



**CORRECTED 2017-2020 INTEGRATED ELECTRIC &
NATURAL GAS ENERGY EFFICIENCY PORTFOLIO
STANDARD PLAN FOR THE ILLINOIS DEPARTMENT
OF COMMERCE & ECONOMIC OPPORTUNITY**



Illinois
Department of Commerce
& Economic Opportunity
Bruce Rauner, Governor

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EXECUTIVE SUMMARY

The Illinois Department of Commerce & Economic Opportunity (DCEO or Department) submits its 2017 – 2020 Energy Efficiency Portfolio Standard (EEPS) Plan (Plan 4), to the Illinois Commerce Commission (Commission), in compliance with Sections 8-103 and 8-104 of the Public Utilities Act (Act). This is the Department's fourth EEPS Plan overall and the third with both electric and natural gas funding and measures.

DCEO takes the mandates of Sections 8-103 and 8-104 seriously and has worked diligently to assemble a comprehensive, cohesive, and well-coordinated portfolio of integrated, statewide programs for the markets it serves. Accordingly, the Commission should approve all elements of DCEO's Plan 4, which include, but are not limited to, the following features:

Budgets

DCEO expects to spend up to its 25% share of the rate cap in each utility territory. DCEO's natural gas and electricity budgets under Plan 4 will be as follows:

- Electric: Annual average \$52.87 million, three-year total \$158.60 million
- Natural gas: Annual average \$21.55 million, three-year total \$64.65 million

These totals are down slightly from Plan 3.

Programs

DCEO will spend the majority of its budget on program costs – approximately 92%.

As required by statute, DCEO intends to offer integrated electric-natural gas energy efficiency programs across the territories of the participating utilities, unless it can be shown that integration is not feasible. Further, DCEO will offer the same suite of programs across the state, to avoid confusion and possible claims of discrimination.

DCEO's programs will cover the same sectors as its previous three-year EEPS plans, while expanding the programs to address market needs. These sectors include:

- The statutory public sector set-aside for local governments, municipal corporations, school districts and community colleges; plus additional public sector entities.
- The statutory low income residential set-aside.
- Market transformation programs, designed with the goals of 1) making energy efficiency a standard practice in Illinois, and 2) serving as a testbed for new energy efficiency approaches in Illinois.

DCEO's public sector and low income programs focus on traditional incentives and services, including free products, assessments, rebates, and grants, which are offered to customers, to drive near-term energy efficiency upgrades in their facilities and residences. The market transformation programs offer training, education, and tools, to both energy efficiency professionals and customers, to drive long-term change, where energy efficiency becomes a standard practice in Illinois and deeper levels of savings are achieved.

Based on experiences learned from the three previous EEPS plans, feedback from stakeholders, and insights gained from the Potential Study and additional analyses, DCEO plans to maintain many of its existing programs, with some notable exceptions and modifications. These modifications are designed to maximize the cost effectiveness and savings of each program, while providing stability to customers, trade allies, and implementers, and allowing flexibility to respond to market developments. At a high level these modifications include:

- Public Sector
 - Realignment of programs to increase efficiency and reduce confusion to customers
 - Modifications to improve cost effectiveness and incorporate more cutting edge measures
- Low Income
 - The Department's low income budget will be increased
 - Three core programs will continue with modifications to improve cost effectiveness and incorporate more cutting edge measures
 - Additional focus will be placed on marketing and resident education
 - Utilities will offer complimentary low income programs, in close coordination with the Department
- Market Transformation
 - Overall goals of the portfolio have been revisited
 - Programs have been recalibrated and realigned to begin shift toward more goal driven, systematic approach – some programs from Plan 3 have been shifted to other portions of the budget or eliminated and others added
 - DCEO will no longer attempt to claim savings for these programs, but rather focus on non-energy metrics

As directed by the Act, the Department will also continue to administer the Self-Direct & Exempt Program, for large natural gas customers, as it has since 2011.

Administration

DCEO will utilize approximately 8% of its EEPS budget to cover non-program costs of the portfolio, which include: evaluation, marketing, planning, personnel, and travel costs. Some DCEO programs will be implemented in-house, while others will be outsourced to third-party implementers, but all programs will be closely managed by DCEO staff. DCEO will also once again issue its own procurement for evaluation, measurement, and verification (EM&V). Key changes to the Administration budget include: shifting from single-year to three-year agreements with program implementers to improve the efficiency and stability of programs, developing a simple online portal where Illinois customers can easily access all EEPS program, shifting from a retrospective to prospective net-to-gross evaluation approach, and adopting an energy data analytics platform (with robust access to utility data).

Energy Savings Targets & Cost Effectiveness

As in previous plans, DCEO is again proposing modified energy savings goals, which take into account the budgetary limitations imposed by the Act.

The statutory statewide electric targets are 2.0% for each of the three years. The statutory

statewide natural gas targets are 1.4% in the first year and cap out at 1.5% for the remaining two years. To determine the energy savings targets DCEO could meet within the statutorily mandated budgets provided to us by the utilities, an energy efficiency potential study was commissioned for the public and low income sectors and coupled with extensive program modeling.

Through this analysis, DCEO has concluded that the achievable energy savings reduction will be lower than the statutory targets. The proposed modified electric goals represent approximately 1.0% savings in the public sector and 0.4% savings in low income. The proposed modified natural gas goals represent 1.15% savings in the public sector and 0.2% in low income.

However, the Department believes the proposed targets are aggressive and make a meaningful contribution toward utility goals.

- Electric: Three-year energy savings reduction of approximately 416.00 million kWhs in the public sector, and 91.70 million kWhs in low income, for a total of 507.71 million kWhs reduced. Average annual electric savings reductions are 138.67 million kWhs in public sector, 30.57 million kWhs in low income, and 169.24 million kWhs total.
- Natural gas: Three-year energy savings reduction of approximately 19.68 million therms in the public sector, and 5.37 million therms in low income, for a total of 25.05 million therms reduced. Average annual natural savings reductions are 6.56 million therms in public sector, 1.79 million therms in low income, and 8.35 million therms total.

As required, the portfolio as whole, not including low income programs, is cost effective, with a total resource cost (TRC) test ratio of 2.28. Including low income programs, the TRC is 2.02. This is up significantly from the Department's estimated TRC in Plan 3.

Flexibility

Despite the substantial planning effort and experiences of the previous EEPS cycles, there is a realistic possibility that the programs, incentives, budget allocations, and other aspects of the plan will need to be revised at various times during the three-year period. As a result, DCEO has designed Plan 4 in such a way that it will be able to easily shift funding levels between programs within a particular sector. For example, if a particular public sector program is found to be under-performing, funding can be shifted to another public sector program that is producing greater kWh or therms savings in order to keep the energy reduction targets in line. Therefore, DCEO reserves the right to revise any and all aspects of its programs as needed in accordance with market conditions, technology development, EM&V results, and other experience.

PROGRAM AREAS

Public Sector Programs

DCEO will build on the portfolio of public sector programs developed under its previous plans. By statute, at least 10% of the total EEPS portfolio (or 40% of DCEO's budget) must be directed to local governments, municipal corporations, school districts and community colleges. Additional DCEO budget may be used to serve other public entities. Public sector program eligibility includes units of local, state, and federal government, municipal corporations, public

school districts, community colleges, and state universities. DCEO's public sector programs are:

- Assessments
- Direct/Self Install
- Standard & Custom
- New Construction
- Combined Heat & Power (CHP)
- Retrocommissioning

Low Income Programs

Under the Act, the utilities, in coordination with DCEO, are required to present a portfolio of efficiency measures targeted at households with incomes at or below 80% of the Area Median Income (AMI), proportionate to the share of utility revenues represented by those households at or below 150% of the poverty level.

DCEO agreed to administer low income residential programs in its first electric plan and will continue to administer them under the planned portfolio within the constraints of meeting its energy savings targets. The low income residential programs that DCEO plans to offer include:

- Residential Retrofit
- Public & Federally-Subsidized Housing (PHA)
- Affordable Housing New Construction

It should also be noted that in Plan 4 the utilities will, for the first time, be dedicating a portion of their EEPS funding to low income customers as well. This is, in large part, to address the disparity between the number of Illinois residents on which the statutory low income budget is based (i.e., households at or below 150% of poverty level), and those that the funds are supposed to serve (i.e., households at or below 80% AMI). In Illinois, the number of households at or below 80% AMI is twice that of households at or below 150% of the poverty level. The Department strongly agrees that significantly increased EEPS investment in the low income sector is warranted. Although DCEO is moderately increasing its own low income budget, due to other statutory requirements (e.g., public sector), it cannot meet the full needs of this market, and thus welcomes the added and coordinated investment from the utilities.

Market Transformation Programs

DCEO offers market transformation programs that are designed to ultimately make energy efficiency a standard practice in Illinois, as well as to test new approaches to energy efficiency in Illinois. Programs do this by focusing on the supply of efficiency (e.g., training energy efficiency professionals), the demand side (e.g., providing information to customers so that they actually want energy efficiency), and evaluating new cutting-edge technologies and approaches that can move the Illinois market to deeper levels of energy savings. Although DCEO does not have a statutory mandate to offer these programs (as it does with the public sector and low income) they are a unique fit for the Department, because DCEO can offer integrated statewide initiatives, and these efforts are squarely in line with the broader mandate to drive economic development and job creation in Illinois. DCEO plans to offer the following market transformation programs in the upcoming three-year cycle:

- Training & Education

- Data & Information
- Emerging Technologies

BUDGET AND ENERGY SAVINGS BY PROGRAM

The following charts summarize DCEO’s EEPS budget allocation across programs and energy savings for the upcoming three-year planning cycle.

DCEO Integrated Electric-Natural Gas EEPS Plan 4 Budget (millions)

	% of Total Budget	Electric				Natural				Total EEPS Budget
		Year 1	Year 2	Year 3	Total	Year 1	Year 2	Year 3	Total	
Public Sector	54	\$28.96	\$29.28	\$29.42	\$87.67	\$10.66	\$10.88	\$11.10	\$32.64	\$120.31
Low Income	32	\$15.19	\$15.21	\$15.29	\$45.70	\$8.19	\$8.19	\$8.24	\$24.62	\$70.32
Market Transformation	6	\$3.92	\$3.92	\$3.92	\$11.76	\$0.97	\$0.97	\$0.97	\$2.92	\$14.68
Administration	8	\$4.47	\$4.48	\$4.53	\$13.48	\$1.47	\$1.49	\$1.51	\$4.47	\$17.95
TOTAL	100	\$52.55	\$52.90	\$53.16	\$158.61	\$21.30	\$21.52	\$21.83	\$64.65	\$223.26

DCEO Integrated Electric-Natural Gas EEPS Plan 4 Energy Savings

	Electric Savings (millions of kWh)				Natural Gas Savings (millions of therms)			
	Year 1	Year 2	Year 3	Total	Year 1	Year 2	Year 3	Total
Public Sector	140.33	134.01	141.66	416.00	6.38	6.58	6.71	19.68
Low Income	30.99	30.20	30.51	91.70	1.73	1.80	1.84	5.37
TOTAL	171.32	164.21	172.17	507.71	8.11	8.38	8.56	25.05

PLAN DEVELOPMENT

Over the last year, DCEO has worked with its staff, implementers, analysts at the University of Illinois at Chicago’s Energy Resources Center (ERC), and the Illinois Energy Efficiency Stakeholder Advisory Group (SAG), to develop a comprehensive, cohesive, and well-coordinated portfolio plan.

In developing Plan 4, DCEO had three primary portfolio objectives:

1. Fulfill statutory requirements;
2. Ensure effectiveness, efficiency, stability, and flexibility; and
3. Drive economic development and job creation in the State.

This second objective was of particular importance to DCEO in this planning cycle. The aim was to build on past experiences and program designs that have worked over Plans 1-3, but also carefully consider constructive feedback from stakeholders, best practices from fellow Program Administrators,¹ and lessons learned from other states, in order to:

¹ Throughout this document, “Program Administrators” means Ameren Illinois Company, Commonwealth Edison

- Increase savings and cost effectiveness of the portfolio;
- Provide more stability to customers, trade allies, and implementers; and
- Allow flexibility to be responsive to market developments.

In order to meet these objectives, the Department established a robust process with three key phases: information gathering, initial plan development, and filing development. During the information gathering phase, the Department collected and considered data and feedback from an extensive collection of sources, including:

- All completed and in process program year evaluations.
- Plan 2 and 3 program data.
- Interviews with program staff, implementers, and key stakeholders.
- Literature review of research regarding low income programs nationwide.
- Formal technical assistance from Lawrence Berkeley National Laboratory (LBNL) – Based on preliminary feedback from stakeholders that they would like us to carefully review the existing portfolio of market transformation programs, the Department reached out to national energy efficiency expert LBNL, to determine if they might be willing to provide free technical assistance under their Electricity Policy Technical Assistance Program. LBNL agreed and through this effort was able to consider DCEO’s market transformation approach and programs (as well as a few other portfolio issues) and offered unbiased feedback that the Department feels positively impacted the Plan 4 portfolio. This feedback and related proposed realignment of programs is discussed in greater detail in the Market Transformation section.
- Update to DCEO’s Energy Efficiency Potential Study for the Public and Low Income Sectors – To inform the Department of key areas of opportunity for the public and low income sectors, it commissioned an update to its Energy Efficiency Potential Study. This update was completed by ERC, who developed the Department’s last potential study for Plan 3, and is discussed in greater detail below.
- Feedback from SAG meetings – Early in the planning process, the members of the SAG agreed that it would establish a formal process to reach as much consensus as possible on issues related to plans, in advance of the filings, in order to reduce litigation. In the information gathering phase, this included: discussion of threshold issues (e.g., what markets should DCEO serve), reviews of past program performance, consideration of new or modified programs, and new policy and administrative proposals. DCEO has been strongly committed to this process throughout the year. The Department has found it to be a very positive force in the development of its Plan and appreciates SAG members for actively engaging in what has ultimately been a successful negotiation process.

