

Energy Efficiency Programs

Residential and C&I Programs

SAG Update II

5/2/2017

What we would like to share with you today

1. Review of Goals and Budgets
2. Since We Last Met
3. How the Numbers Stack Up
4. Areas being developed
 - Public Sector
 - Public Housing
 - Third Party Programs
5. Next Steps
 - Complete building out the low income programs
 - Therm conversion
 - Balance the portfolio

Energy efficiency savings target and budget

Year	2018	2019	2020	2021
Cumulative Persisting Annual Savings (CPAS) Percent	7.8%	9.1%	10.4%	11.8%
CPAS (MWh)	6,154,176	7,179,872	8,205,568	9,310,164
Legacy Savings Percent	5.8%	5.2%	4.5%	4.0%
Legacy Savings (MWh)	4,576,182	4,102,784	3,550,486	3,155,988
Savings to Achieve	1,577,994	3,077,088	4,655,082	6,154,176
Annual Equivalent (MWh)	1,577,994	1,499,094	1,577,994	1,499,094
Budget (\$ Millions)	\$353	\$353	\$353	\$353

*For discussion purposes only, facts and figures are subject to change.
Annual Equivalent assumes all installed EE persists through 2021*

ComEd Plan 4 + IPA ~ 1,151,000 MWh per year

Since we last met – Progress thus Far

Core Programs

- 10 C&I and 10 Residential
- Built out our core Residential and C&I Programs

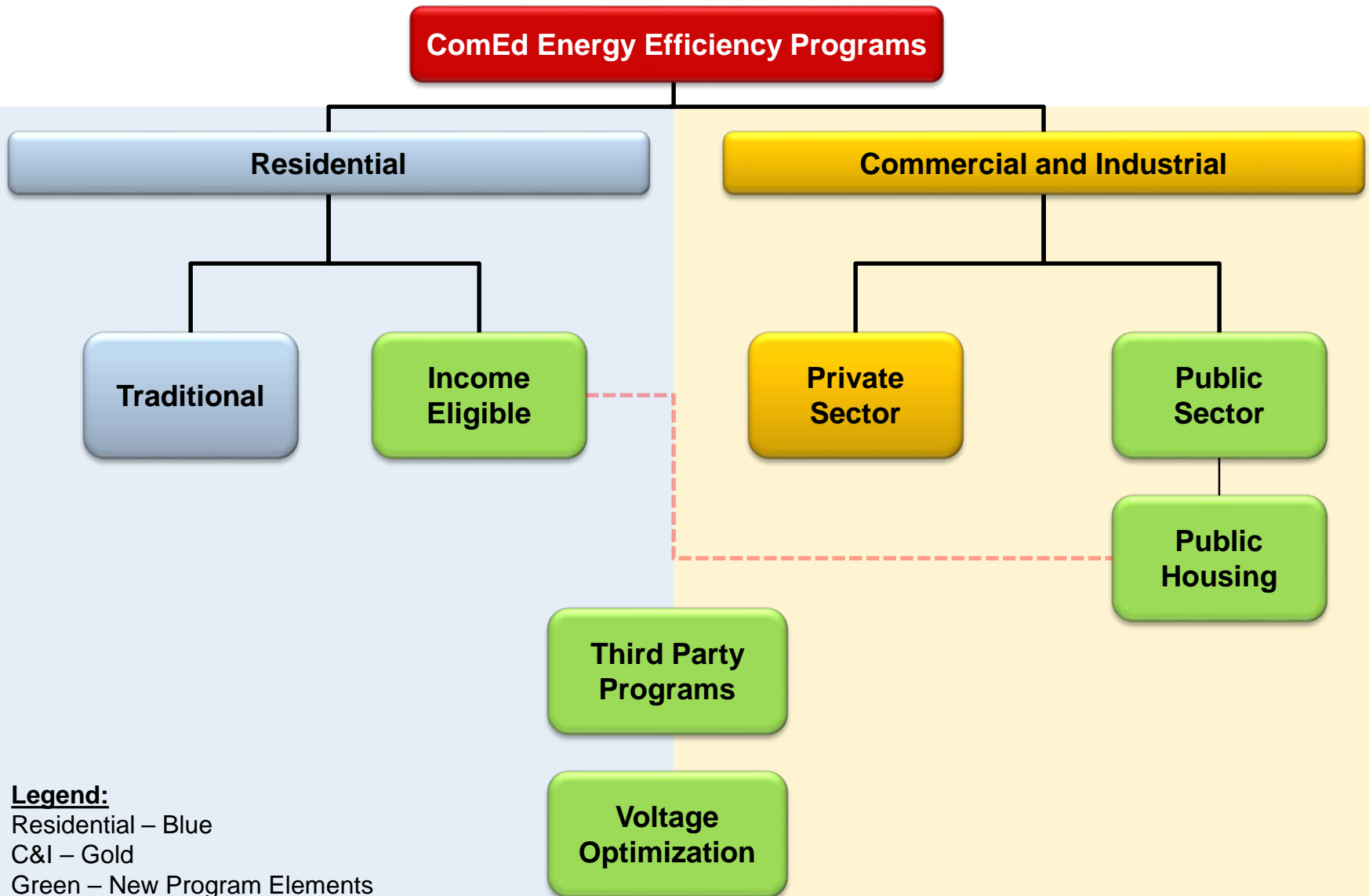
C&I - Public Sector (New Element)

- 11 Programs
 - 10 mapped directly into our existing C&I Programs
 - 1 New – Public Housing
- Coordinated with DCEO and obtained their projections for the next 3 years

Residential Low Income Build (New Element)

