	-	-	-	3,355
Communities Chapter Total	-	3,395	80	51	-	-	-	-	-	-	3,526
Large-Scale Renewables Chapter											
<i>Offshore Wind Master Plan</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Offshore Wind Pre-Development Activities</i>	-	-	-	-	-	-	-	-	-	-	-
Large-Scale Renewables Chapter Total	-	-	-	-	-	-	-	-	-	-	-
REV Technical Assistance Chapter											
<i>REV Connect</i>	-	-	-	-	-	-	-	-	-	-	-
REV Technical Assistance Chapter Total	-	-	-	-	-	-	-	-	-	-	-
Energy Storage Chapter											
<i>Reducing Barriers to Distributed Deployment</i>	-	45	60	40	20	-	-	-	-	-	165
<i>Solar Plus Energy Storage</i>	-	-	5	15	20	-	-	-	-	-	40
Energy Storage Chapter Total	-	45	65	55	40	-	-	-	-	-	205
Clean Transportation Chapter											
<i>Electric Vehicles</i>	-	5,125	11,250	10,500	2,375	-	-	-	-	-	29,250
Clean Transportation Chapter Total	-	5,125	11,250	10,500	2,375	-	-	-	-	-	29,250
Agriculture Chapter											
<i>2030 GLASE</i>	-	5	10	5	5	-	-	-	-	-	25
<i>Advancing Agricultural Energy Technologies</i>	-	-	-	5	5	5	5	-	-	-	20
Agriculture Chapter Total	-	5	10	10	10	5	5	-	-	-	45

Low- to Moderate-Income Chapter											
RetrofitNY	-	170	170	200	500	1,000	10,000	20,000	30,000	37,960	100,000
REVitalize	-	5	-	-	-	-	-	-	-	-	5
Low-Income Forum on Energy	187	763	778	794	810	826	842	859	876	894	7,629
Healthy Homes Feasibility Study	-	-	-	-	-	-	-	-	-	-	-
LMI Single Family	9,520	13,210	13,211	9,755	9,755	9,755	-	-	-	-	65,206
LMI Multifamily	835	3,251	7,708	8,682	9,494	9,494	-	-	-	-	39,464
Low Income Community Solar	-	-	3,000	4,000	3,000	-	-	-	-	-	10,000
Low- to Moderate-Income Chapter Total	10,540	17,400	24,870	23,430	23,560	21,080	10,840	20,860	30,880	38,850	222,300
Workforce Development and Training Chapter											
Industry Partnerships	-	11	6	20	23	7	-	-	-	-	67
Clean Technology and Energy Efficiency Talent Pipeline	-	-	29	390	2,375	3,475	5,875	6,525	4,929	1,575	25,173
Workforce Dev. and Training Chapter Total	-	11	35	410	2,398	3,482	5,875	6,525	4,929	1,575	25,240
Renewable Heating & Cooling Chapter											
Heat Pumps and Solar Thermal	-	155	892	828	804	809	-	-	-	-	3,487
Renewable Heat NY	-	370	426	435	344	54	-	-	-	-	1,629
Renewable Heating & Cooling Chapter Total	-	525	1,318	1,263	1,148	863	-	-	-	-	5,116
Clean Energy Products Chapter											
Underutilized Product Support	-	2,000	6,900	10,293	4,997	2,209	-	-	-	-	26,399
Clean Energy Products Chapter Total	-	2,000	6,900	10,290	4,997	2,209	-	-	-	-	26,400
Multi-Sector Solutions Chapter											
Soft Cost Challenge	-	10	10	-	-	-	-	-	-	-	20
Technical Services	-	-	15	170	240	230	230	230	190	140	1,445
Clean Energy AMP Challenge	-	-	2	-	-	-	-	-	-	-	2
Clean Energy Siting & Soft Cost Reduction	-	-	60	60	40	-	-	-	-	-	160
Pay for Performance	-	-	-	1,675	3,500	7,400	-	-	-	-	12,575
Multi-Sector Solutions Chapter Total	-	10	87	1,905	3,780	7,630	230	230	190	140	14,200
Codes Chapter											
Code to Zero	-	250	1,500	1,503	1,503	1,500	1,500	-	-	-	7,756
Codes Chapter Total	-	250	1,500	1,503	1,503	1,500	1,500	-	-	-	7,756
On-Site Power Chapter											
Fuel Cells	-	-	14	13	-	-	-	-	-	-	27
On-Site Power Chapter Total	-	-	14	13	-	-	-	-	-	-	27
New Construction Chapter											
New Construction	-	-	1,489	8,526	8,526	18	19	-	-	-	18,578
New Construction Chapter Total	-	-	1,489	8,526	8,526	18	19	-	-	-	18,580
Residential Chapter											
Engaging New Markets	-	-	518	4,320	6,764	-	-	-	-	-	11,602
Residential Chapter Total	-	-	518	4,320	6,764	-	-	-	-	-	11,600
Total Market Development	18,500	39,540	59,700	65,610	56,050	37,470	19,320	28,230	36,610	40,810	401,800

Innovation and Research	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Grid Modernization Chapter											
<i>DER Interconnection</i>	3	5	5	-	-	-	-	-	-	-	13
<i>High Performing Electric Grid</i>	6	9	9	7	11	11	11	-	-	-	64
<i>Next Generation Power Electronics</i>	-	4	4	4	-	-	-	-	-	-	12
Grid Modernization Chapter Total	9	18	18	11	11	11	11	-	-	-	89
Innovation Capacity and Business Development Chapter											
<i>CleanTech Startup Growth</i>	32	92	592	749	869	925	1,076	-	-	-	4,335
<i>Manufacturing Corps</i>	-	-	100	150	200	-	-	-	-	-	450
<i>Novel Business Models and Offerings</i>	-	-	9	6	9	9	-	-	-	-	33
Innovation Capacity and Bus. Dev. Chapter Total	32	92	701	905	1,078	934	1,076	-	-	-	4,818
Building Innovation Chapter											
<i>NextGen HVAC</i>	-	5	8	7	5	-	-	-	-	-	25
Building Innovation Chapter Total	-	5	8	7	5	-	-	-	-	-	25
Clean Transportation Chapter											
<i>Public Transportation and Electrified Rail</i>	-	-	9	8	6	5	5	-	-	-	33
<i>Electric Vehicles</i>	-	8	8	7	6	4	-	-	-	-	33
Clean Transportation Chapter Total	-	8	17	15	12	9	5	-	-	-	66
Energy-Related Environmental Research Chapter											
<i>Energy-Related Environmental Research</i>	-	35	28	16	14	7	-	-	-	-	100
Energy-Related Environ. Research Chapter Total	-	35	28	16	14	7	-	-	-	-	100
Renewables Optimization Chapter											
<i>Energy Storage Technology and Product Development</i>	-	8	18	14	13	13	13	13	13	13	118
<i>National Offshore Wind Research & Development Consortium</i>	-	-	1	3	9	9	9	-	-	-	31
Renewables Optimization Chapter Total	-	8	19	17	22	22	22	13	13	13	149
Total Innovation & Research	41	166	791	971	1,142	983	1,114	13	13	13	5,247