After the information gathering phase was well underway, the Department started an iterative planning phase, with its staff, ERC, and the SAG. DCEO first developed a high level portfolio budget, then more detailed program budgets, and eventually – with analytical support from ERC – program savings and TRC targets. At each step of this phase, DCEO requested feedback from

Company, the Department, Northern Illinois gas Company d/b/a Nicor Gas Company, the Peoples Gas Light & Coke Company and North Shore Gas Company, as defined by Illinois Energy Efficiency Policy Manual (<http://www.ilsag.info/illinois-ee-policy-manual.html>).

program staff and stakeholders and made revisions where necessary. In particular, data from previous Program Years, the Potential Study update, and prior evaluations, were used to inform the detailed analyses of each individual proposed program in this plan. Assumptions based on prior program performance included: measures, participation, and net-to-gross ratios. Additional assumptions, including avoided costs, come from utility data.

Although final plan numbers have continued to be refined over the last several months, by June, DCEO was ready to begin preparing its filing documentation, including this plan, and its accompanying program templates and testimony. During this phase, the Department was also able to reach preliminary settlement with key members of the SAG. Subject to their final review of Plan 4 and the accompanying documents being filed today, the Department anticipates parties will sign a settlement stipulation, which will be filed in this docket.

Through these processes, DCEO has built a strong portfolio, starting with its core programs and adjusting and adapting them. By doing so, the Department has met its primary planning objectives of fulfilling statutory requirements and offering effective and efficient programs, all while driving economic development in Illinois.

PORTFOLIO PARAMETERS

In Plan 4, DCEO's portfolio will offer programs in the same areas as its previous EEPS plan – public and low income sectors, as well as cross-sector market transformation. Over the last four plans, the Department has focused on these areas for a variety of reasons, including statutory requirements, successful programs and existing relationships with these sectors, ability to leverage other State programs and Agency partnerships, and ability to offer statewide programs. Specifically:

- **Public Sector:** Both Sections 8-103 and 8-104 for the Act require a minimum of 10% of the entire EEPS portfolio be procured from units of local governments, municipal corporations, school districts and community colleges and directs the Department to coordinate the implementation of these measures. Because the Department receives 25% of the entire EEPS portfolio budget, to meet the overall 10% target, 40% of the Department's total budget must go to these groups. The Department adds additional funds from its budget to serve the entire public sector (e.g., public universities, state and federal facilities).
- **Low Income:** Both Sections 8-103 and 8-104 require the utilities to “coordinate with the Department” to serve the low income sector. The Department has been asked to lead these efforts since the beginning of EEPS, because DCEO: 1) has successfully developed and managed low income energy efficiency programs for over 25 years, 2) designed programs to leverage and compliment (rather than duplicate) existing programs and partners that have proven track records and are well-known in the low income community, and 3) is able to offer statewide, integrated electric-gas programs. All of these advantages mean that DCEO is best positioned to efficiently use ratepayer dollars and provide consistency and clarity to low income customers. It must be noted that in Plan 4, the utilities will for the first time also be dedicating a portion of their funding to low income customers, but this initiative will be discussed in greater detail below and in the Low Income section.

- Market Transformation: Statute allows flexibility in this regard, but the Department has traditionally offered market transformation programs, because of its ability to offer statewide, integrated programs, as well as the alignment with the Department’s core mission of supporting workforce development and long-term economic development.

Within each of these focus areas, DCEO has chosen to design programs that seamlessly present both electric and natural gas measures, and offer the same portfolio of program statewide, across all utility territories. The Department has taken this approach, because it has found that integration of the electric and natural gas programs at a statewide level is critical to increase efficiency gains and improve program accessibility.

BUDGET

In Plan 4, DCEO will continue to administer 25% of the available electric and natural gas EEPS funding in each utility territory. DCEO’s budget in Plan 4 will be slightly lower than in Plan 3:

Program Year	Electricity	Natural Gas	Total
EPY 1	\$13.3	\$0.0	\$13.3
EPY 2	\$27.2	\$0.0	\$27.2
EPY 3	\$41.4	\$0.0	\$41.4
<i>Total Plan 1</i>	<i>\$81.8</i>	<i>\$0.0</i>	<i>\$81.8</i>
EPY 4/GPY 1	\$54.6	\$15.2	\$69.8
EPY 5/GPY 2	\$55.3	\$22.8	\$78.1
EPY 6/GPY 3	\$55.6	\$30.1	\$85.7
<i>Total Plan 2</i>	<i>\$165.5</i>	<i>\$68.1</i>	<i>\$233.6</i>
EPY 7/GPY 4	\$54.2	\$21.8	\$75.9
EPY 8/GPY 5	\$54.8	\$21.6	\$76.4
EPY 9/GYP 6	\$55.1	\$21.2	\$76.2
<i>Total Plan 3</i>	<i>\$164.0</i>	<i>\$64.5</i>	<i>\$228.5</i>
EPY 10/GPY 7	\$52.6	\$21.3	\$73.9
EPY 11/GPY 8	\$52.9	\$21.5	\$74.4
EPY 12/GPY 9	\$53.2	\$21.8	\$75.0
<i>Total Plan 4</i>	<i>\$158.6</i>	<i>\$64.7</i>	<i>\$223.3</i>

The most notable budget change in Plan 4 is that the allocation for low income programs has increased to almost 32% of the Department’s budget, from 24% in Plan 3 (or 8% of the total EEPS budget, from 6% in Plan 3). There are two key reasons for this increase:

- Demographic shifts: The Act requires that measures should be offered (and thus budgets allocated) proportionate to the share of total annual utility revenues in Illinois from households with incomes at or below 150% of poverty level. Statewide, 1.08 million or 22.6% of residents are now at that mark, as compared to 1.02 million or 21% at the time

of Plan 3 development²:

Utility	Plan 3 % of Total Households	Plan 4 % of Total Households
ComEd	19.5	21.0
Ameren Electric	22.5	23.0
Nicor	14.1	14.9
Peoples	26.4	28.6
North Shore	14.5	11.7
Ameren Gas	21.4	22.2

Based on the share of revenue this increased number of residents represents, the Department dedicates a portion of its budget to low income programs, with that portion varying by utility territory. As DCEO receives 25% of each utility's budget, the share it dedicates of its budget must be four times the utility's low income share of revenue. These portions have increased in all utilities, with the exception of Ameren Gas, from Plan 3:

Utility	Plan 3 LI % of Revenue	Plan 3 LI % of DCEO Budget	Plan 4 LI % of Revenue	Plan 4 LI % of DCEO Budget
ComEd	6.5	26	8.3	33.2
Ameren Electric	6.5	26	7.6	30.3
Nicor	4.5	18	5.2	20.7
Peoples	9.25	37	11.5	45.8
North Shore	4.5	18	4.9	19.6
Ameren Gas	9.25	37	7.8	31.1

- Incorporating residents that pay their utility bills in their rent: Prior to Plan 4, low income residents that paid their electric and gas utility bills in their rent were excluded from the calculation of the low income share of utility revenue and corresponding percent of DCEO budget. This was done for a variety of reasons, including that the data for these customers was not readily available, however starting in Plan 4 and moving forward, the Department and stakeholders have agreed that it is appropriate to include them. This change also increases the portion of the budget going to low income overall:

Utility	Plan 4 Minimum LI % of DCEO Budget	Plan 4 Minimum LI % of DCEO Budget with Utilities in Rent Households
ComEd	33.2	26.96
Ameren Electric	30.3	32.35
Nicor	20.7	26.25
Peoples	45.8	64.27
North Shore	19.6	24.48
Ameren Gas	31.1	37.37

It is important to note here a challenge presented to the Department in meeting the statutory

² These figures are based on the latest U.S. Census data. Unfortunately, this is a fairly steady trend. The Plan 3 levels were up compared to 19.6% of residents at the time of Plan 2 development.

requirements under the Peoples’ portion of its budget. As discussed, the Act requires the Department to spend 40% of each utility budget on specific public sector entities. In all previous cycles, the Department has also been designated by the utilities to fulfill the low income statutory budget requirement as well. However, because the proportion of low income revenues is so high in the Peoples territory, it is impossible for the Department to fulfill both mandates. With that in mind, the Department recommends the following solution:

	Budget	Percent	Notes
Public	\$2,724,000	40.00%	By law DCEO must spend 40% of its budget on public sector
Low Income	\$3,839,434	56.50%	Split low income with Peoples; DCEO will cover 88% of Peoples requirement, and Peoples will cover remaining 12% (\$529,117) with their proposed low income work
Market Transformation	\$0	0.00%	Increase ComEd market transformation budget to cover costs
EM&V	\$170,000	2.50%	Easier if segregated
Marketing	\$70,000	1.00%	Easier if segregated
Portfolio Administrative	\$0	0.00%	Distribute 5% of portfolio administration costs over DCEO’s program budgets
TOTAL	\$6,803,434	100%	

This was discussed at length with the stakeholders and it was agreed that this was an appropriate and necessary solution. In particular, regarding the low income costs, at the time this issue came to light, all of the utilities had already agreed to dedicate a portion of their own EEPS funding to low income customers. Thus, working with Peoples to meet the low income statutory requirement was a fairly straightforward modification. Again, the addition of utility EEPS funds into the low income sector will be discussed in greater detail in the Low Income section.

Returning to the overall DCEO budget, the proportion of the Department’s budget dedicated to market transformation will be slightly lower in Plan 4 at 6.6%, down from 10%:

	Plan 4 Market Transformation % of DCEO Budget
ComEd	7.80
Ameren Electric	6.51
Nicor	6.51
Peoples	0.00
North Shore	6.50
Ameren Gas	6.84
TOTAL	6.57

This is in part to accommodate for the required increase to the low income budget, but also based on the reassessment and realignment of the market transformation programs, referenced above. Under this realignment, many programs captured under the market transformation budget in Plan 3 will be moved to other portions of the budget, so ultimately the programs that remain will see slight but not dramatic budget decreases in Plan 4. This will be discussed in further detail in the Market Transformation section.

As in Plan 3, the Department will continue to spend approximately 54% of its budget on public sector programs. This will vary by utility, depending upon the share that must be allocated to low income customers:

Utility	Plan 4 Public Sector % of DCEO Budget
ComEd	56.20
Ameren Electric	52.91
Nicor	58.53
Peoples	40.00
North Shore	60.52
Ameren Gas	45.41
TOTAL	53.89

Again, due to the low income constraints in the People's territory, only 40% of DCEO's available People's budget can be allotted to the public sector, and thus those incentives will only be offered to local governments, municipal corporations, school districts and community colleges, to meet the requirements of the Act.

DCEO anticipates some budget fluctuation within its natural gas budget due to the Self-Direct & Exempt Program. Legislation permits new natural gas customers to apply to the program, and customers may be dropped if they do not comply with the annual program requirements. This would impact DCEO's natural gas budget and, if significant, perhaps its energy savings targets. If this occurs, the Department will work with the SAG to revise its goals.

POTENTIAL STUDY

Taking into account these portfolio and budgetary parameters, the objective of the Plan 4 update to DCEO's Energy Efficiency Potential Study is to inform the Department's planning for the 2017-2020 cycle. The update provided valuable information that was used in the formulation of the Plan, including identifying measures with potential for significant impacts in the public and low income markets and certain subsectors that should be targeted for programs. The Potential Study also provides significant guidance for setting aggressive yet reasonable modified energy savings goals.

The study update examined 14 subsectors in the public sector and in low income housing looked separately at single-family and multi-family housing. It considered a wide range of energy end uses in each sector, capturing most of the opportunities for energy efficiency in each sector. It analyzed the technical potential, the economic potential, the maximum achievable potential, and program achievable given the budget caps. Below is a high level overview of the findings from the study update, which is included in its entirety with this filing, along with detailed Testimony from ERC.

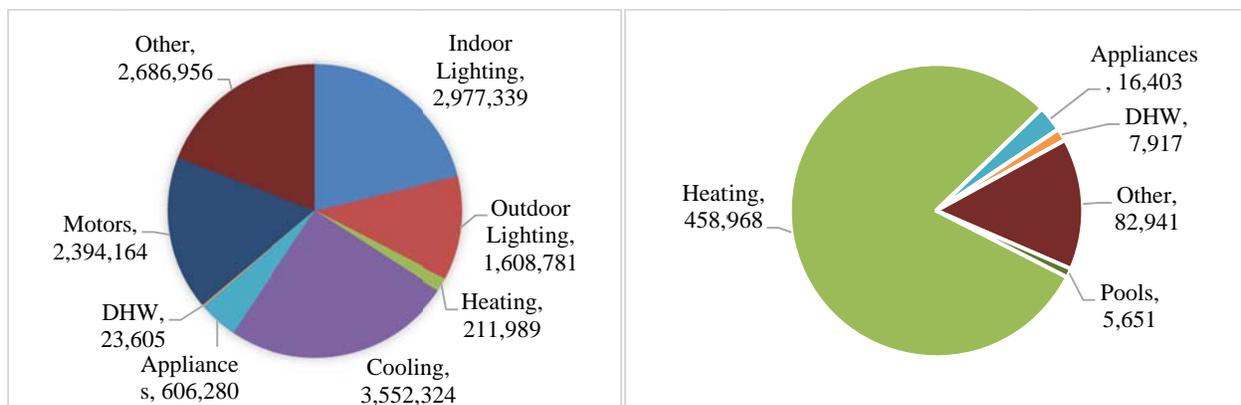
Baseline Consumption

The public and low income sectors currently represent about 17% of total electricity consumption in the state, and 15% of natural gas consumption.