- Presented earlier today

Our Programs at a High Level

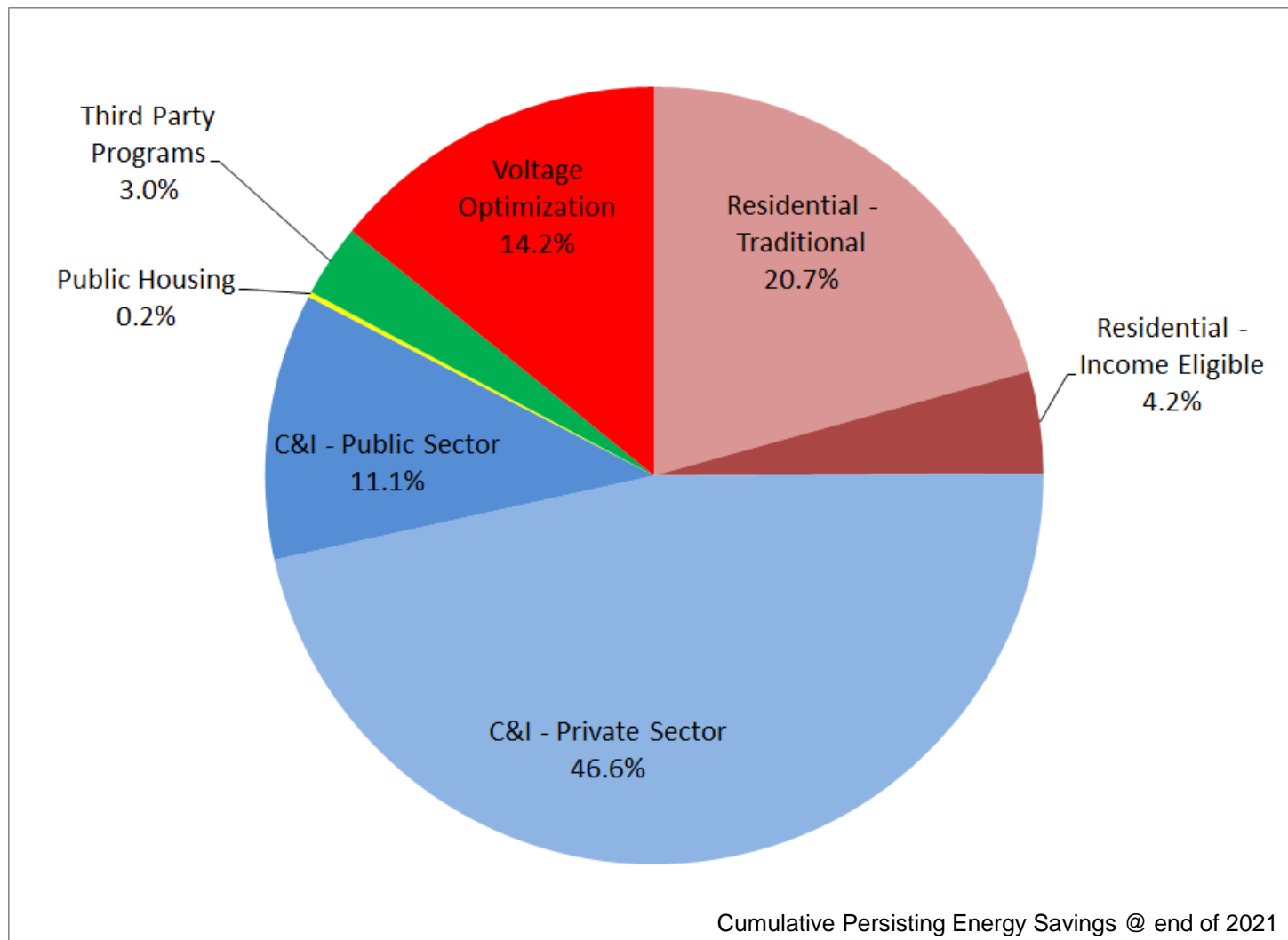


How the Numbers Stack Up

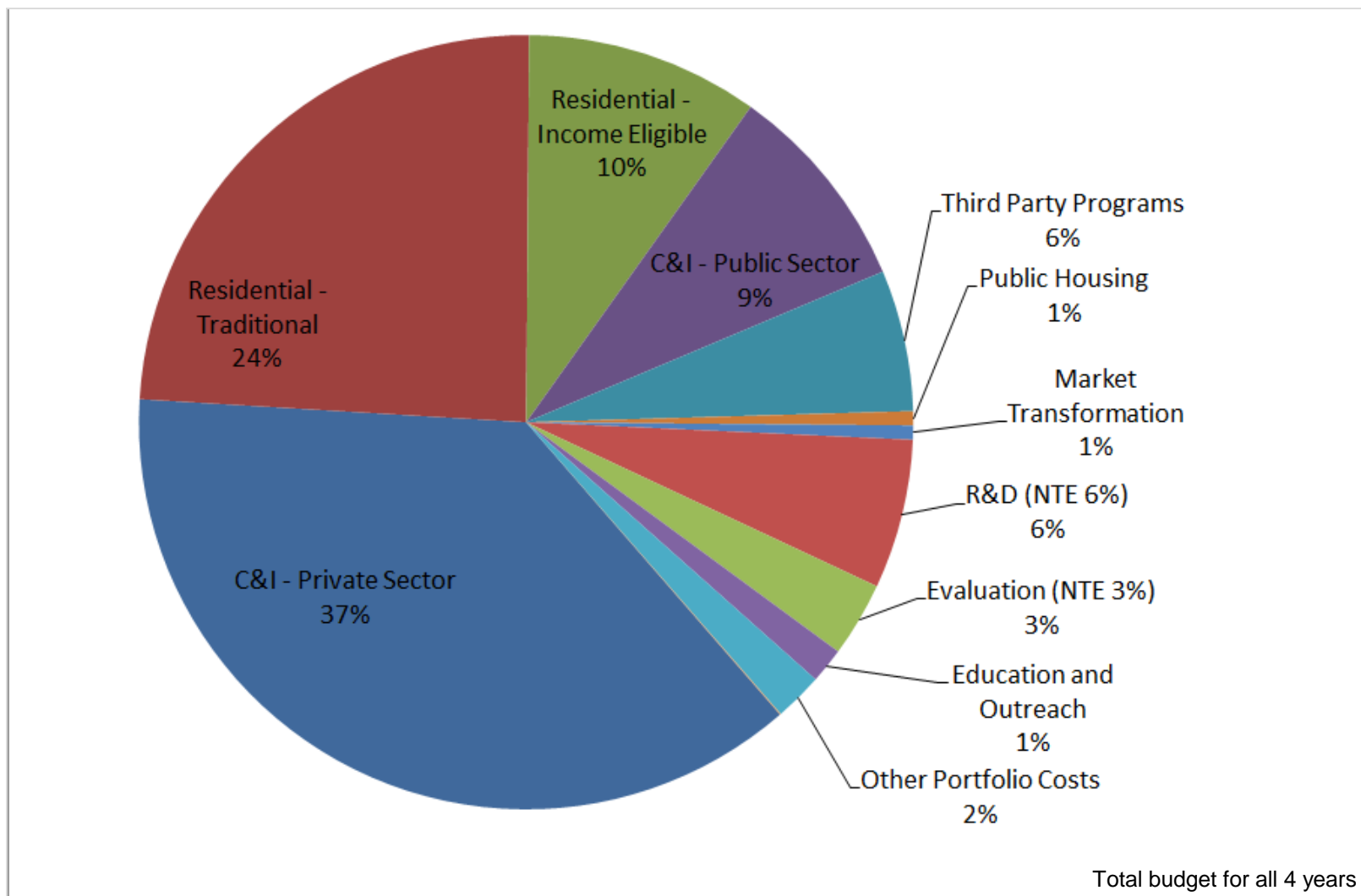
Program Area	2018		2019		2020		2021		
	Average Measure Life	CPAS	Budget	CPAS	Budget	CPAS	Budget	CPAS	Budget
		Net MWh	\$ M	Net MWh	\$ M	Net MWh	\$ M	Net MWh	\$ M
Residential	7.7	572,548	\$85.5	884,047	\$84.1	1,180,598	\$79.4	1,098,386	\$78.8
Residential - Low Income (proxy \$1.2/kWh @ 10 yr)	10.0	56,127	\$33.0	112,255	\$33.0	168,382	\$33.0	224,510	\$33.0
C&I - Private Sector	11.1	623,567	\$121.4	1,264,012	\$125.6	1,913,794	\$128.8	2,476,680	\$130.8
C&I - Public Sector	14.7	144,604	\$29.07	292,790	\$29.76	442,614	\$30.14	588,803	\$30.29
Public Housing (proxy \$0.7/kWh)		2,857	\$2.0	5,714	\$2.0	8,571	\$2.0	11,429	\$2.0
Voltage Optimization	-	82,500	-	282,500	-	492,500	-	752,500	-
Third Party (proxy \$0.5/kWh @ 10 yr)	10.0	10,000	\$5.0	60,000	\$25.0	110,000	\$25.0	160,000	\$25.0
Market Transformation	-	0	\$2.0	0	\$2.0	0	\$2.0	0	\$2.0
Evaluation (NTE 3%)	-	0	\$10.6	0	\$10.6	0	\$10.6	0	\$10.6
R&D (NTE 6%)	-	0	\$21.2	0	\$21.2	0	\$21.2	0	\$21.2
Demand Response (New)	-	0	\$0.1	0	\$0.1	0	\$0.1	0	\$0.1
Other Portfolio Costs	-	0	\$13	0	\$12.1	0	\$11.1	0	\$11.7
Total	10.0	1,492,203	\$322.3	2,901,318	\$345.4	4,316,460	\$343.3	5,312,308	\$345.4
Savings to Achieve Goal and Budget Cap	-	1,577,994	\$353.0	3,077,088	\$353.0	4,655,082	\$353.0	6,154,176	\$353.0
Percent of Goal and Budget	-	95%	91%	94%	98%	93%	97%	86%	98%
\$/kWh on Remaining Savings (first - year)	-	\$0.36							

ALL numbers are preliminary and for discussion purposes only
Savings does not include therm conversion – allowed up to 10% of incremental savings goal
Savings to Achieve = CPAS Goal – Legacy Savings

Total Portfolio – Energy Savings



Total Portfolio – Budget





Residential Programs

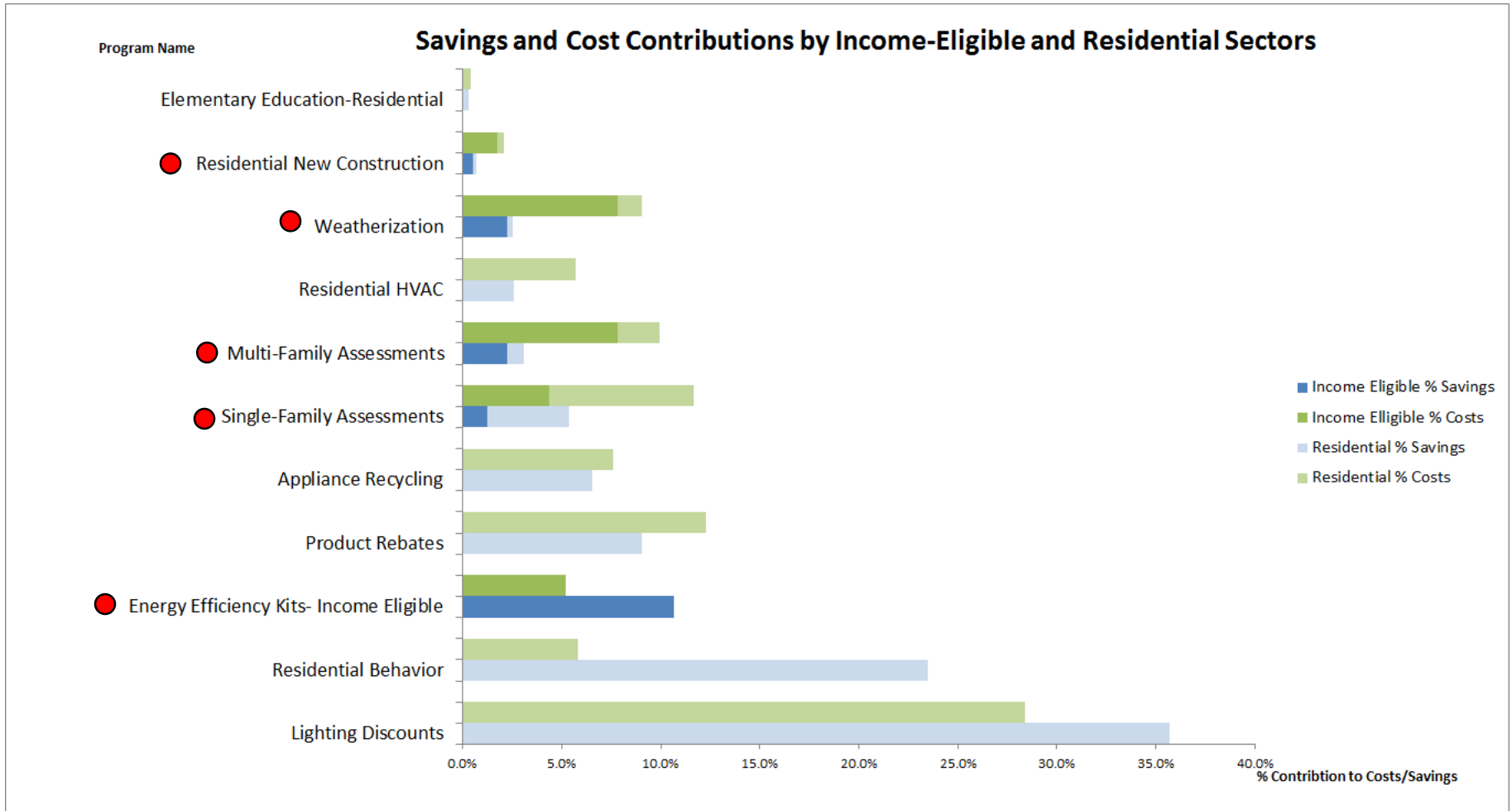
Residential Programs - Approach

No major changes to our program structures

Similar to what was approved on Plan 4

Revised based on new market intelligence and program performance since the September filing