Public Sector and Low Income Annual Energy Consumption

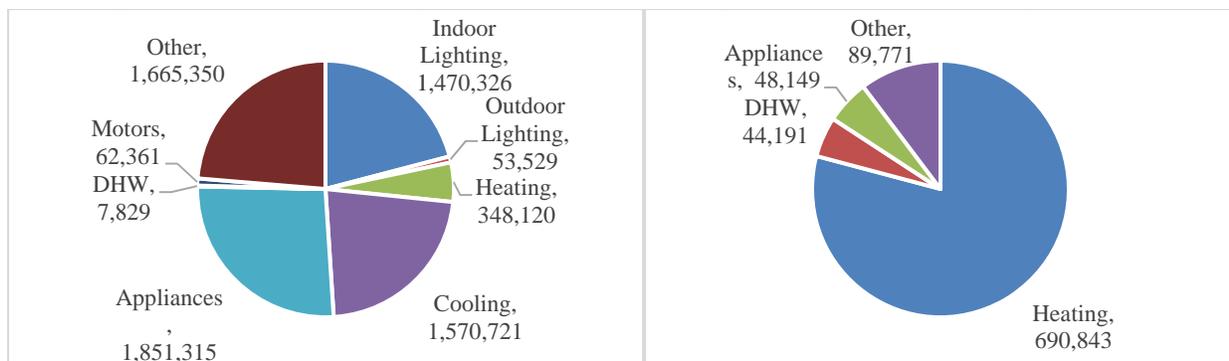
Sector	Electricity (MWh)	Gas (1,000 therms)
Public Sector	14,061,437	571,880
Low Income	7,028,804	872,955
Total	21,090,241	1,444,835

The public sector is estimated to use over 14,061,437 MWh of electricity and about 571,880,000 therms of natural gas per year, representing 11.2% of the state’s annual electric load and 5.6% of its natural gas load. Municipal facilities and K-12 schools are the largest electricity users, followed by street lighting, water and wastewater, and state/federal facilities. Schools and universities, followed by municipalities, use the most natural gas. Electricity consumption by end-use is led by cooling, indoor lighting, and motors; natural gas usage is dominated by heating end-uses.



Public Sector Consumption by System – Electric (Left), Natural Gas (Right)

Low income housing is estimated to use over 7 million MWh of electricity and about 900,000,000 therms of natural gas per year, representing 6% of the state’s electric load and 9.2% of its natural gas load. A majority of electricity (59%) and natural gas (65%) usage for low income is from single-family houses. Cooling, indoor lighting, and appliances are the largest electric using measures for low income housing; natural gas usage is dominated by heating.



Low Income Consumption by System – Electric (Left), Natural Gas (Right)

Past Performance & Areas of Opportunity

Public Sector

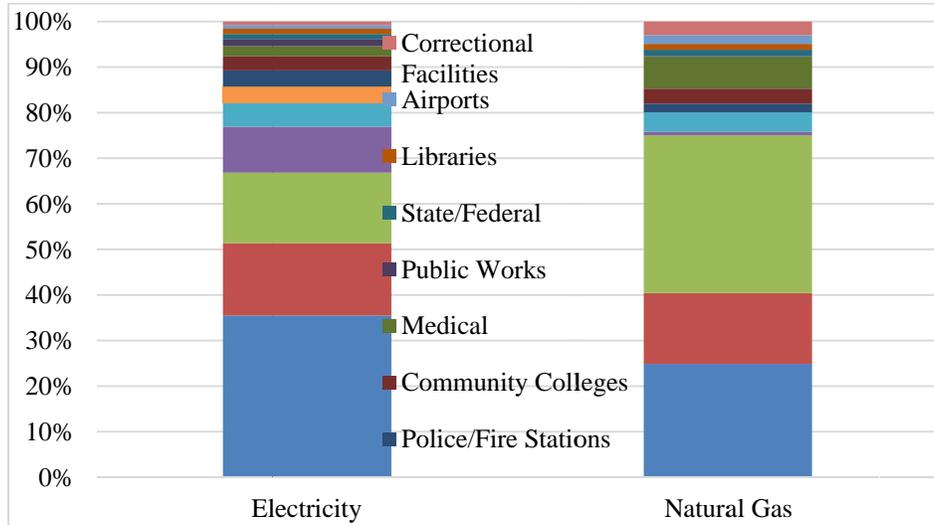
Through the Department's programs, the public sector achieved gross energy savings of 312,000 MWh and 12 million therms over Program Year (PY) 5 to PY7.³ The participation rate varies greatly across subsectors. While a majority of state university campuses and community colleges participated in the energy efficiency programs, and over a third of schools, municipal governments, park districts, and wastewater plans participated, there was no meaningful participation from state and federal facilities, public works, and street lights.

Public Sector Participation in Department Programs by Subsector

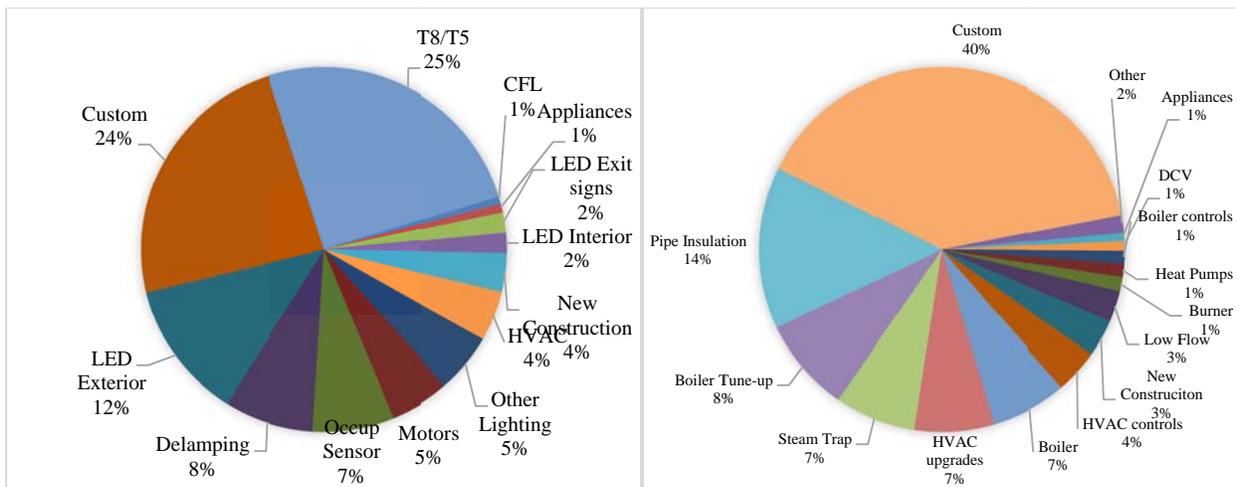
Sector	Participation
Airports	69%
Community Colleges	53%
Correctional Facilities	46%
K-12 Schools	35%
Libraries	12%
Medical	14%
Municipal Government	34%
Parks	29%
Police & Fire	22%
Public Works	7%
State /Federal	2%
State Universities	73%
Streetlights	4%
Water & Wastewater	34%

Schools and universities achieved the greatest level of energy savings, combining for over 50% of the electricity savings and 60% of the natural gas savings. Municipalities were the next largest energy saver, with 15% savings in electricity and natural gas.

³ Savings from Retrocommissioning and spillover from market transformation programs are not included, as it was not possible to breakout impact by subsector.



Public Sector Proportion of Energy Savings Achieved by Subsector for PY5-7



Public Sector Savings by Measure – Electricity (Left), Natural Gas (Right)

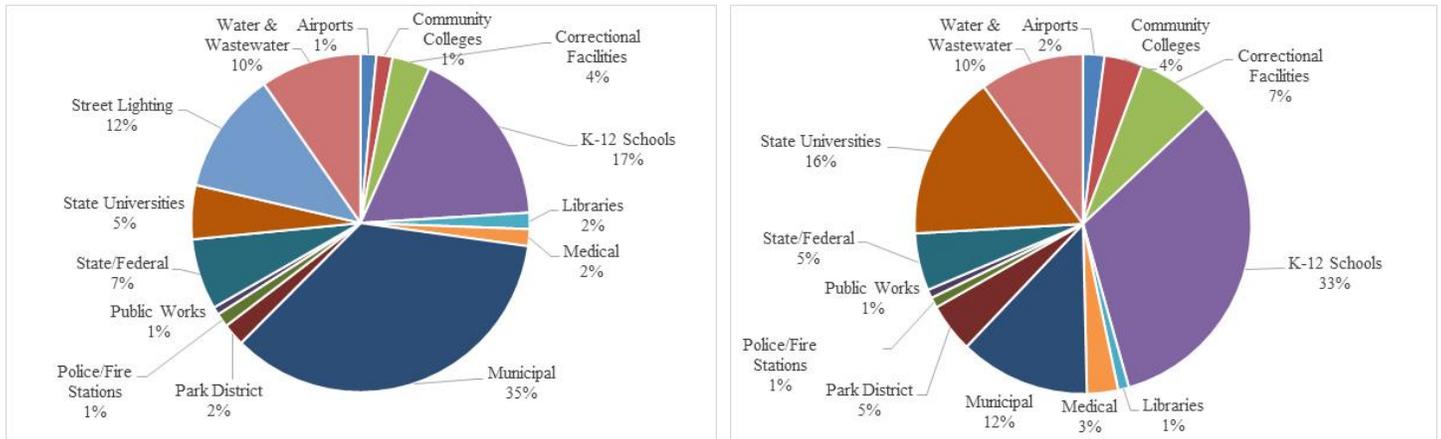
Over 54% of the electric savings from PY5-7 were from standard lighting measures, with about a half of these lighting measures being the conversion from T12 lighting to T8/T5. Interior lighting measures over the next three years are expected to shift from T8/T5 to LED fixtures. On the natural gas side, many projects were custom, and there were a significant number of HVAC and boiler measures, as well as pipe insulation and steam traps.

The technical and economic potential for energy efficiency in the public sector is substantial, with a slightly greater opportunity for electric savings.

Public Sector Technical and Economic Potential

Energy Source	Technical %	Economic %
Electricity	33.2%	22.6%
Natural Gas	28.5%	20.5%

DCEO’s past Public Sector programs have focused heavily on local governments and k-12 schools, followed by universities and community colleges. The Potential Study also shows that programs targeted to street lighting and waste water plants would have significant economic potential. Other programs focusing on state/federal facilities, parks, correctional facilities, or medical facilities could also be beneficial.



Public Sector Economic Potential by Subsector – Electric (Left), Natural Gas (Right)

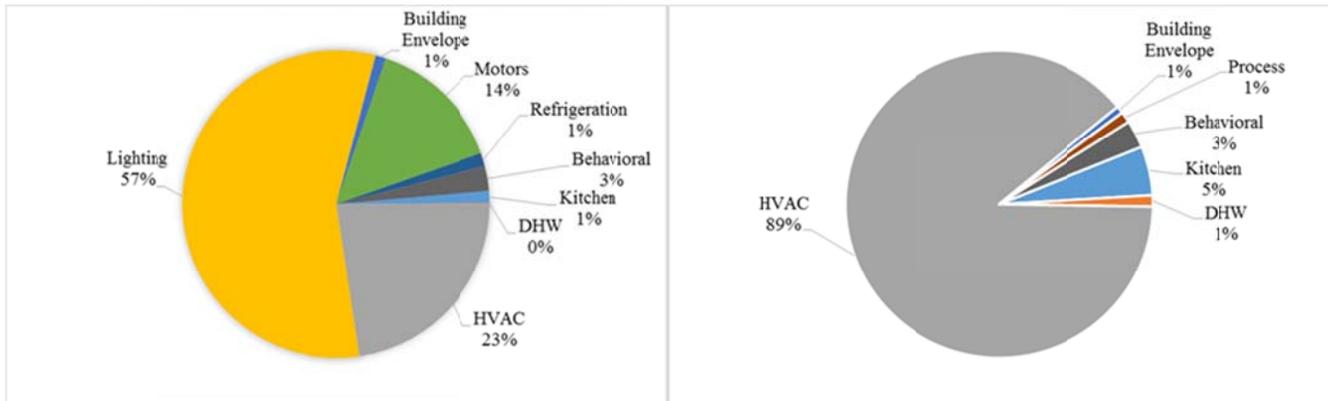
Although approximately 68% of the incentives paid by DCEO’s Public Sector Standard & Custom Program from PY5-7 were for standard lighting technologies, lighting still represents one of the largest viable energy reduction opportunities. While retrofitting with reduced wattage linear fluorescent lamps remains viable, the availability of advanced lighting technologies has increased and their costs are diminishing. Consequently, during this three year planning period, it is expected that T8/T5 will be phased out and shifted to LED lamps and fixtures. LEDs provide further electricity reductions of 30-50% over ubiquitous fluorescent lighting, and the payback on LEDs are declining rapidly. Consequently, it is expected that lighting upgrades will still constitute the majority of cost-effective energy savings. However, at the same time other measures will have to be implemented at higher levels, given that new lighting savings will be based on a lower baseline and more installed measures will be required to achieve the same amount of kWh savings.