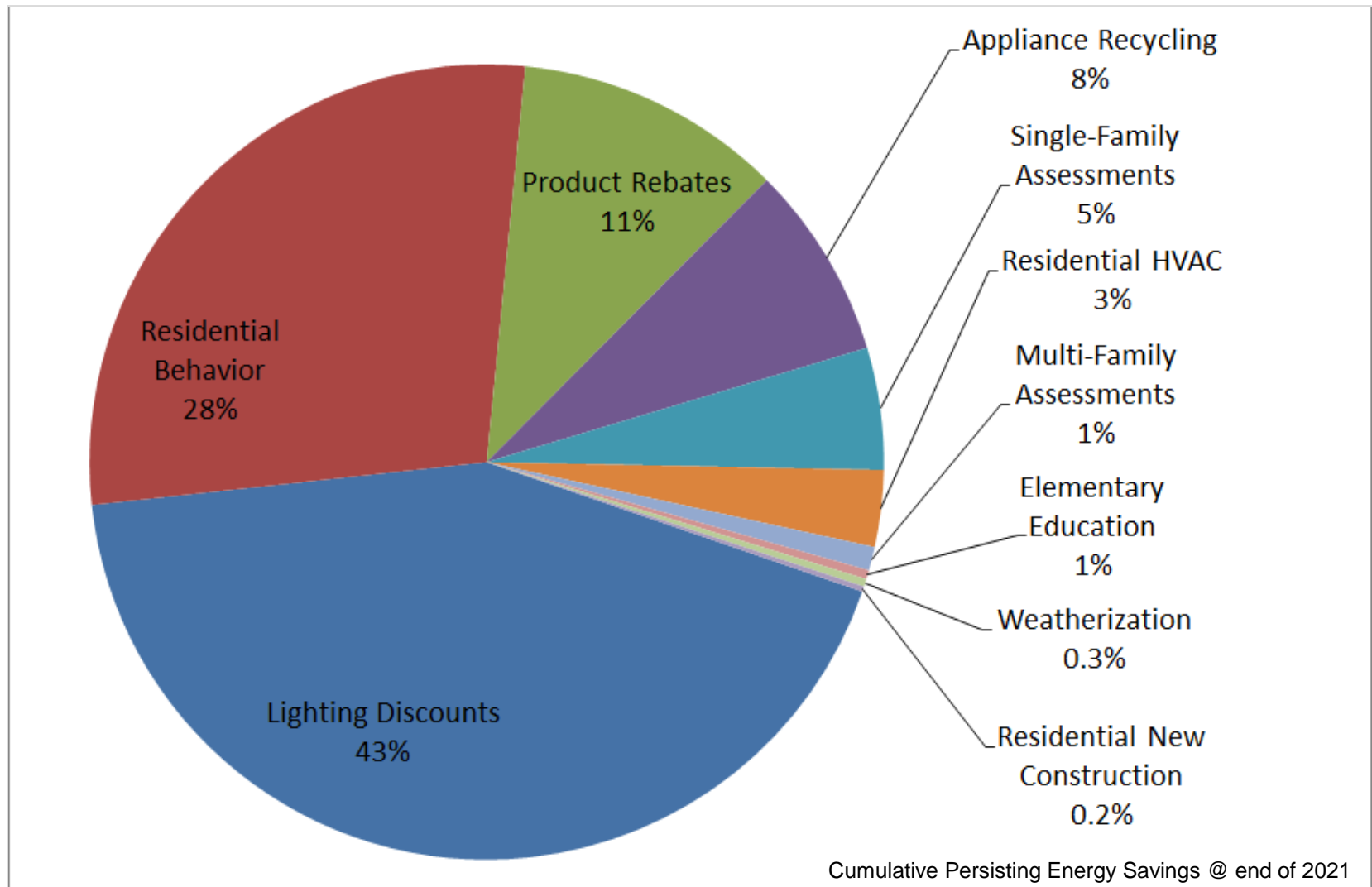
Residential – Overview



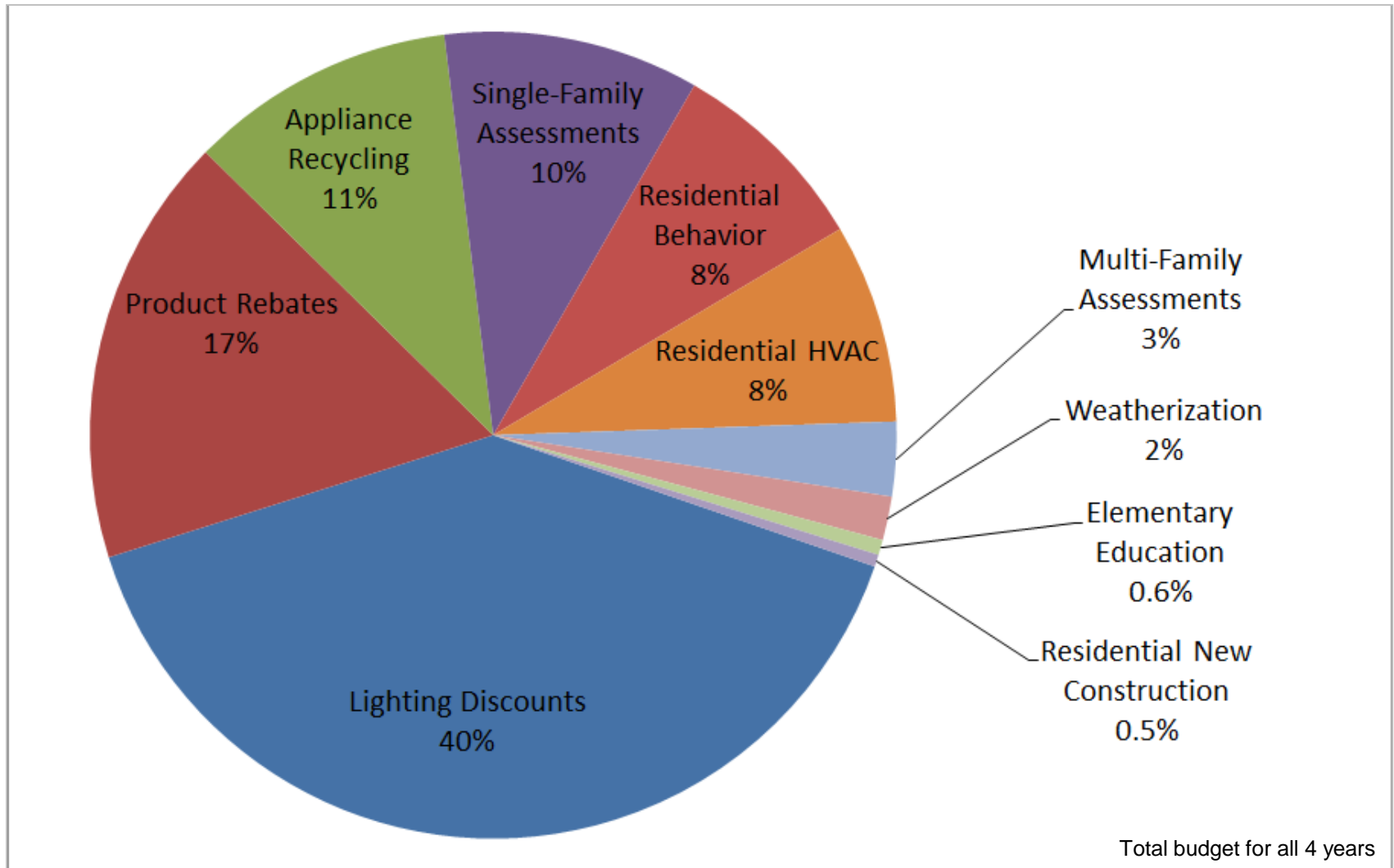
Residential Programs

Programs	CY 2018			CY 2019		CY 2020		CY 2021		4 Yr Plan Total	
	Cost	CPAS Net MWHs	ML	Cost	CPAS Net MWHs	Cost	CPAS Net MWHs	Cost	CPAS Net MWHs	Cost	CPAS Net MWHs
Residential - EE Programs											
Lighting Discounts	\$ 36,697,129	215,849	10.3	\$ 35,130,254	424,372	\$ 29,983,327	625,513	\$ 28,751,707	472,321	\$ 130,562,417	472,321
Appliance Recycling	\$ 8,702,138	21,703	8.0	\$ 8,741,973	43,405	\$ 8,781,917	65,108	\$ 8,821,974	86,810	\$ 35,048,000	86,810
Multi-Family Assessments	\$ 2,436,829	4,143	9.9	\$ 2,439,017	8,286	\$ 2,441,259	12,422	\$ 2,441,259	10,512	\$ 9,758,363	10,512
Product Rebates	\$ 13,244,700	27,461	9.9	\$ 13,944,275	56,834	\$ 14,511,871	87,756	\$ 14,914,391	119,773	\$ 56,615,237	119,773
Residential Behavior	\$ 7,276,250	275,502	5.0	\$ 6,683,156	295,338	\$ 6,390,235	306,470	\$ 6,397,491	310,542	\$ 26,747,132	310,542
Residential HVAC	\$ 6,460,943	8,488	17.4	\$ 6,503,652	17,006	\$ 6,570,624	25,575	\$ 6,661,862	34,216	\$ 26,197,081	34,216
Weatherization	\$ 1,429,645	858	18.4	\$ 1,434,020	1,717	\$ 1,438,504	2,575	\$ 1,443,101	3,433	\$ 5,745,270	3,433
Residential New Construction	\$ 392,065	571	19.2	\$ 393,159	1,141	\$ 394,280	1,712	\$ 395,429	2,283	\$ 1,574,934	2,283
Elementary Education	\$ 497,235	1,775	7.1	\$ 498,329	3,551	\$ 499,450	5,050	\$ 500,599	4,047	\$ 1,995,613	4,047
Single-Family Assessments	\$ 8,388,741	16,198	9.1	\$ 8,379,516	32,397	\$ 8,374,840	48,416	\$ 8,461,122	54,449	\$ 33,604,219	54,449
RESIDENTIAL TOTAL	\$ 85,525,675	572,548	7.7	\$ 84,147,351	884,047	\$ 79,386,306	1,180,598	\$ 78,788,935	1,098,386	\$ 327,848,267	1,098,386

Residential – Energy Savings



Residential – Budget





C&I Programs

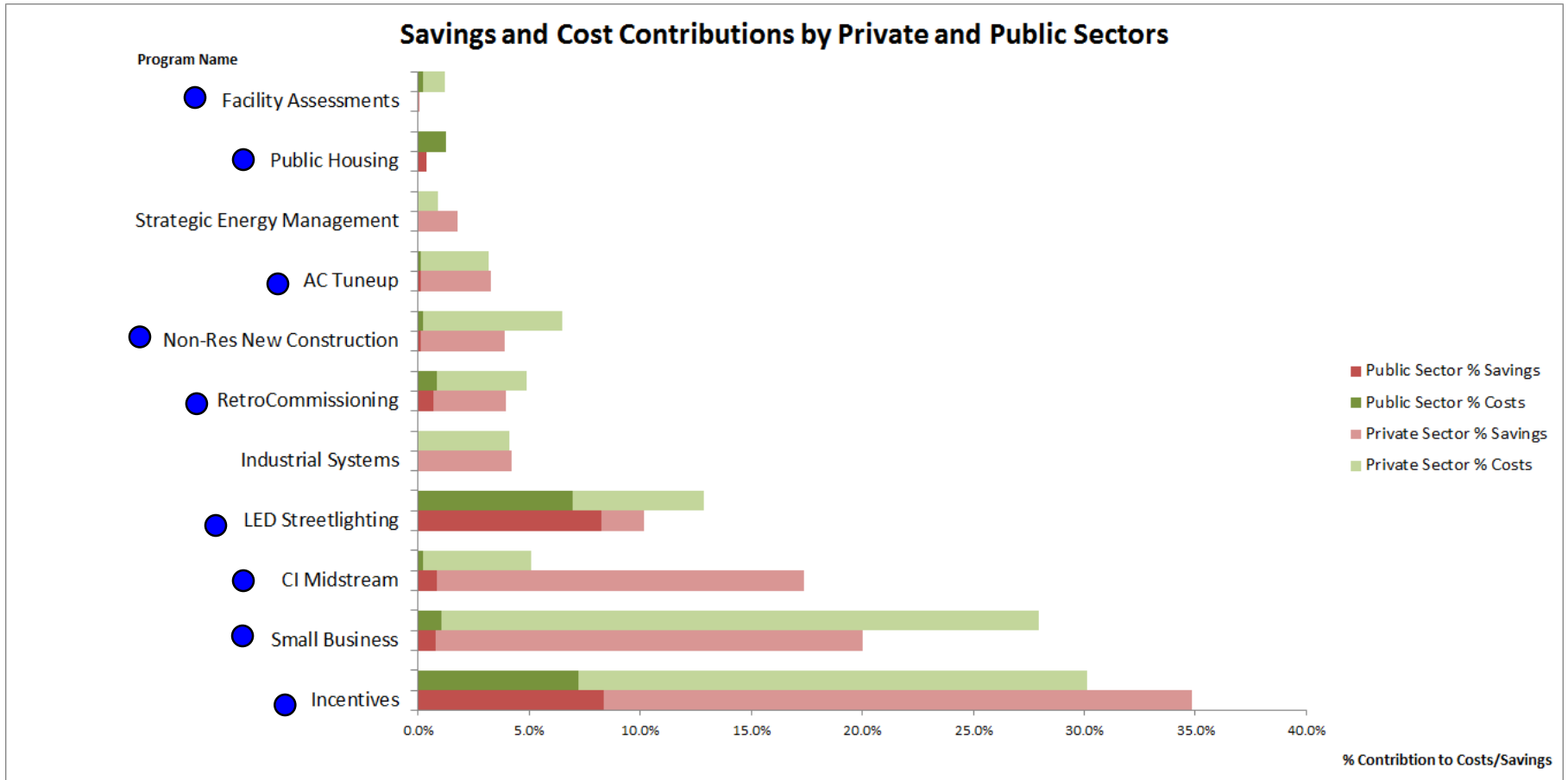
C&I - Approach

DCEO's C&I Public Sector programs mapped nicely into our existing C&I programs

Same programs will serve Private and Public Sectors

- Exception is Public Housing (Public Sector)