On the gas side, given that consumption is dominated by space heating applications, space heating system upgrades show the greatest savings potential. The analysis shows that retirement of central heating plants is not naturally occurring in the market, with old equipment still in service and worsening deferred maintenance and “patchwork” quick fixed due to existing budget constraints. Over the PY5-7 timeframe, gas savings were achieved via a combination of upgrades and maintenance of central heating systems. This trend is expected to continue over the next three years.

It has also been found that most subsectors have a large component of behavioral energy waste that may require innovative new approaches. Programs can consider newer behavioral measures with the advent of smart technologies such as lighting occupancy sensors, advanced power strips, and smart thermostats.

Finally, while participation in the programs is significant in most subsectors, typically in the 20-

70% range, participation levels vary significantly. This provides an opportunity to work with entities from subsectors that have not participated much in the programs, such as state/federal facilities, public works facilities, and libraries. Even subsectors that have conducted a large number of projects through the Department’s programs, such as K-12 schools, have a majority of entities that did not participate during the last three years.



Public Sector Economic Potential by End Use – Electric (Left), Natural Gas (Right)

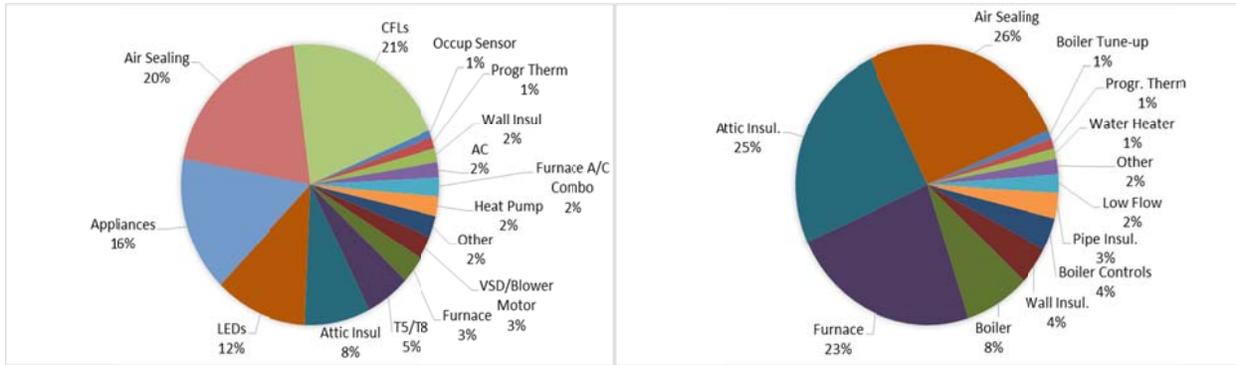
Low Income

Low income programs during PY5-7 provided electric savings of 0.5% of total consumption, and natural gas savings of 0.4%. Almost 20% of the electric savings and 7% of the natural gas savings were from new construction or gut rehab of affordable housing.

Energy Savings PY5 – PY7, Single-family vs. Multi-family Low Income Housing

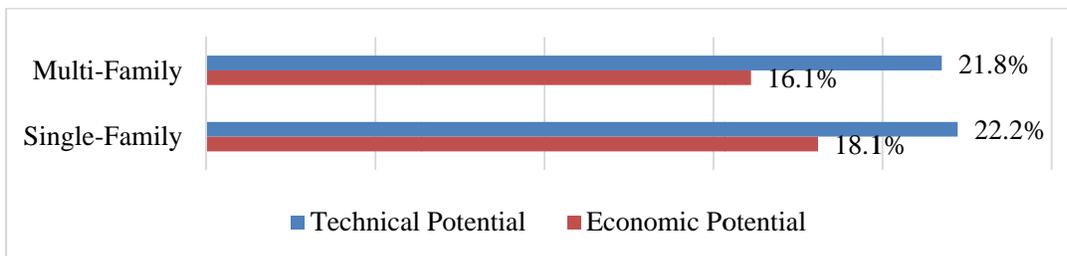
Sector	# of Units	Energy Savings	
		Electricity (MWh)	Natural Gas (1000 therms)
Single family	393	12,950	1,283
Multi-family	3,260	22,851	2,191
Total		35,801	3,474

A wide range of measures were installed under the Residential Retrofit and PHA Programs. Approximately 40% of electric savings were from lighting measures, particularly CFLs, but also an increasing proportion from LEDs. LEDs are expected to dominate the lighting measures during the next three year planning period. Another 30% of electric savings were from building envelope measures (air sealing, attic insulation), and the remaining savings were split between appliances and heating/cooling measures. Natural gas savings were primarily from building envelope measures (51% of savings) and more efficient furnaces (23%).

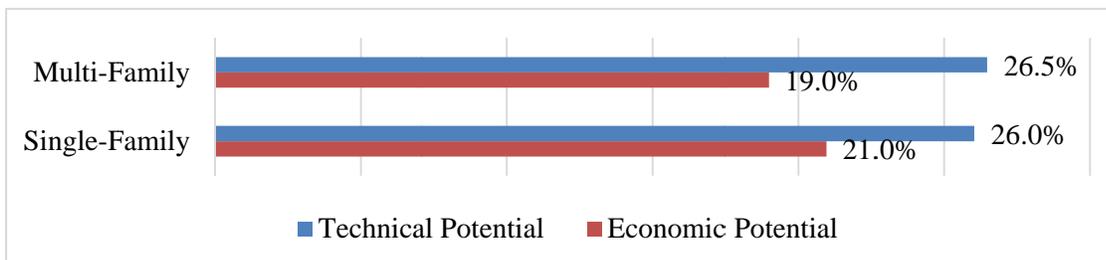


Low Income Retrofit Savings – Electric (Left), Natural Gas (Right)

The technical and economic potential for energy efficiency in low income housing is quite high, with the greatest potential being on natural gas efficiency.



Low Income Electric Efficiency Potential

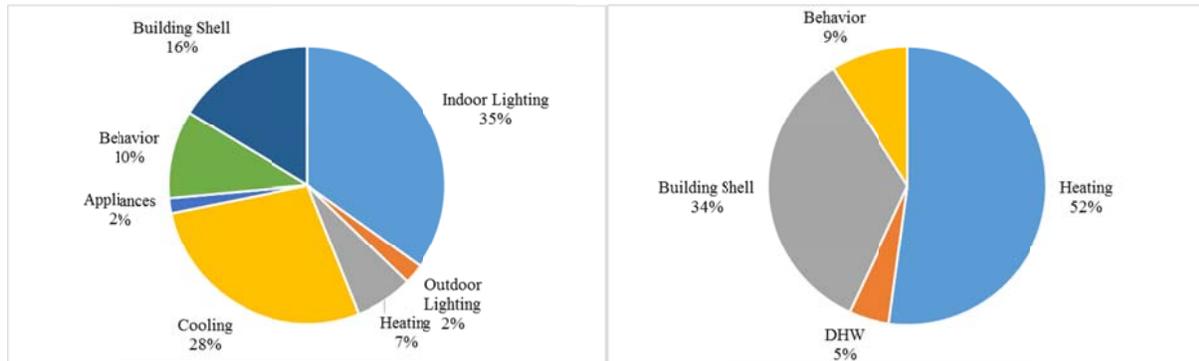


Low Income Natural Gas Efficiency Potential

Indoor lighting shows the highest economic potential, with CFLs and LEDs for single-family housing and living units in multi-family housing, and upgrades to linear fluorescent lighting (LEDs) and controls for common areas in multi-family housing being the most cost-effective measures. HVAC measures like heat pump systems and programmable/smart thermostats also contribute towards the electric savings potential. With the CFL approaching sunset and revised algorithms (TRM v5.0) that reduce savings for insulation and air sealing, programs that address a comprehensive set of measures with LED lightbulbs will be the most cost-effective. For single family housing, cooling energy reduction potential is slightly higher than lighting. However, adoption rates for more efficient cooling equipment has been low due to the higher initial cost of cooling measures. Advanced control measures like demand control ventilation and smart thermostats can help reduce the initial cost by downsizing the equipment requirement.

On the gas side, furnace and boiler upgrades contribute largely to the natural gas economic

potential in both single-family and multi-family units. HVAC controls like boiler controls and programmable/smart thermostats also added to the economic potential.



Low Income Economic Potential by End Use – Electric (Left), Natural Gas (Right)

Past Performance & Areas of Opportunity

Finally, the update to DCEO’s Potential Study showed that the load reduction goals in the Act are within the maximum achievable energy efficiency potential, if the statute did not also include a budget cap. Over 3% annual reduction in electricity and natural gas are possible over the next three years. However, under the allotted budget caps, approximately 0.9% annual reduction in electricity and 0.7% in natural gas is achievable in the public sector. In the low income sector, where higher incentives required, the annual reductions are considerably lower – between just 0.20-0.27%. Overall, the Potential Study provides significant guidance for setting reasonable goals and designing programs to achieve those goals.

Public Sector Maximum Achievable and Program Achievable

Year	2017	2018	2019	2020	2021	2022
Maximum Achievable Potential - Electric	3.38%	3.53%	3.55%	3.36%	3.40%	3.41%
Maximum Achievable Potential - Natural Gas	3.58%	3.60%	3.56%	3.48%	3.56%	3.35%
Program Achievable Potential - Electric	0.86%	0.89%	0.90%	0.85%	0.86%	0.86%
Program Achievable Potential - Natural Gas	0.68%	0.68%	0.68%	0.66%	0.68%	0.64%

Low Income Maximum Achievable and Program Achievable

Year	2017	2018	2019	2020	2021	2022
Maximum Achievable Potential - Electric	3.06%	2.55%	2.39%	2.26%	2.13%	2.04%
Maximum Achievable Potential - Natural Gas	1.10%	1.09%	1.08%	1.06%	1.05%	1.04%
Program Achievable Potential - Electric	0.27%	0.22%	0.21%	0.20%	0.19%	0.18%
Program Achievable Potential - Natural Gas	0.21%	0.21%	0.20%	0.20%	0.20%	0.18%

ENERGY SAVINGS GOALS & COST EFFECTIVENESS

DCEO used the budget parameters the utilities provided, with the results of Potential Study update, and extensive program modeling, to determine the proposed modified energy savings goals:

- **Electric:** Three-year energy savings reduction of approximately 416 MWhs in the public sector, and 92.81 MWhs in low income, for a total of 508.81 MWhs reduced. Average annual electric savings reductions are 139 million MWhs in public sector, 31 million MWhs in low income, and 170 million MWhs total.
- **Natural gas:** Three-year energy savings reduction of approximately 19.68 million therms in the public sector, and 5.81 million therms in low income, for a total of 25.49 million therms reduced. Average annual natural savings reductions are 6.56 million therms in public sector, 1.94 million therms in low income, and 8.5 million therms total.

As in all previous plans, DCEO’s proposed share of savings is less than its share of budget, due to the challenging areas its programs are focused on – public sector, low income, and market transformation. Public sector and low income customers do not represent 25% of the state’s electric or natural gas loads:

	Proportion of IL’s Electric Load	Proportion of IL’s Natural Gas Load
Public	11.2%	6%
Low Income	5.6%	9.2%
Combined	16.8%	15.2%

However, increased budget levels for these areas are critical, due to the economic challenges of these sectors. As proven through previous program years, due to constrained budgets, the public sector requires higher incentives than the commercial sector. Similarly, DCEO’s programs targeted at the low income residential sector are less cost effective than standard residential energy efficiency programs, since more of the measure costs, and sometimes the entire cost, must be covered by the programs. Finally, it is very difficult to measure and verify savings for

market transformation programs, yet they are critical to the long-term future of energy efficiency in Illinois.

The proposed reductions are also lower than the statutory targets, within the sectors the Department serves. The statutory statewide electric targets are 2.0 % for each of the three years. The statutory statewide natural gas targets are 1.4% in the first year of this plan and cap out at 1.5% for the remaining two years. The proposed modified electric goals represent approximately 1.0% savings in the public sector and 0.4% savings in low income. The proposed modified natural gas goals represent 1.15% savings in the public sector and 0.2% in low income.

Nevertheless, it is notable that despite a slight decrease in the total budget from Plan 3, the Department has actually proposed higher savings targets on both the electric and natural gas side for Plan 4. This is due largely to a focus on improving the efficiency and cost effectiveness of the total portfolio budget. As required, the portfolio as whole, not including low income programs, is cost effective, with a total resource cost (TRC) test ratio of 2.28 (as compared to 1.14 in the Plan 3 proposal). Including low income program, the TRC is 2.02 (as compared to 1.07 in the Plan 3 proposal).

The Department believes that, within the budgetary constraints, the proposed energy savings targets are aggressive and make a meaningful contribution toward utility goals, and requests that the Commission approve these modified goals.

PUBLIC SECTOR

By statute, at least 10% of the total EEPS portfolio (or 40% of DCEO's budget) must be directed to local governments, municipal corporations, school districts and community colleges. Since Plan 1, DCEO has expanded its public sector budget to serve other public entities, so that program eligibility includes: units of local, state, and federal government, municipal corporations, public school districts, community colleges, and state universities.