C&I – Public and Private Sector Overview





Private Sector

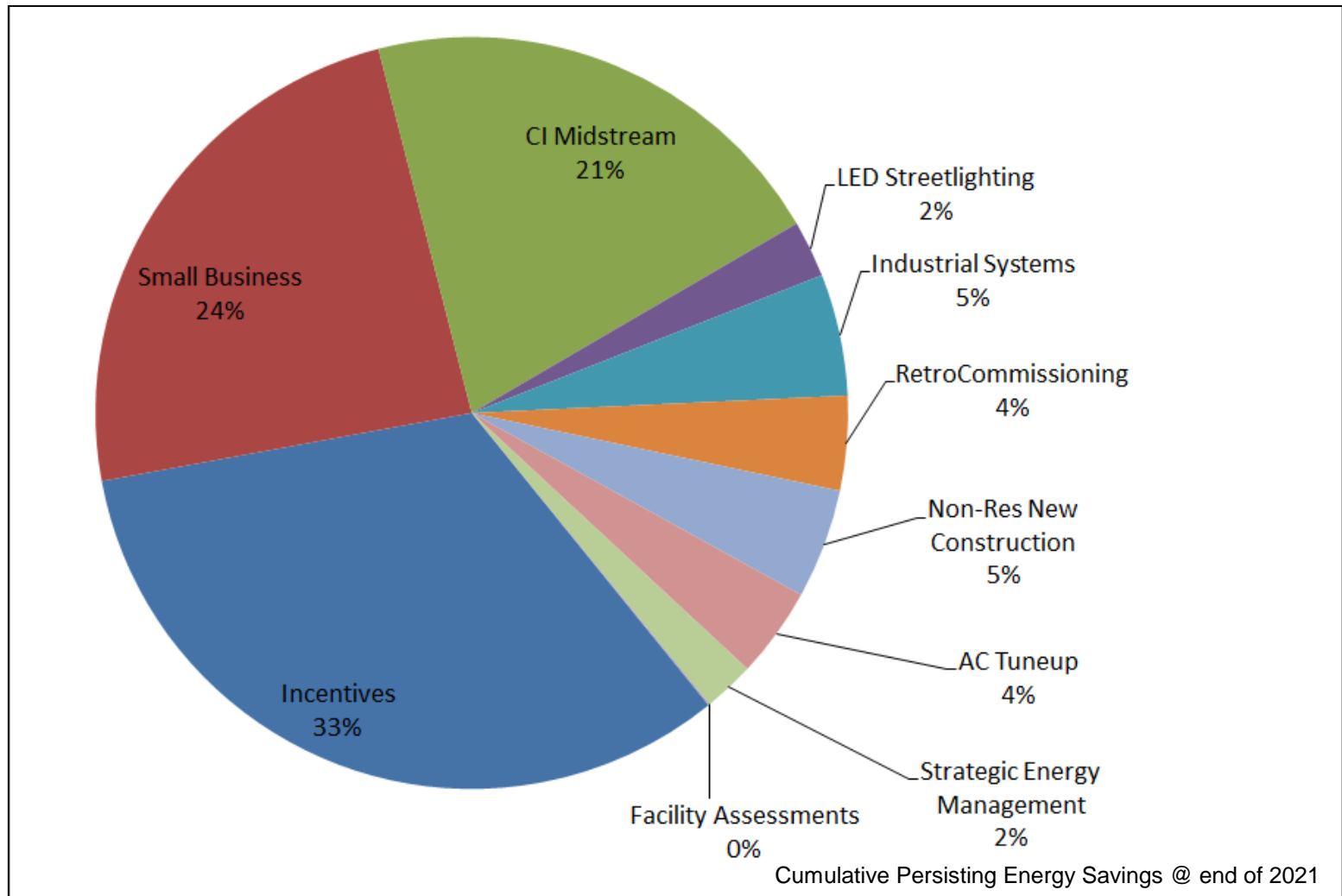
Private Sector - Approach

- ✓ No major changes to our program structures
- ✓ Similar to what was approved in Plan 4
- ✓ Revised based on new market intelligence and program performance since the September filing