Under Plan 4, the Department will be building on the portfolio of public sector programs developed under its previous plans, with modifications based on the results of the plan development process. DCEO's public sector programs in Plan 4 will be:

- Assessments
- Direct/Self Install
- Standard & Custom
- New Construction
- Combined Heat & Power (CHP)
- Retrocommissioning

In some cases, programs have been realigned from Plan 3. For example, previously many public sector targeted incentives were offered under separate programs, e.g., rebates for boiler tune-ups and wastewater treatment plants. However, as a result of feedback from SAG and customers, the Plan streamlines these incentives all under the Standard & Customer Program, to reduce confusion to customers and improve program efficiency.

The Department will also be shifting the initial energy consultations and audits it offers, to the public sector portion of the budget, under the Assessment Program. In Plan 3, this work was combined with more in-depth design assistance under the Smart Energy Design Assistance Center (SEDAC) line, under the market transformation budget. In Plan 4, the Department will continue to support SEDAC activities, but will focus its energy assessment work on public sector customers only, as the utilities offer their own assessment programs for private sector customers, at this stage. DCEO will also no longer attempt to claim savings for its energy audits, as this has proven to be overly burdensome. This will also bring our assessments work in line with the utilities, who only claim savings when their audits are also tied to direct install programs. The Department will continue to offer some limited, more in-depth design assistance under the market transformation portion of the portfolio (see additional detail under Market Transformation section).

Other program modifications are focused on improving the cost effectiveness and incorporation of cutting edge technologies into certain programs. For example, based on stakeholder feedback, Standard & Custom will be phasing out support for T-5, T-8, and T-12 bulbs in Plan 4, offering incentives for LEDs only by Year 2. Program changes are discussed in further detail below.

As discussed in the Plan Development section, the overall budget for public sector is fairly consistent from Plan 3. Programs are also generally similarly sized, although the CHP Program sees a slight reduction. It should also be noted that due to the low income constraints in the People's territory, only 40% of DCEO's available People's budget can be allotted to the public sector, and thus will only be offered to local governments, municipal corporations, school districts and community colleges, to meet the requirements of the Act.

PROGRAM SUMMARIES

Assessments

The objective of this Program is to assist public sector customers in identifying energy efficiency opportunities and providing analysis for catalyzing participation in the Department's incentive programs. The program provides clients with design assistance reports that analyze energy cost reduction measures (ECRMs) in detail. The reports describe ECRMs individually and in bundles in order to encourage clients to take advantage of the synergies that exist only when the whole building is considered. Cost-effective strategy implementation is encouraged. "Cost effective" is defined as bundles of ECRMs with an internal rate of return (of the needed investment) greater than the current discount rate and the net present value of the investment greater than zero. The estimated savings and the additional costs of implementing all analyzed ECRMs are evaluated in a life cycle cost analysis. The financial analysis is presented in a clear and simple fashion for ease of understanding.

This Program is the first step for many public sector customers, with a focus on identifying opportunities for energy savings and providing recommendations for implementation. This assistance is provided as a free service to all public sector customers, with the goal of catalyzing participation in available incentive programs. Two levels of assistance will be provided – initial consultations and energy audits (described in further detail below). The focus this plan cycle on these higher touch levels of assistance is designed to still offer customers the most critical

information they need to move forward with energy projects (e.g., measures, prioritization, and resources available), while being able to more cost-effectively support clients. (More in-depth design assistance will still be offered under the Data and Information Market Transformation Program). The Program will then refer clients to specific Department incentive opportunities to assist with implementation. Clients will also be directed to a robust existing web portal, where comprehensive information can be found for energy efficiency opportunities offered by the Departments, other program administrators, and other federal, state, and local entities.

The Program provides two levels of assistance to customers:

- Level 1: Initial Consultations – This includes a variety of interactions with building owners, operators, design professionals, and other stakeholders. These initial consultations include one-on-one meetings, presentations, telephone calls and other correspondence. The purpose is to inform individuals and organizations about the program opportunities, answer program questions, offer technical energy assistance, and assess the potential value of providing additional program services.
- Level 2: Energy Audits – Audits include a site visit or review of any existing plans for scheduled construction or renovation (in cases where the building is still in the pre-construction phase, engineering plans can be reviewed and recommended approaches to enhance energy efficiency provided. Level 2 results in suggestions for how to develop and incorporate innovative and efficient design techniques and elements. Building usage requirements and general building characteristics are analyzed, energy cost reduction measures (ECRMs) are identified and ranked, and potential for energy savings is determined.

Direct/Self Install

The Direct/Self Install Program, branded as Savings Through Efficient Products (STEP), engages hard-to-reach public facilities through an easy three-step process. Participating facilities: 1) schedule and participate in a facility walkthrough to gather product counts and receive some direct install measures; 2) self-install the additional free energy-savings products shipped to their facility to begin saving energy, money and maintenance time; and 3) discover additional incentives, rebates, programs and educational opportunities to save more energy. New this plan cycle, a hybrid self/direct install design will allow some products to be installed by STEP engineers at the time of the walkthrough. The program will also pilot inclusion of additional appropriate measures each year.

The STEP program consists of five major components:

- STEP outreach staff collect basic facility data to qualify participants, then STEP engineers perform a walkthrough assessment with the public facility's designated representative to assess the need for free, easy-to-install energy efficient products and identify potential future opportunities for deeper savings;
- At the time of walkthrough, some measures will be installed by STEP engineers;
- The participating facility installs the remaining measures, achieving immediate and cost effective energy savings;
- To complete the quality assurance protocol, the facility submits installation verification, which is used to quantify savings via an Illinois TRM-based STEP dashboard; and

- STEP provides personalized program participation recommendations that can lead to deeper savings.

Standard & Custom

The overarching purpose of the Public Sector Standard & Custom Program will be to provide financial incentives to public sector entities to upgrade their facilities with high efficiency equipment. Specifically, the “standard” arm of the program will offer incentives for a menu of high efficiency electric and gas equipment. The “custom” arm will provide incentives based on a technical engineering analysis. This allows public customers to implement more complex efficiency measures, not well covered by the standard program. Incentives will be based on calculated savings for specific customer projects. Also under this Program, customers will be able to take advantage of incentives for specific boiler efficiency measures, including boiler “tune-ups,” to encourage proper maintenance practices, and equipment upgrades. Finally, because of the unique and significant needs of the water and wastewater treatment industry, these customers will be offered specific incentives, to promote the adoption of new technologies, process controls, and process modifications. Through one comprehensive application, public sector customers will be able to apply for all of the following types of financial incentives:

- Standard: A simple menu of incentives will be offered for the purchase and installation of energy efficient equipment and measures to reduce electricity and gas consumption at public facilities. This is one of the core Department programs, in terms of anticipated kWh and therm reductions, and has a significant budget as appropriate to that role. A streamlined incentive application and quality control process along with targeted marketing approaches will be employed to facilitate ease of participation and produce maximum program results. Funds will be made available on a first come, first served basis, beginning on a date to be determined specific to program guidelines. Payments of less than \$150,000 for individual measures or bundles of measures will be made as rebates. At the discretion of the Department, customers implementing measures eligible for payments of more than \$150,000 shall receive payment either as multiple rebates for separate packages of measures, or as one bundled grant. The Department reserves the right to establish maximum payments per customer and to establish other procedures to manage the flow of funds in an orderly fashion (to help manage applicant expectations) throughout the program year.
- Custom: Custom incentives will be offered for kWh and therm reductions to cover energy efficiency improvements not included in the standard menu. These may include new equipment purchases, facility modifications, or large process improvements. Such improvements may be identified through the design assistance program, energy performance contracting providers, or other technical engineering analyses. The program is designed to be complementary with the standard incentives.
- Boiler Tune-Up: Incentives will also be provided to improve natural gas boiler efficiency, including “tune-ups” from qualified contractors and, when needed, equipment upgrades. Tune-ups should result, on average, in a 1.6% efficiency gain in the operation of the boiler, according to the IL TRM. While conducting the tune-up, contractors are encouraged to look for further energy savings opportunities within the boiler system, such as mechanical (pipe) insulation, steam trap replacement, installation of boiler reset controls and parallel positioning control systems. Other energy saving measures not covered under this area can also be identified by contractors and applied for under the

Program.

- **Water and Wastewater Treatment:** Water and wastewater treatment facilities make up a significant portion of municipal energy consumption, and their energy efficiency needs are sometimes unique. Understanding this, the Department will offer tailored incentives for new high speed turbo aeration blower technology and associated secondary systems. This type of equipment is estimated to be 20% more energy efficient than conventional systems, and retrofitted water and wastewater treatment systems have shown 30 – 50% energy savings. The Department will encourage customers to leverage complementary funding through the Illinois Environmental Protection Agency's (IEPA) State Revolving Fund and the Illinois Clean Energy Community Foundation (ICECF). It is important to note that projects of this type can often take in excess of 12 months to develop and implement.

New Construction

The goal of the program is to support greater energy efficiency in newly constructed public buildings through adoption of measures beyond the applicable commercial energy efficiency building code. In order to do this, the program will provide incentives for new and majorly renovated public sector buildings that exceed the applicable Illinois Energy Conservation Code for Commercial Buildings. Customers apply to receive incentives based on electrical (kWh) and natural gas (therms) savings for beyond code design based on projected energy savings using either prescriptive or custom incentive calculations. Prescriptive incentives are based on building component performance characteristics, which go beyond code required minimum performance metrics. Select measures have been targeted for enhanced incentive levels due to their potential for significant persistence over the life of the building (e.g., envelope measures). In order to encourage the use of whole building energy modeling, buildings that seek LEED Silver, Gold or Platinum designation, or otherwise provide an engineered computer building energy model, will also be eligible for a High Performance Design Bonus on a square foot basis, based on the percentage beyond the code the project achieves (e.g., 10%, 20%). Incentives will be awarded on a first come, first served basis, and projects may last up to two years. The Department and its partners under the Market Transformation programs will provide technical assistance to customers as necessary. The Department will work closely with its public and private sector partners to market the program, and leverage leads from its design assistance and energy code initiatives under Market Transformation Training & Education Program.

Combined Heat & Power (CHP)

The goal of this program is to achieve electric and natural gas savings through the use of combined heat and power systems in the public sector. Specifically, the program is designed to encourage investment in Conventional or Topping Cycle CHP systems, as well as Waste Heat-to-Power or Bottoming cycle CHP systems. The projects under this program have the potential to accrue electric savings or both electric and natural gas savings. This program was offered for the first time in 2014 and was structured in a three-year format: year one for engineering and design, year two for construction, and year three for savings verification. Incentives are structured so that funding is provided for each phase, rather than a lump sum. Unlike many other energy efficiency projects, most CHP projects take in excess of 12 months to develop and implement. The ability to roll-over program funds during the three year program cycle for both gas and electric program funds allows this program to adapt to the development and

implementation time frames associated with most CHP projects.

The program will be implemented through a competitive process, with applications being solicited, reviewed within the first several months of PY10. Projects will be implemented over the remaining duration of the plan cycle, and a portion of the funds set aside for the selected projects will be released with each phase: engineering/design, construction, and savings verification. The Department will be seeking qualified applications that will reduce the total Btus of electricity and natural gas required to meet the end use needs of a public facility. Depending on the application, the saved Btus can be converted totally into kWh saved or a combination of kWh and therms saved. In all cases the saved energy will account for any additional natural gas utilized at the site. Applications will be reviewed to ensure proposals demonstrate a sustained ability to utilize both the electricity and thermal energy produced by the system and attain minimum system efficiencies of 60% on an annual basis. All successful applications must pass the Illinois TRC test. Part of the application approval process will be to have the Department's evaluation contractor review the applications and provide feedback on the potential project meeting the requirements of the EM&V protocols.

Retrocommissioning

The purpose of this program is to identify and implement low-cost tune-ups and adjustments that improve the efficiency of existing public buildings' operating systems by returning them to intended operation or design specifications, with a focus on building controls and HVAC systems. The Retrocommissioning (RCx) Program targets public sector buildings, and services are delivered through a network of commissioning providers that have been trained in program protocols and participation processes. For smaller facilities, commissioning providers will conduct a targeted assessment of areas with substantial energy savings opportunities, such as controls upgrades and HVAC system improvements. Larger facilities will be eligible to receive a more comprehensive assessment of building systems and controls. To motivate participation, but also ensure that customers are invested in the process, the Department provides the cost of an RCx study. However, beforehand customers are required to commit to financing and implementing at least \$10,000 worth of the RCx study recommendations. The program will also include a strong marketing and customer education component, to promote the value of RCx services, targeting senior management decision-makers as well as facility operations/maintenance staff. These Program components will promote participation by emphasizing the value of the RCx process, and also help ensure savings persistence by promoting improved operations and maintenance practices.

DCEO Public Sector Budget (millions)

	Electric				Natural Gas				Total Public Sector Budget
	Year 1	Year 2	Year 3	Total	Year 1	Year 2	Year 3	Total	
Assessments	\$2.14	\$2.14	\$2.14	\$6.42	\$0.73	\$0.73	\$0.73	\$2.19	\$8.61
Direct/Self Install	\$1.61	\$1.61	\$1.61	\$4.82	\$0.48	\$0.48	\$0.47	\$1.43	\$6.25
Standard & Custom	\$20.97	\$20.39	\$19.92	\$61.28	\$8.02	\$8.01	\$8.02	\$24.06	\$85.34
New Construction	\$0.94	\$0.94	\$0.94	\$2.81	\$0.36	\$0.36	\$0.36	\$1.09	\$3.90
Combined Heat & Power	\$0.90	\$1.81	\$2.41	\$5.12	\$0.23	\$0.46	\$0.67	\$1.36	\$6.48
Retrocommissioning	\$2.41	\$2.41	\$2.41	\$7.22	\$0.84	\$0.84	\$0.84	\$2.51	\$9.73
TOTAL	\$28.96	\$29.28	\$29.42	\$87.67	\$10.66	\$10.88	\$11.10	\$32.64	\$120.31

DCEO Public Sector Energy Savings

	Electric Savings (million kWh)				Natural Gas Savings (million therms)			
	Year 1	Year 2	Year 3	Total	Year 1	Year 2	Year 3	Total
Direct/Self Install	7.34	7.34	7.36	22.04	0.62	0.62	0.62	1.86
Standard & Custom	111.59	97.44	95.38	304.40	5.01	5.03	5.00	15.03
New Construction	0.76	0.76	0.76	2.28	0.01	0.01	0.01	0.03
Combined Heat & Power	10.51	18.34	28.03	59.66	0.18	0.35	0.51	1.04
Retrocommissioning	10.13	10.13	10.13	30.39	0.57	0.57	0.57	1.71
TOTAL	140.33	134.01	141.66	416.00	6.38	6.58	6.71	19.68

LOW INCOME

Under the Act, the utilities, in coordination with DCEO, are required to present a portfolio of efficiency measures targeted at households with incomes at or below 80% of AMI, proportionate to the share of utility revenues represented by those households at or below 150% of the poverty level. Drawing from its 25-year history and experience administering low income residential energy efficiency programs, DCEO has agreed since Plan 1 to include the low income programs in its portfolio and to meet the low income statutory requirement. This is also appropriate because, since Plan 1, the administration of Illinois' Weatherization Assistance Program, Low Income Energy Assistance, and Urban Weatherization Programs have come under DCEO's agency responsibilities. Finally, the Department is also the one Program Administrator that can offer statewide, integrated electric-gas programs, which leads to more efficient use of ratepayer dollars, and provides consistency and clarity for customers.

Over the last nine years, DCEO's key considerations in developing low income programs were to ensure that:

- DCEO could meet the statutory definition of serving households that are at or below 80% AMI,
- Delivery mechanisms would reach all low income customers, no matter the type of housing in which they live, and
- The most cost-effective programs were utilized.

In order to meet these objectives, the core principal of DCEO's low income programs is to leverage and work closely with existing programs and organizations that have proven track records in these communities. This is critical for many reasons, including that these entities are:

- Trusted in the communities they work,
- Aware of gaps and key areas of opportunity,
- Able to avoid duplication of efforts,
- Able to identify where process "wheels" do not have to be reinvented (e.g., income verification can be handled by entities who already do this), and
- Able to leverage non-EEPS funds to get the biggest bang for ratepayer dollars.

There are many such organizations that the Department partners with in the implementation of its programs, but some of the key entities include: State Agencies (e.g. DCEO's Energy Assistance Office, Illinois Housing Development Authority (IHDA), local housing authorities, low income housing lenders, and not-for-profit organizations like Elevate Energy and Chicago Bungalow Association.

Under Plan 4, DCEO will continue to offer the core low income programs it has designed with these partners since the inception of EEPS and included in Plan 3:

- Residential Retrofit
- Public & Federally-Subsidized Housing (PHA)
- Affordable Housing New Construction

However, in developing Plan 4, the Department took a hard look at the cost effectiveness of each program, as well as where there were still persistently underserved low income populations. The Department also had to consider how to appropriately allocate, among the three programs, its increased low income budget, discussed in the Plan Development section. To inform this process, DCEO analyzed past program performance data, performed a literature review of national low income best practice reports, and collected feedback from implementers, customers, SAG, and LBNL. As a result of this process, many changes will be incorporated into the programs in Plan 4, including: structural changes, elimination/addition of measures, and process improvements. These modifications are discussed in greater detail below. Additionally, the Department will offer greater support for low income customer education (described under the Market Transformation section) and improve marketing of the low income programs including through a web portal (discussed in the Administration section). Finally, although all program budgets saw an increase over Plan 3, the largest portion of the additional low income funds allocated in Plan 4 will be going to the Department's most cost effective program, Residential Retrofit.

Additionally, as previously noted, in Plan 4 the utilities will, for the first time, be dedicating a portion of their EEPS funding to low income customers as well. This is, in large part, to address the disparity between the number of Illinois residents on which the statutory low income budget is based (i.e., households at or below 150% of poverty level), and those that the funds are supposed to serve (i.e., households at or below 80% AMI). In Illinois, the number of households at or below 80% AMI is twice that of households at or below 150% of the poverty level. The Department strongly agrees that significantly increased EEPS investment in the low income sector is warranted. Although DCEO is moderately increasing its own low income budget, due to other statutory requirements (e.g., public sector), it cannot meet the full needs of this market, and thus welcomes the added and coordinated investment from the utilities. Although the Department defers to each utility's final plan filings, at the time of this filing it is estimated that this additional investment from the utilities will more than double the amount of funding going to low income customers in Plan 4, increasing low income spending from ~6% of the total EEPS budget to ~14.6%.

This increased low income funding has been the result of robust conversations with the utilities and stakeholders throughout the last year of the plan development process. In these discussions, the Department proposed a few key guiding principles:

- Where possible, invest in existing low income programs and implementers;
- If utilities feel it is crucial to have their own programs and/or implementers, close coordination is critical to avoid duplication and confusion for customers; and
- All Program Administrators need to design portfolios carefully, to balance the goals of maximizing cost effectiveness and reaching many low income residents with getting deep, persistent savings.

Generally, these concepts were well-received by utilities and stakeholders. Some utilities have chosen to invest in existing low income programs (see Residential Retrofit discussion below) and others have chosen to expand or establish their own offerings, but all utilities have been open and collaborative throughout the planning process. Most parties have also agreed to form a low income working group, designed to offer a framework for coordination into the implementation of Plan 4, and the web portal discussed in the Marketing section will specifically feature a page just for low income customers. Based on the fruitful coordination during the planning phase, DCEO is optimistic that the implementation of the expanded set of low income offerings under Plan 4 will also be successful.

PROGRAM SUMMARIES

Residential Retrofit Program

The objective of this Program is to perform energy retrofits to achieve electricity and natural gas savings in existing low-income single-family and multi-family homes. The Department uses trusted community partners as third-party administrators to promote energy efficiency and perform home energy repair and renovation in low-income neighborhoods. The Department will partner with trusted community partners to act as third-party administrators for this program. The Department identifies a list of eligible measures and incentive levels for each measure, and then partners perform outreach and education, audits, and energy upgrades in existing low

income single- and multi-family housing. Partners include the Department's Illinois Home Weatherization Assistance Program, which administers its funding through its statewide network of community action agencies, as well as a handful of experienced, trusted non-profits. The Program offers implementers a comprehensive list of energy efficiency measures to choose from, including: high efficiency appliances, ACs, lighting, insulation, furnaces, water heaters, and smart thermostats. Partners often leverage alternative financial resources for complete projects, including: federal, state and local funds and private sector finance. Residential Retrofit has been the Department's most cost effective low income program, and thus it has been allocated much of the additional low income funding in Plan 4. A few additional notable modifications include:

- Smart thermostats will be offered to Residential Retrofit customers for the first time in Plan 4, on a pilot basis in Year 1 for single-family residences, and, if successful, an expanded initiative in Years 2 and 3.
- As in the public sector, by Years 2 and 3, incentives will shift away from linear lighting measures and be focused primarily on LEDs.
- For their low income allocations, several utilities have committed to partnering with the Department, to invest in the Residential Retrofit Program. Funds will go directly to common implementers, and to low income customers it will appear to be one seamless offering.

Public & Federally-Subsidized Housing Program

The goal of this Program is to achieve electric and natural gas savings in the State's 99 public housing authority (PHA) multifamily units, duplexes, and facilities. The Program offers assessments, technical assistance and incentives to upgrade old inefficient measures in the residential units, common areas, maintenance, community, and any other buildings PHAs own and manage. Incentives are offered for a wide range of technologies, including: lighting, duct insulation and sealing, furnaces, low flow showerheads, high efficiency appliances, and air conditioners. In addition, the program works with PHAs to partner with the U.S. Department of Housing & Urban Development (HUD), energy service companies (ESCOs), private lenders, to leverage additional funding and finance sources. To date, the Program has served 52 PHAs, and in Plan 4, the focus will be on reaching those that have not yet taken advantage of the program, as well as piloting assistance to other forms of federally-subsidized housing, such as Section 202. In order to effectively market these resources, the Program works closely with HUD's National Offices of Public Housing and Affordable Housing Preservation, HUD's Regional Office of Public Housing in Chicago, and IHDA. The Program will also focus on increasing cost effectiveness, by balancing measures that achieve deeper savings, with those that can be provided at a low-cost.

Affordable Housing New Construction Program

The goal of this Program is to identify and implement gas and electric energy efficiency opportunities present in gut-rehab and new construction affordable housing projects. The Program was first initiated in 1988, expanded with the introduction of EEPS funding, and has touched over 10,000 units statewide. Funding is provided to for-profit and not-for-profit affordable housing developers, for single-family and multi-family projects including rehab and new construction, and projects must incorporate a full set of efficiency measures – funding is not provided for individual measures. New this year, after a pilot in the previous plan cycle, the Program will shift to a performance-based approach, where incentives will be based on projects

achieving a certain level of savings above code. This Program is administered by the Department, with support from technical consultants, IHDA, and other local affordable housing entities. The Department accepts applications annually, and projects plans are carefully reviewed to determine whether or not they are likely to achieve the required level of savings. Under the new performance based approach, projects must be modeled to show a 20% or more improvement over the applicable energy code. Technical assistance is provided where needed, to bring projects up to the required standards. Incentives are awarded on a first come, first served basis, and projects may last up to two years. EEPS funding is a small piece of these projects, with the majority of support coming from IHDA and other financing resources. Under Plan 4, the Department will work closely with IHDA to streamline the application process (e.g., simplifying the income verification process).

DCEO Low Income Budget (millions)

	Electric				Natural Gas				Total Low Income Budget
	Year 1	Year 2	Year 3	Total	Year 1	Year 2	Year 3	Total	
Residential Retrofit	\$9.86	\$9.88	\$9.96	\$29.69	\$4.78	\$4.78	\$4.83	\$14.39	\$44.08
PHA	\$2.40	\$2.40	\$2.40	\$7.20	\$1.60	\$1.60	\$1.60	\$4.80	\$12.01
Affordable Housing New Construction	\$2.94	\$2.94	\$2.94	\$8.81	\$1.81	\$1.81	\$1.81	\$5.43	\$14.24
TOTAL	\$15.19	\$15.21	\$15.29	\$45.70	\$8.19	\$8.19	\$8.24	\$24.62	\$70.32

DCEO Low Income Energy Savings

	Electric Savings (million kWh)				Natural Gas Savings (million therms)			
	Year 1	Year 2	Year 3	Total	Year 1	Year 2	Year 3	Total
Residential Retrofit	22.14	22.27	22.41	66.82	1.48	1.55	1.59	4.61
PHA	3.86	2.94	3.10	9.90	0.17	0.17	0.17	0.52
Affordable Housing New Construction	5.00	4.99	4.99	14.98	0.08	0.08	0.08	0.24
TOTAL	30.99	30.20	30.51	91.70	1.73	1.80	1.84	5.37

MARKET TRANSFORMATION

DCEO offers market transformation programs that are designed to ultimately make energy efficiency a standard practice in Illinois, as well as to test new approaches to energy efficiency in Illinois. Programs do this by focusing on the supply of efficiency (e.g., training energy efficiency professionals), the demand side (e.g., providing information to customers so that they actually want energy efficiency), and evaluating new cutting-edge technologies and approaches that can move the Illinois market to deeper levels of energy savings. DCEO plans to offer the following market transformation programs in the upcoming three-year cycle:

- Training & Education
- Data & Information
- Emerging Technologies

The market transformation programs support both the Department's and utilities' incentive programs in the short-term, by driving customers to them, and help ensure the long-term viability of EEPS and energy efficiency in Illinois overall by educating professionals and consumers.

Although DCEO does not have a statutory mandate to offer these programs (as it does with the public sector and low income) they are a unique fit for the Department, because it can offer integrated statewide initiatives, and these efforts are squarely in line with the broader mandate to drive economic development and job creation in Illinois. Additionally, because the market transformation programs work with professionals active in both the public and private sector markets, it is efficient for DCEO to administer such programs to the benefit of all sectors.

As discussed in the Plan Development section, based on preliminary feedback from stakeholders, the Department reached out to national energy efficiency expert LBNL, to determine if they might be willing to provide free technical assistance under their Electricity Policy Technical Assistance Program. Specifically we asked them to consider two key issues:

- Big picture: What should the Department's market transformation goals be? Are there models from other jurisdictions DCEO may want to look at? What steps could be taken to make this piece of the portfolio more strategic (e.g., market assessment)?
- Programs: What feedback do they have regarding Plan 3 programs? Are there programs from other jurisdictions that the Department doesn't offer but should be considered?

LBNL agreed and through this effort was able to consider DCEO's market transformation approach and programs and offered unbiased feedback that the Department feels positively impacted the Plan 4 portfolio.