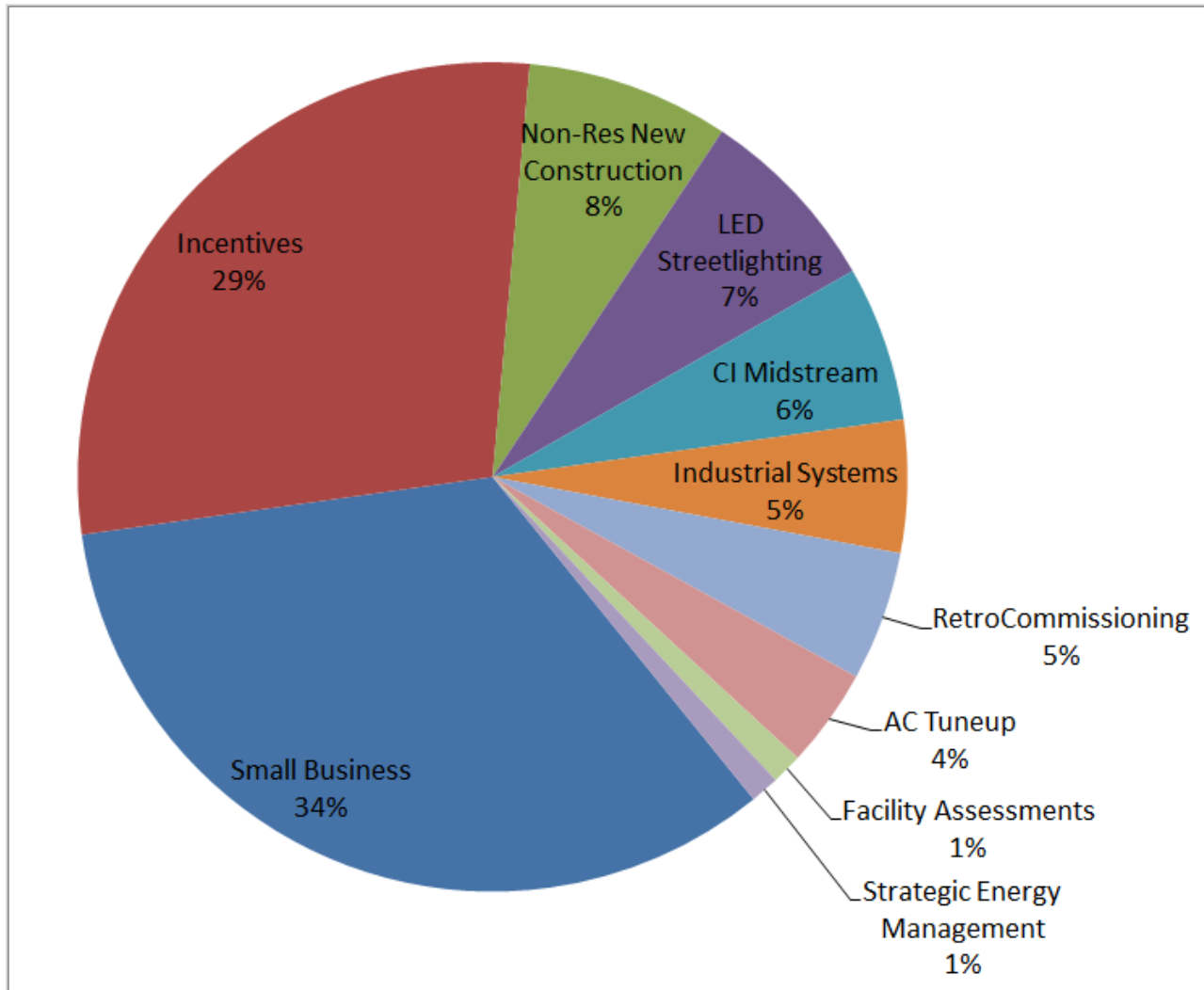
C&I Programs – Private Sector

Programs	CY 2018			CY 2019		CY 2020		CY 2021		4 Yr Plan Total	
	Cost	CPAS Net MWhs	ML	Cost	CPAS Net MWhs	Cost	CPAS Net MWhs	Cost	CPAS Net MWhs	Cost	CPAS Net MWhs
C&I - EE Programs											
PRIVATE SECTOR											
Facility Assessments	\$ 1,490,000	1,323	1.0	\$ 1,509,250	1,323	\$ 1,528,980	1,323	\$ 1,549,206	1,323	\$ 6,077,436	1,323
Incentives	\$ 34,439,807	193,512	13.5	\$ 36,268,940	398,657	\$ 37,104,678	607,586	\$ 37,348,082	815,577	\$ 145,161,508	815,577
RetroCommissioning	\$ 6,212,895	24,798	4.7	\$ 6,366,015	49,716	\$ 6,472,378	75,016	\$ 6,528,531	100,544	\$ 25,579,819	100,544
Non-Res New Construction	\$ 9,367,199	27,697	20.0	\$ 9,737,554	56,433	\$ 10,258,895	86,121	\$ 10,621,804	116,779	\$ 39,985,452	116,779
AC Tuneup	\$ 4,533,654	27,837	3.9	\$ 4,746,545	55,825	\$ 4,984,085	82,017	\$ 5,237,805	96,264	\$ 19,502,089	96,264
Small Business	\$ 40,664,734	147,986	10.6	\$ 42,049,182	296,390	\$ 43,225,758	442,741	\$ 44,299,872	592,253	\$ 170,239,546	592,253
CI Midstream	\$ 7,646,094	135,386	9.0	\$ 7,654,271	274,119	\$ 7,794,929	422,641	\$ 7,566,136	509,773	\$ 30,661,430	509,773
Industrial Systems	\$ 6,222,991	31,866	11.8	\$ 6,448,699	65,226	\$ 6,687,194	96,864	\$ 6,824,344	129,619	\$ 26,183,229	129,619
Strategic Energy Management	\$ 1,411,011	18,098	3.0	\$ 1,415,386	36,196	\$ 1,419,870	54,294	\$ 1,424,467	54,294	\$ 5,670,733	54,294
LED Streetlighting	\$ 9,364,491	15,063	18.0	\$ 9,366,499	30,127	\$ 9,368,557	45,190	\$ 9,370,667	60,253	\$ 37,470,214	60,253
C&I PRIVATE SECTOR SUBTOTAL	\$ 121,352,876	623,567	11.1	\$ 125,562,342	1,264,012	\$ 128,845,324	1,913,794	\$ 130,770,914	2,476,680	\$ 506,531,457	2,476,680

Private Sector C&I – Energy Savings



Private Sector C&I – Budget



Total budget for all 4 years

Public Sector

Requirement per Legislation

Public Sector

A minimum of 10% (\$35.3M) shall be used to procure cost-effective energy efficiency measures from:

- Units of local government
- Municipal corporations
- School districts
- Public housing
- Community Colleges

Public Housing

- Procure energy efficiency from public housing, which percentage shall be equal to public housing's share of public building energy consumption.

Public Sector Philosophy

- ✓ **Integrate** DCEO's C&I programs into our existing Programs
 - DCEO's C&I legacy programs were near mirror images to our programs

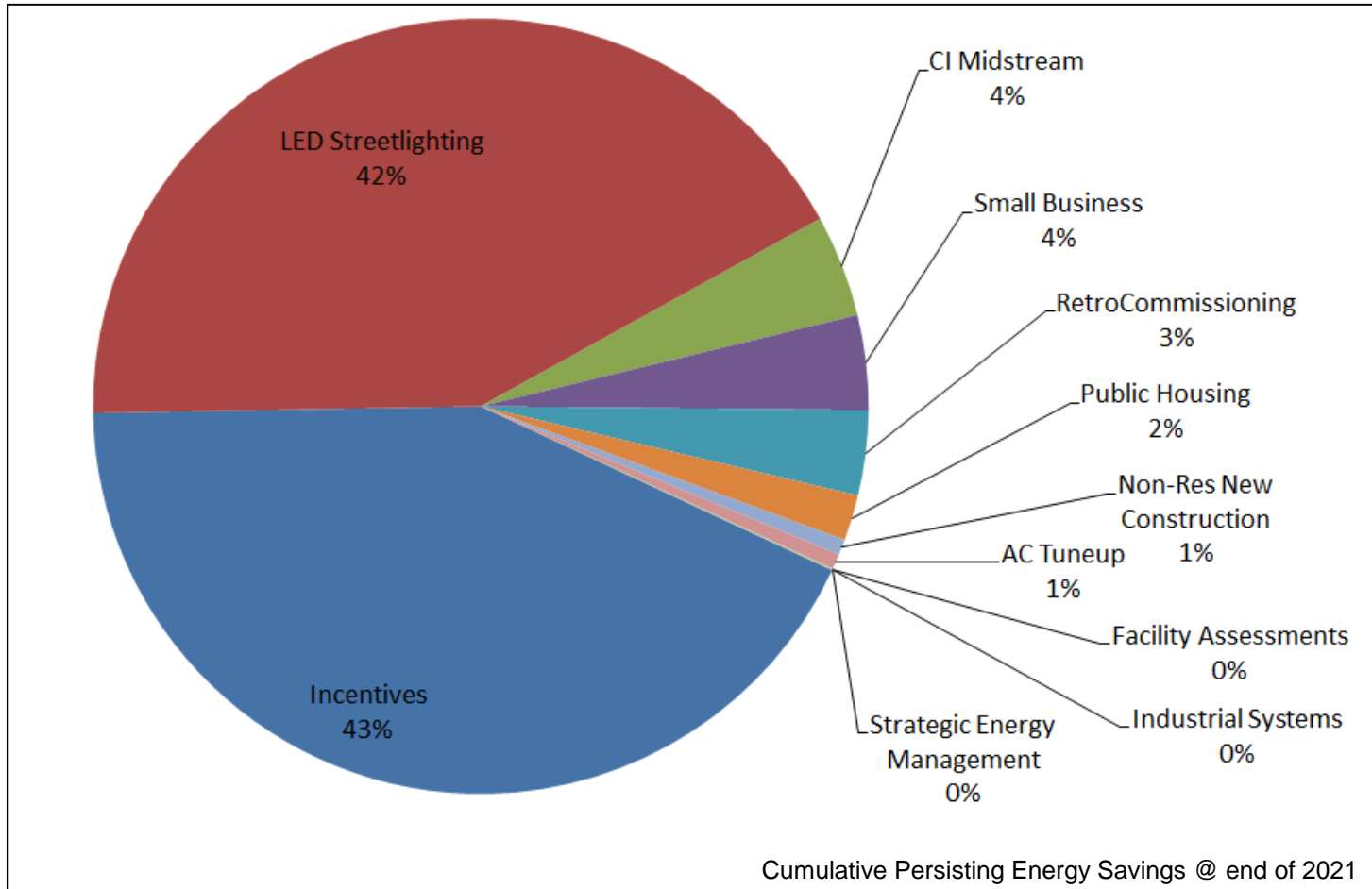
- ✓ **Incentive levels will be the same** for Public and Private customers
 - We are going to start with uniform incentives and adjust according to market conditions
 - Utilities around the country do not provide higher incentives for public sector
 - Our programs have robust marketing and outreach arms which DCEO did not

- ✓ **Public Housing will be defined as PHAs**
 - Simplified category will help build a targeted program
 - Other categories of public housing will be served through our low income programs

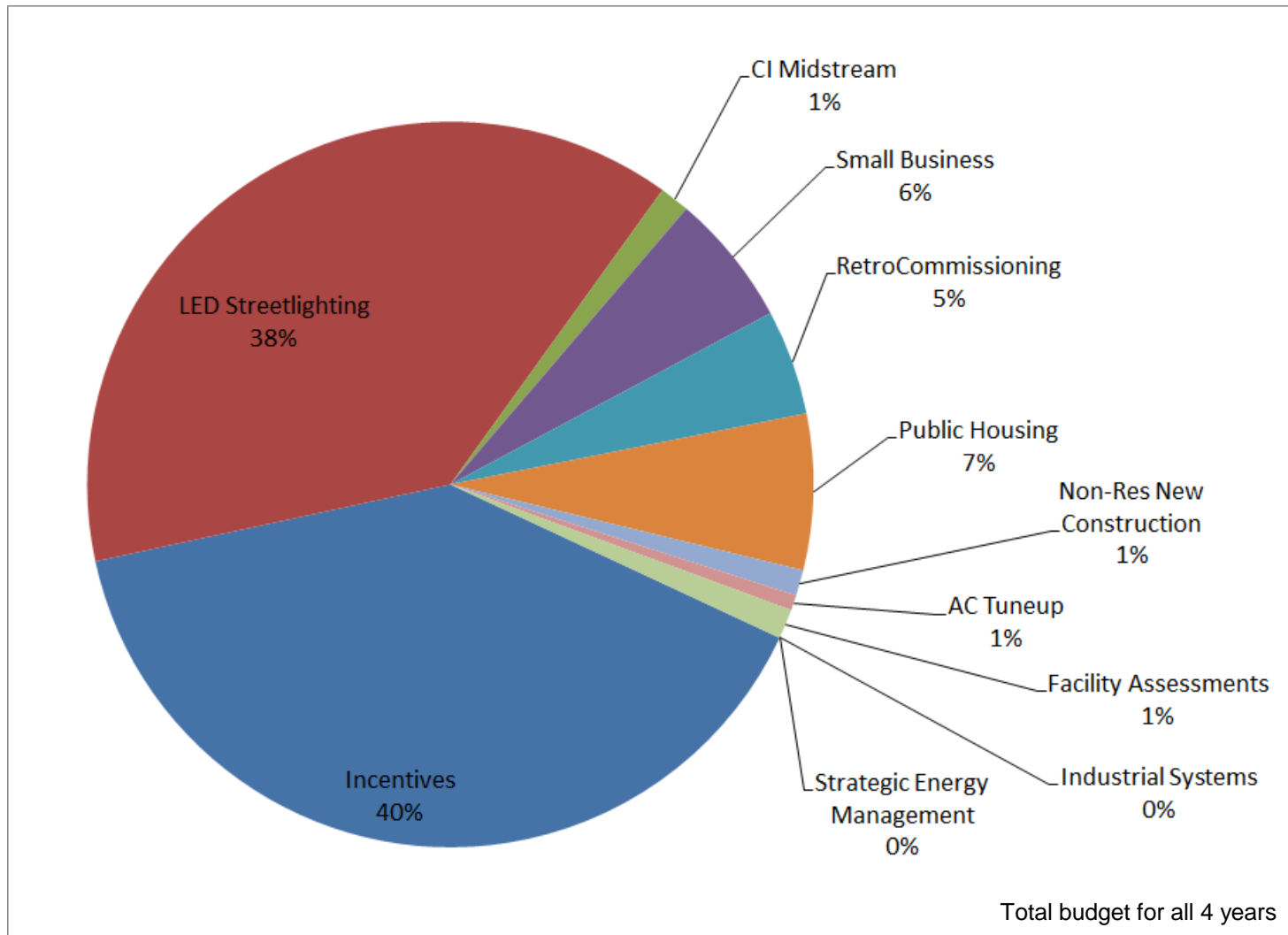
C&I Programs – Public Sector

Programs	CY 2018			CY 2019		CY 2020		CY 2021		4 Yr Plan Total	
	Cost	CPAS Net MWHs	ML	Cost	CPAS Net MWHs	Cost	CPAS Net MWHs	Cost	CPAS Net MWHs	Cost	CPAS Net MWHs
C&I - EE Programs											
PUBLIC SECTOR											
Facility Assessments	\$ 372,500	331	1.0	\$ 377,313	331	\$ 382,245	331	\$ 387,302	331	\$ 1,519,359	331
Incentives	\$ 10,843,442	60,928	13.5	\$ 11,419,348	125,518	\$ 11,682,482	191,300	\$ 11,759,118	256,786	\$ 45,704,391	256,786
RetroCommissioning	\$ 1,314,314	5,246	4.7	\$ 1,346,706	10,517	\$ 1,369,207	15,869	\$ 1,381,085	21,270	\$ 5,411,312	21,270
Non-Res New Construction	\$ 309,539	915	20.0	\$ 321,778	1,865	\$ 339,005	2,846	\$ 350,998	3,859	\$ 1,321,320	3,859
AC Tuneup	\$ 181,346	1,113	3.9	\$ 189,862	2,233	\$ 199,363	3,281	\$ 209,512	3,851	\$ 780,084	3,851
Small Business	\$ 1,626,589	5,919	10.6	\$ 1,681,967	11,856	\$ 1,729,030	17,710	\$ 1,771,995	23,690	\$ 6,809,582	23,690
CI Midstream	\$ 382,305	6,769	9.0	\$ 382,714	13,706	\$ 389,746	21,132	\$ 378,307	25,489	\$ 1,533,072	25,489
Industrial Systems	\$ -	-	0.0	\$ -	-	\$ -	-	\$ -	-	\$ -	-
Strategic Energy Management	\$ -	-	0.0	\$ -	-	\$ -	-	\$ -	-	\$ -	-
LED Streetlighting	\$ 11,039,408	63,382	18.0	\$ 11,041,775	126,764	\$ 11,044,201	190,146	\$ 11,046,689	253,528	\$ 44,172,074	253,528
Public Housing (Proxy - \$0.7 per kWh @ 10 yr ML)	\$ 2,000,000	2,857	10.0	\$ 2,000,000	5,714	\$ 2,000,000	8,571	\$ 2,000,000	11,428.57	\$ 8,000,000	11,429
C&I Public Sector Outreach	\$ 3,000,000	-	-	\$ 3,000,000	-	\$ 3,000,000	-	\$ 3,000,000	-	\$ 12,000,000	-
C&I PUBLIC SECTOR PROGRAMS	\$ 31,069,444	147,461	14.7	\$ 31,761,462	298,504	\$ 32,135,280	451,186	\$ 32,285,005	600,232	\$ 127,251,192	600,232
Portfolio-Level Costs Public Sector @ 10%	\$ 4,427,000			\$ 4,387,000		\$ 4,287,000		\$ 4,347,000		\$ 17,448,000	
TOTAL- C&I PUBLIC SECTOR PROGRAMS	\$ 35,496,444	147,461		\$ 36,148,462	298,504	\$ 36,422,280	451,186	\$ 36,632,005	600,232	\$ 144,699,192	600,232

CPAS – C&I Public Sector



Budget – C&I Public Sector





Areas of Development

Areas being developed

Third Party

- Per legislation, \$25M for 2019-2021
- Considering carrying over effective programs from 2017 to 2018.

Market Transformation

- Goals and purpose being developed
- \$2M similar to DCEO spend in our service territory

Emerging Tech - \$21M per year

- Opportunity to find cost effective measures and programs for the future of the portfolio

On the Horizon

Low Income & Public Housing Programs

- Building out of the low income and public programs

Therm Conversion

- Allowed to count 10% of therm conversion for goal
 - Required to start with Low Income first
 - Considering the rest to come from joint programs and smart stats

Third Party Programs

- Develop framework and determine proxy \$/kWh and measure life

Balance the Portfolio

- And meet all the specific carve-outs