Regarding the Department's previous market transformation work, LBNL found that previous plans had been aligned around the goal of providing technical assistance and education to support achievement of long-term energy goals in all sectors. Programs were focused largely on education energy professional and strategic energy decision-makers. Efforts were geared more toward achieving immediate (and to some degree, long-term) energy savings, but not interim market transformation metrics. Finally, LBNL found the Department's model for developing this piece of the portfolio to be somewhat ad-hoc/opportunistic, rather than systematic. LBNL recommended that we focus on the goal that most jurisdictions have aligned its market transformation work around: to make energy efficiency a standard practice. They also suggested that we consider a more systematic approach – including performing a more deliberate characterization of the market, and identifying specific strategies and tactics to support that market. Finally, they suggested that energy savings should not necessarily be the key near-term measure of success for these programs and that we should instead establish measureable, non-energy savings metrics. LBNL also had specific feedback regarding the market transformation programs being offered under Plan 3. They thought most of our initiatives were worth continuing (e.g., energy codes, building operator certification), but that they should be better focused on specific outcomes. They also suggested eliminating the Lights for Learning Program, which has since been adopted by the utilities.

This feedback was discussed at length with stakeholders, and as a result several adjustments are being proposed under Plan 4. First, the Department has shifted its overarching program goals, to

focus on long-term transformation of the Illinois energy efficiency market, and is realigning its work into the three key aforementioned areas of: training and education, data and information, and emerging technologies. Programs that were previously standalone initiatives in Plan 3 (e.g., Illinois Home Performance, energy savings performance contracting technical assistance) will now fall under one of these three umbrella programs. Additionally, some initiatives that fell under market transformation in Plan 3 have been shifted to other portions of the portfolio (e.g., Trade Allies to marketing, Assessments to public sector). This will allow DCEO to more strategically balance its support of the supply, demand, and technologies sides of the market, as well as articulate the desired outcomes of each individual initiative. Second, the Department has proposed not to claim savings for any of its market transformation programs but rather focus on non-energy metrics. Finally, leading up to the development of Plan 5, the Department will use a portion of its administrative budget to perform a market assessment, to continue to refine its market transformation work and make it truly strategic. Stakeholders were supportive of all of these proposals.

The proportion of budget dedicated to market transformation will be slightly lower in Plan 4 at 6.5%, down from 10%. This is in part to accommodate for the required increase to the low income budget, but also based on the reassessment and realignment of the market transformation programs. As several programs captured under the Plan 3 market transformation budget will be moved or eliminated, ultimately the programs that remain will see slight but not dramatic budget decreases in Plan 4.

As noted in the Plan Development section, due to the low income constraints in the People's territory, 0% of the Department's available People's budget can be allotted to market transformation. As discussed and agreed to by the utilities and stakeholders, the Department will use additional funding from its ComEd budget to make up the market transformation funding gap.

PROGRAM SUMMARIES

Training & Education

Under this program, the Department will train and provide technical assistance to professionals and students of the building and energy industries in energy efficient practices and educate them about energy efficient products and equipment. The ultimate goal is to develop the robust energy efficiency services market in Illinois necessary to achieving EEPS goals in future years. In the context of transforming the Illinois energy efficiency market, this can be considered the part of the portfolio that focuses on the "supply" side.

The Department will be responsible for overseeing the program and will partner with organizations, for implementation support, to train and provide technical assistance to the building and energy industries. Avenues for training and technical assistance will include but are not limited to: in-person workshops/conferences, multiday classes, webinars, and one-on-one consultations. The Department will solicit implementation support for four specific areas:

- Energy Codes: Building on work started under Plan 3, this initiative will continue to expand residential and commercial energy codes training and technical assistance

opportunities in Illinois, to improve code compliance. The Department will collaborate with fellow Program Administrators to develop resources, provide jurisdictional assistance and training, and offer rebates for third party plan reviewers and inspectors.

- Building Operator Certification (BOC): Continuing work supported in Plan 3, BOC is a nationally recognized, competency-based training and education program. The purpose is to provide building operators with the tips and tools needed to maximize efficiency, reduce energy usage, and improve comfort through no- to low-cost operations and maintenance strategies. Topics include HVAC systems and controls, facility electrical systems, efficient lighting fundamentals, energy conservation techniques, and indoor air quality.
- Energy Savings Performance Contracting (ESPC) & Clean Energy Finance: Energy savings performance contracting, and other forms of clean energy finance, are widely accepted mechanisms for advancing energy efficiency projects, but are underutilized tools in Illinois, particularly among public sector and low income entities. This area will focus on providing training, one-on-one technical assistance, and resources (e.g., templates) to help facility owners/operators leverage ESPCs. The Department will also consider proposals that would help entities take greater advantage of other financing tools, such as bonds or property-assessed clean energy.
- Design Assistance: This area will focus on work the Department has supported for many years, to provide in-depth building analysis and implementation support to architects, engineers, and facility developers/owners/operators. In particular, the emphasis will be on assistance to use integrated design practices, to construct buildings at least 30% more efficient than State code, all the way up to net zero.

These areas have been identified as high priority needs in the Illinois energy services market. The Department will also accept proposals for additional areas of focus, as barriers and/or opportunities are identified.

Data & Information

The purpose of this program is to provide the data and information necessary for customers to want to take action to save energy. The ultimate goal is to develop the robust customer base for energy efficiency services in Illinois necessary to achieving EEPS goals in future years. In the context of transforming the Illinois energy efficiency market, this can be considered the part of the portfolio that focuses on the “demand” side.

The Department will be responsible for overseeing the program and will partner with organizations, for implementation support, to provide energy data and information to Illinois residential, commercial, industrial, public sector, and low income customers. Avenues for providing this support include but are not limited to: development of resources, in-person workshops/conferences, webinars, and one-on-one consultations. The Department will solicit implementation support for three specific areas:

- Benchmarking Policy and Implementation Support: This initiative will focus on supporting public sector entities that adopt and implement benchmarking policies, which in turn drive demand for energy efficiency, particularly in the public and commercial building sectors. Activities may include: development of policy and/or data collection templates and other resources, workshops, and one-on-one technical assistance.

Assistance will be provided strategically, to assist a diverse cross-section of Illinois public sector customers, which then can serve as models for fellow entities. Activities may also include support for evaluating the energy savings impacts of benchmarking policies.

- Home Performance with Energy Star: Continuing work supported in Plan 3, Home Performance with Energy Star works with qualified contractors to take a “whole home” approach to energy upgrades, and provides certificates to homeowners to document the value of the work they’ve done. This work is in part to train contractors, but also importantly to drive residential customers to want whole home retrofits by providing them with information on the value of these projects. This includes documentation which can be used in the resale of the home. The Department will provide statewide support for the administrative aspects of this initiative. This area of work may also include training for and collaboration with realtors and the appraisal community, to ensure these influencers of residential customers understand and can appropriately communicate the value of energy efficiency.
- Low Income Customer Education and Data: In coordination with the Department’s low income incentive programs, in this plan cycle, the Department will also offer opportunities for greater energy efficiency customer engagement and education. The purpose is to ensure customers understand the value of energy efficiency, technologies being deployed, and best practices for residents – with the ultimate goal of leading to long-term positive behavior change. Activities may include development of educational materials, dissemination through workshops/conferences, and one-on-one consultations. The Department will also consider proposals that leverage tools to help low income customers better understand and manage their energy consumption.

These areas have been identified as high priority needs in the Illinois energy customer base. The Department will also accept proposals that focus on other customer segments, as barriers and/or opportunities are identified.

Emerging Technologies

The purpose of this program is to identify and evaluate emerging electric and gas energy saving products, equipment, and integrated solutions, and assess their suitability for future use in public buildings and low income applications. Once validated, these technologies will be incorporated into the Department’s public sector and market transformation programs. The ultimate goal is to provide these sectors access to cutting edge solutions, with less risk and more certainty. This work will be coordinated with that of other Program Administrators to ensure we are not duplicating efforts and findings from assessments are shared.

This program will assess commercially-available, but underutilized, energy efficient electric and gas products and practices, for use in public and low income buildings. Although the target market for the technologies will be the public and low income sectors, the Department expects that the evaluations conducted under this program will be able to be leveraged by the other Program Administrators as well. DCEO will utilize the following process for screening, prioritizing, evaluating, and supporting emerging technologies:

- Outreach to solicit emerging technology applicants
 - Marketing to Trade Allies, trade associations, implementers, manufacturers and utility

- personal
- Web-based portal for applications
- Technology selection process
 - Technical experts
 - Consultation with fellow Program Administrator emerging technology leads
 - Selection committee
- Measurement and verification or other program support
 - Assessment of existing deployment information
 - Installation, energy efficiency performance validation
- Post-validation technology deployment activities
 - Sharing results with fellow Program Administrators and SAG
 - Education to stakeholders and contractors
 - Moving technologies to Department’s public and low income incentive programs

The Department will be responsible for overseeing the program and will partner with a competent, professional, and experienced emerging technologies organization for implementation support.

DCEO Market Transformation Budget (millions)

	Electric				Natural Gas				Total Mkt. Trans
	Year	Year	Year	Total	Year	Year 3	Total		
Training & Education	\$1.75	\$1.75	\$1.75	\$5.26	\$0.45	\$0.45	\$0.45	\$1.35	\$6.61
Data & Information	\$0.68	\$0.68	\$0.68	\$2.04	\$0.15	\$0.15	\$0.15	\$0.45	\$2.49
Emerging Technologies	\$1.49	\$1.49	\$1.49	\$4.46	\$0.37	\$0.37	\$0.37	\$1.12	\$5.58
TOTAL	\$3.92	\$3.92	\$3.92	\$11.76	\$0.97	\$0.97	\$0.97	\$2.92	\$14.68

SELF-DIRECTING & EXEMPT CUSTOMERS

Under the natural gas statute, DCEO is also responsible for administering the part of the EEPS portfolio that allows large gas users to be designated as “Self-Directing Customers” (SDCs) or “Exempt Customers.” In order to receive SDC designation, customers must apply to DCEO, and once approved must: 1) create an energy efficiency reserve account equal to the lesser of 2% of the customer’s cost of gas or \$150,000 annually, 2) use such funds to undertake energy efficiency measures, and 3) annually report to DCEO on expenditures and energy savings. Large users that use 60% or more of their natural gas as a feedstock may also apply to DCEO for designation as an Exempt Customer, meaning that they are exempt from the natural gas efficiency portfolio entirely.

Summary of Self-Directing/Exempt Customers

Under Plan 3:

- 35 large gas users were active Self-directing Customers (SDCs)
- 2 large gas users are Exempt Customers
- In total, an estimated 770 million therms were exempted from the Natural Gas Efficiency Portfolio, or about 8% of total throughput for the affected utilities.

- 1 new large energy user has been approved to become an SDC under Plan 4, starting on June 1, 2017

Self-Directing Customer Results from Gas Program Years 1-4

At the direction of the Commission, under Plan 3, DCEO began to use EEPS administrative funds to commission more comprehensive reviews of the results of the Self-Direct Program.

First, the University of Illinois at Chicago's Energy Resources Center (ERC) conducted an engineering review of the reports submitted by SDCs during the first two years of the Program – Gas Program Years (GPY) 1 and 2. This review showed mixed levels of compliance among SDC customers. The 30 reports reviewed showed that most did not 100% comply with the requirements; however, site verifications showed that 100% of the projects selected via a random sampling were actually implemented. While given the level of review it was not possible to verify the savings claimed, it was estimated that the program led to about 24 million therms saved, with expenditures of \$19 million from the SDCs, during the first two years. ERC is currently performing a similar review for GPY3.

One of the recommendations from the ERC report was that DCEO should develop a standardized reporting template. This was proposed to help the SDCs identify the data required and how to properly report both financial and energy efficiency information, as well as help DCEO (or a designated reviewer) identify the information reported and easily identify missing data. In response, DCEO did develop a template and provided it to all SDCs for use in GPY4 forward.

Additionally, to further explore the question of the reasonableness of savings claimed, for GPY4 results, the Department's evaluator, ADM, conducted an engineering desk review to determine:

- Do the projects implemented by the SDCs consist of energy savings measures?
- Are the project energy savings claims reasonable?
- Is the degree of uncertainty associated with the energy savings claims reasonable?
- Is there any indication that the implementation of measures either does not result in energy savings or increase energy consumption?

ADM determined that 22 of the 35 SDCs claimed energy savings and provided sufficient documentation. 20 of the 22 SDCs with claimed savings were found to be reasonable. ADM determined that 95% or 5,009,043 therms of claimed savings were reasonably certain savings. ADM has recommended that the Department: (1) provide guidance to SDCs on the definition of energy efficiency under Section 8-104(b) and definition of natural gas energy efficiency measures, and (2) advise SDCs not to use funds for purposes other than the implementation of natural gas energy efficiency measures. These recommendations were made to address issues with two specific SDC reports, which contained information on measures that did not result in natural gas energy savings.

Self-Directing/Exempt Customers in Plan 4

As noted above, one additional company has been approved to become a self-direct customer for the next planning cycle, raising the total number of self-direct customers to 36. The independent evaluator will also continue to conduct an engineering desk review of the annual reports over the next planning cycle and provide estimates of reasonable energy savings. Finally, the Department

is developing program guidelines that will provide more direction on eligibility criteria, reserve account requirements, criteria for natural gas energy efficiency measure eligibility, process for withdrawing from the program or for revoking self-direct status, and reporting requirements. These program guidelines will be finalized before the beginning of the next planning cycle.

ADMINISTRATION

There are two critical changes the Department is making on the administrative end that will not directly impact the budget but will greatly improve the efficiency and stability of its programs:

- First, under Plan 3, the Department has already moved from single-year agreements with program implementers to two-year agreements. This has been very helpful, as it has allowed for less administrative burden on DCEO staff and implementers and greater program continuity. Building off this success, and after internal deliberations with Department leadership, DCEO will offer three-year agreements, where appropriate, to implementers under Plan 4. Implementers will continue to be monitored and reassessed each year, but establishing three-year agreements will reduce the time spent on procurement even further, so that the focus will be on implementing strong, stable programs rather than red tape.
- Additionally, since Plan 1, due to internal accounting challenges and utility requirements, the Department has had to establish separate agreements for each pot of utility funding going to a program implementer or customer. For example, although DCEO may work with the same third-party implementer to offer its Assessments Program statewide, it has had to establish six separate agreements for ComEd, Ameren Electric, Ameren Gas, Nicor, Peoples, and North Shore. This means the time for the Department to execute and monitor what should be a single agreement is greatly increased, as well as the time for a recipient to manage and report that work. However, over the course of Plan 3, DCEO staff has worked with leadership and fiscal management, to institute a process whereby more than one utility fund can be combined under a single agreement. Spending, savings, and other critical metrics will continue to be tracked by utility, but from a paperwork standpoint having this all under one agreement will save a great deal of time.

Both of these no-cost measures will be instituted with the beginning of Plan 4 and save DCEO staff and implementers countless hours.

Beyond these changes, DCEO will utilize approximately 8% of its EEPS budget to cover non-program costs of the portfolio, including: evaluation, marketing, and portfolio administrative costs (e.g., personnel, travel, planning).

Evaluation, Measurement & Verification

As it did under Plans 2 and 3, for Plan 4, DCEO will conduct its own procurement for evaluation, measurement, and verification (EM&V). As was addressed in the Plan 2 dockets, the Department operates independent, integrated gas and electric programs statewide, which should not be evaluated by more than one contractor. Doing so is inefficient and burdensome for the State and stakeholders, and it would also very likely lead to inconsistent treatment. Further, the

State has strict procurement regulations and complicated accounting systems. It is much more straightforward for the State to contract its own evaluator, than attempt to partner with a utility or multiple utilities. Finally, DCEO believes that by continuing to have its own EM&V team, program feedback will be timelier and will assist in more effectively assessing its market needs. This will better guide decision making in program design elements, like incentive levels, customer requirements, and targeted marketing.

That said, it is important to note that although the Department will execute a contract with its own evaluator, EM&V will be conducted through the same general process as the other Program Administrators, following the protocols outlined in the Act, the Illinois Energy Efficiency Policy Manual, and other related documents. The procurement of the third-party evaluator will be done with the advice and input of the Commission and SAG, and once a contract is executed, the Department would continue to work closely with the SAG regarding the evaluation direction, tasks, results and findings.

In accordance with Section 8-104(f)(8) and the Policy Manual, in addition to annual EM&V reports, DCEO will continue to provide in Plan 4 quarterly status reports, which track implementation of and expenditures for its portfolio of measures.

Additionally, it should be noted that for the first time, DCEO will use a prospective net-to-gross (NTG) approach in Plan 4. In previous plans, the Department requested and the Commission approved the use of a retrospective NTG ratio, which accounted for real world variables and actual results. However, as fellow Program Administrators have found, it also makes it incredibly difficult to track progress toward savings goals and manage the risk of not meeting those goals. To mitigate that risk and better ensure savings goals are met in Plan 4, DCEO will adopt the NTG Policy described in Section 7.2 of the Policy Manual. This includes the formal development of Public Sector and Low Income Residential NTG estimates.

DCEO intends to spend up to the 2.5% of its electric and natural gas budgets for EM&V. Although statute allows for up to 3% of the budget to go toward evaluation, the Department believes that it can keep these costs down – including by streamlining public sector programs and no longer claiming savings for the market transformation programs – to maximize program dollars.

Marketing

DCEO's marketing plan involves five main components: 1) continuing to unify branding, 2) enhancing the existing online presence, 3) maintaining a call center, 4) expanding and leveraging the Department's trade ally network, and 5) conducting proactive outreach to target market segments.

During Plan 3, the Department has begun to unify its programs under the brand Illinois Energy Now. This includes maintaining a unified Illinois Energy Now customer list, distributing a monthly email newsletter, and using the Illinois Energy Now logo on much of its marketing and application materials. Under Plan 4, DCEO will integrate this branding into all program and marketing collateral, and continue to grow the newsletter, to provide clarity to the marketplace that these programs are offered as a part of one coordinated portfolio.

Since Plan 1, the Department's Office of Energy & Recycling webpage has advertised our EEPS programs, including incentives and services, as well as provided links to fellow Program Administrators. Many implementation partners, including the University of Illinois' Smart Energy Design Assistance Center (SEDAC) and University of Illinois at Chicago's Energy Resources Center (ERC), have also played a key role in promoting specific programs and success stories online. Under Plan 3, DCEO began to consider developing a more user friendly portal for all Illinois Energy Now Programs, and during the plan development process SAG members also suggested it would be useful to have a single site that could be used to direct Illinois customers to all available energy efficiency programs, depending on what type of entity they are and location – particularly for low income customers. Although utilities bristled at reinventing the wheel, when many of them have already invested significant resources into developing their own sites, all parties agreed that a very simple landing page, which could direct customers to the appropriate programs, could be useful. Under Plan 4, the Department will use a portion of the marketing budget and work with utilities and stakeholders, to update the Illinois Energy Now Program site to serve as a central web portal for all EEPS resources. This will include a section dedicated specifically to low income customers, to help them navigate the increased resources and programs being offered across Program Administrators in this plan cycle.

Despite web resources, many customers ultimately still like speaking one-on-one with a customer service representative. Like its fellow Program Administrators, the Department maintains a toll-free call center where customers can get easy answers to their questions about Illinois Energy Now public sector, low income, and market transformation programs. This call center will be maintained in Plan 4.

In addition to these marketing resources, DCEO will support two channels of outreach. First, the network of trade allies has proven to be an invaluable resource over the last 5 years of the Department's programs. Beginning in 2011, DCEO began to develop its own trade ally network, to complement those of the utilities, focusing specifically on contractors, engineers, architects, energy service companies, wholesalers, distributors and retailers, working specifically in the public sector. This Trade Ally Network has grown to well over 300 trade allies, and each year DCEO hosts two trade ally rallies, two vendor workshops and multiple webinars and luncheons throughout the year, to promote its programs and connect allies with potential customers. DCEO credits a great deal of the increased program participation by the public sector to the success of the trade ally network. Under Plan 3, DCEO has already begun to expand the network to energy professionals working in the low income sector, and in Plan 4 will be specifically focusing on this segment of the market.

Finally, to complement the trade ally network, the Department also supports targeted outreach to specific segments of the markets it serves. Targeting outreach to segments of the public and low income markets is critical, because the facilities can vary widely among these markets. With a very large number of customers, without uniform needs, it's important to focus on particular areas of opportunity. For example, under the current plan cycle, the Department hosted a workshop for Illinois wastewater treatment facilities managers and operators, to provide education and promote new clean water incentives. Also, while some segments are now very familiar with the benefits of energy efficiency and the Illinois Energy Now programs (e.g., K-12 schools), others lag behind, and

it's important to get those unserved segments the information and support. In these cases, it is often useful for DCEO to find customers where they already are, rather than hosting its own conferences and meetings for these purposes – for example, annual meetings of Illinois parks and recreation officials or public housing authorities. This is particularly key given the budget constraints of the markets the Department serves.

DCEO will allocate 1% of its total electric and gas budget to marketing costs.

Portfolio Administrative

The remaining 4.5% of the Department's budget will go toward portfolio administrative costs, including: personnel, travel, information technology (IT) support, and three-year planning.

A portion of the Portfolio Administrative budget covers staff members of the Department's Office of Energy & Recycling that administer and monitor its EEPS programs. Although DCEO will use third-party implementers for some of its programs, several are implemented in-house, and all are closely managed by DCEO staff. This portion of the budget also covers all EEPS-related legal, fiscal management, and program/project monitoring support. Program and project managers are expected to perform desk monitoring and to randomly perform site visits to ensure quality assurance. Site visit criteria are as follows:

- EEPS grants (over \$150,000 in incentives) – all projects receive a site visit,
- Large rebates (\$10,000 to \$149,999) – 25% of the total number of projects receive a site visit, and
- Small rebates (up to \$10,000) – up to 10% of randomly selected projects receive site visits.

Additional travel costs covered under this portion of the budget include trips to represent the Department at SAG meetings and marketing events.

DCEO's IT needs are also covered under this share of the budget, including maintaining its EEPS customer database and potentially procuring additional data analytics support. Since 2011, the Department has used an EEPS database to process, track, and manage elements of its portfolio. This database has been updated twice, most recently under Plan 3, to better estimate and track energy savings and to fully integrate the full portfolio of programs. Under Plan 4, this system will be updated again to incorporate an online application process. This is anticipated to be available to public sector customers in Year 1 and low income customers in Year 2.

New under Plan 4, the Department would like to begin to better leverage energy data analytics, for planning and implementation purposes, by procuring one of the many tools that have emerged in the market over the last several years, (e.g., FirstFuel, Ecova, or EnergySavvy). This will help DCEO better target and market programs, as well as offer more advanced services to customers, just as fellow Program Administrators already do. That said, in order for a data analytics tool to be most effective, the Department will need access to, for each of the utilities, customer billing and energy usage data, without individual customer consent. DCEO believes that, as a fellow Program Administrator, this is an appropriate request, and it has precedent in several other states, but understandably the utilities have raised several concerns in related discussions of the last year. The Department believes it will ultimately be necessary for the

Commission to weigh in on and resolve this issue – discussed in further detail below – but in the meantime, the Department commits to explore, during Plan 4, the value of using data analytics tools in the implementation of EEPs, including engaging SAG stakeholders and Staff on the design and assessment/of the initiative. Any new analytics tool will be supported under the Portfolio Administrative budget.

Finally, developing the Department’s next plan – Plan 5 – will be supported under this portion of the portfolio budget, in Year 3. This will include the statutorily required update to DCEO’s potential study, as well as savings and cost-effectiveness analysis, and other general plan development support.

ACCESS TO UTILITY DATA

As noted above, under Plan 4 the Department, as a fellow Program Administrator, would like to have access to customer billing and energy usage data without individual customer consent, for each of the utility territories. DCEO believes that this is appropriate, so that it can take advantage of analytics to better target and market our programs, as well as offer better services to our customers, just as our fellow Program Administrators are able to do.

Other state public utility commissions have agreed. In 2012, the national State & Local Energy Efficiency Action (SEE Action) Network, which is facilitated by the U.S. Department of Energy and U.S. Environmental Protection Agency, published "A Regulator's Privacy Guide to Third-Party Data Access for Energy Efficiency."⁴ This report looked at the current landscape of state policies, to inform state regulators about issues and policy options related to providing information held by utilities that can be used to support and enhance provision of energy efficiency services and protect customer privacy. The report notes that, "For states with a third-party energy efficiency program administrator, the general approach has been for the PUC or legislature to establish the rules for sharing customer data prior to program activities (e.g., VT) or to negotiate data access between the utilities and the third-party administrator (e.g., WI)." In both of these cases, the third-party program administrator has access to all customer billing and energy usage data, without consent required.

As neither the Illinois General Assembly nor the Commission has previously addressed this issue in statute or Order, over the last year, through the SAG, the Department has begun a dialogue with the utilities and stakeholders regarding whether or not it would be feasible to establish a framework for DCEO to gain access to public sector and low income customer data. Two key types of challenges have been identified in these discussions – legal and technical. On the legal side, understandably, many of the utilities are concerned about issues such as privacy and related Orders that they have received from the Commission. DCEO agrees that privacy is a critical concern that needs to be carefully considered, but several states have found ways to resolve this issue, in order to share data among Program Administrators. The SEE Action report highlights and reviews various approaches states have taken to addressing privacy concerns, including liability/penalties for violating state privacy policies. With regards to technical challenges, the Department acknowledges that even after privacy

⁴ https://www4.eere.energy.gov/seeaction/system/files/documents/cib_regulator_privacy_guide_0.pdf

issues are resolved, there will be practical issues that need to be addressed for each of the utilities. For example, utilities tag data differently and some do not already have segregated data sets for all of their low income customers that they can easily share. However, the Department would be more than happy to work with each of the utilities, to identify what can be reasonably shared. Also, the SEE Action report reviews approaches states have taken for cost recovery on the part of the utilities for data sharing, and the Department would be happy to discuss that as well.

That said, it appears from the discussions over the last year that some of the utilities are not comfortable negotiating a Program Administrator data-sharing framework within the SAG. Thus, the Department believes that it is necessary and respectfully requests that the Commission weigh in on the issue. Specifically, DCEO requests that the Commission find the Utilities shall permit access to customer energy usage and billing information, for the Department's planning and implementation of public sector and low income programs, similar to the controlled and secured access provided to the utilities' energy efficiency program vendors.

CONCLUSION

DCEO has approached the planning and implementing of this three year plan using solid data from: previous program year evaluations, piloting various programs, the Department's Energy Efficiency Potential Study, and extensive program modeling. It has also gotten robust input from the SAG, Department staff, and program implementers. DCEO has found that through these processes, it has built a strong portfolio, starting with its core programs and adjusting and adapting them, to achieve the maximum of energy savings potential.

DCEO respectfully requests the Commission to approve DCEO's portion of the Portfolio and the energy efficiency programs as presented in this plan.

