



Ameren Illinois 2014-2017 Preliminary Portfolio Modeling

Illinois Stakeholder Advisory Group

April 30, 2013

Introduction

Purpose of the presentation is to provide the IL SAG with preliminary portfolio modeling and to collaboratively address opportunities for Ameren Illinois's (AIC) Plan 3 portfolio, spanning June 1, 2014 through May 31, 2017.

▶ Agenda

- Key Planning Assumptions
- Key Modeling Points
- Key Program Challenges
- Portfolio Overview
- Program Budget, Savings, and TRCs
- IPA Bid Summary

Important AIC Portfolio Notes and Caveats

All Presented values, programs, and measures are DRAFT, PRELIMINARY, AND SUBJECT TO CHANGE

- ▶ All TRCs, Budgets, and Savings are still in the planning phase and will be adjusted (some significantly) after further input and evaluation
- ▶ When designing Plan 2, similar information was provided at the August 2010 SAG
 - Preliminary programs and information is being provided at this point to provide stakeholders with an adequate comment period

Key Planning Assumptions

AIC Key Planning Assumptions 2014-2017

Some Similarities, but Many Changes from Plan 2

- ▶ Consistent with the current AIC Portfolio
 - Cost Effectiveness Tests
 - Diversity of Programs
 - Residential and Business Portfolios
 - Integrated Dual Fuel Portfolio
 - Use of Prime Implementer Model
 - Leverage success of previous Cycle
 - **ActOnEnergy**
 - Potentially decreasing NTGR for modeling many programs
 - Maximize savings within Budget Cap constraints

AIC Key Planning Assumptions 2014-2017

Some Similarities, but Many Changes from Plan 2

- ▶ Changes from Plan 2 Modeling
 - Use of BENCOST
 - Open source cost-effectiveness model originally developed for the state of Minnesota.
 - AEG uses the BENCOST framework/skeleton and customizes the model for each utility
 - Use of Illinois TRM for measure assumptions
 - Potential % of Funding between Residential and Business Programs
 - Currently approximately 50/50 split (presented today), potentially increase Business due to lower cost per energy saved and levelized costs
- ▶ Adding Emerging Technology budget

AIC Key Planning Assumptions 2014-2017

Some Similarities, but Many Changes from Plan 2

- ▶ Today's proposed percent of Plan 3 throughput is higher than Plan 2:

	MWH	Therms
Plan 2	0.72%	0.39%
Plan 3	0.86%	0.62%

Throughput increases with inclusion of IPA

Using AIC proposed savings 04/30/2013 and DCEO target savings

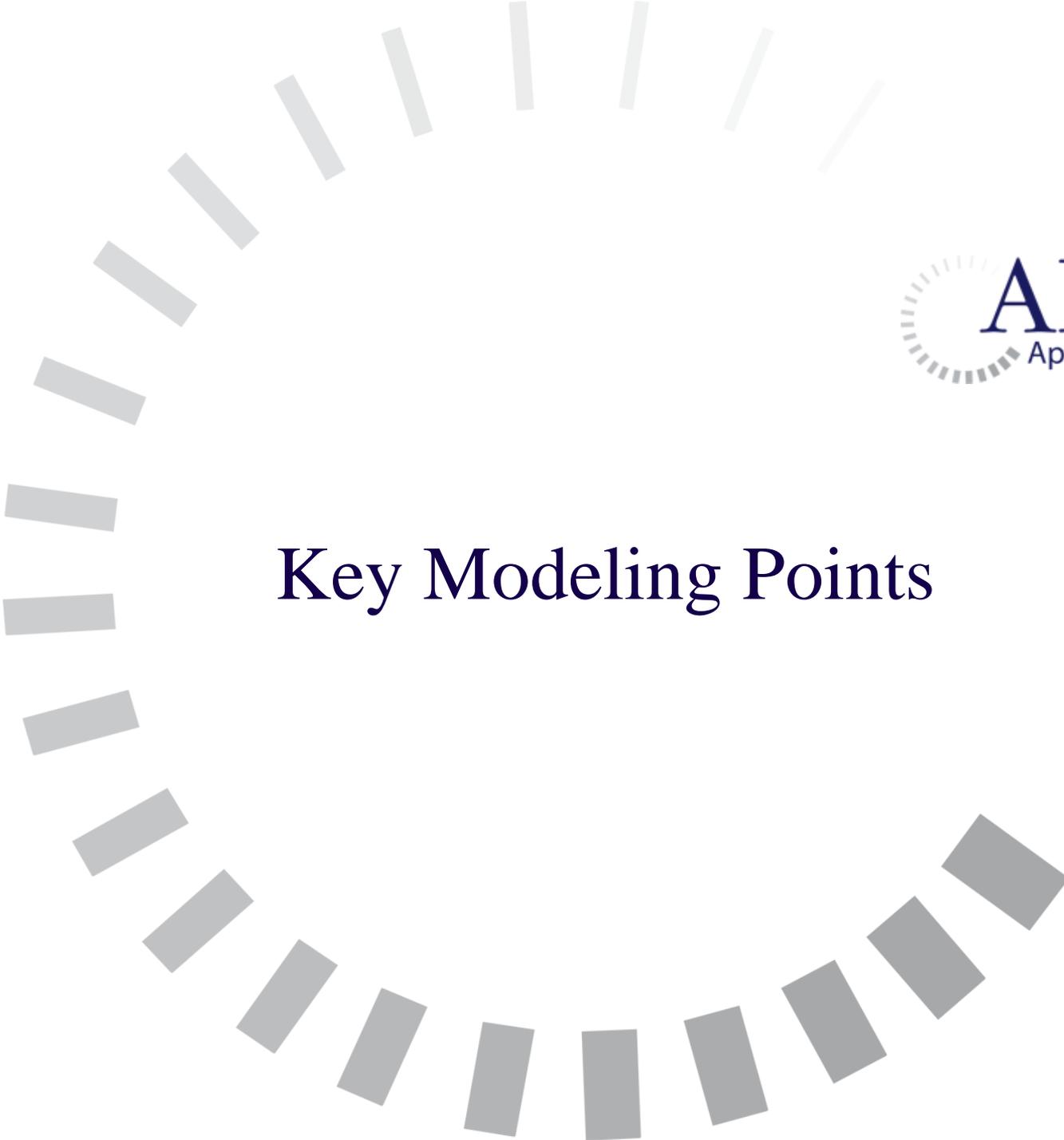
Plan 3 MWH Statutory: 1.8%, 2.0%, 2.0%

Plan 3 Therm Statutory: 0.80%, 1.0%, 1.2%

AIC Key Planning Assumptions 2014-2017

Some Similarities, but Many Changes from Plan 2

- ▶ IPA programs
 - Were not present until late Plan 2
 - All effectively removed from 8-103:
 - Small Business
 - All Electric Homes
 - Specialty CFLs
 - Unsure of these impacts

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Key Modeling Points

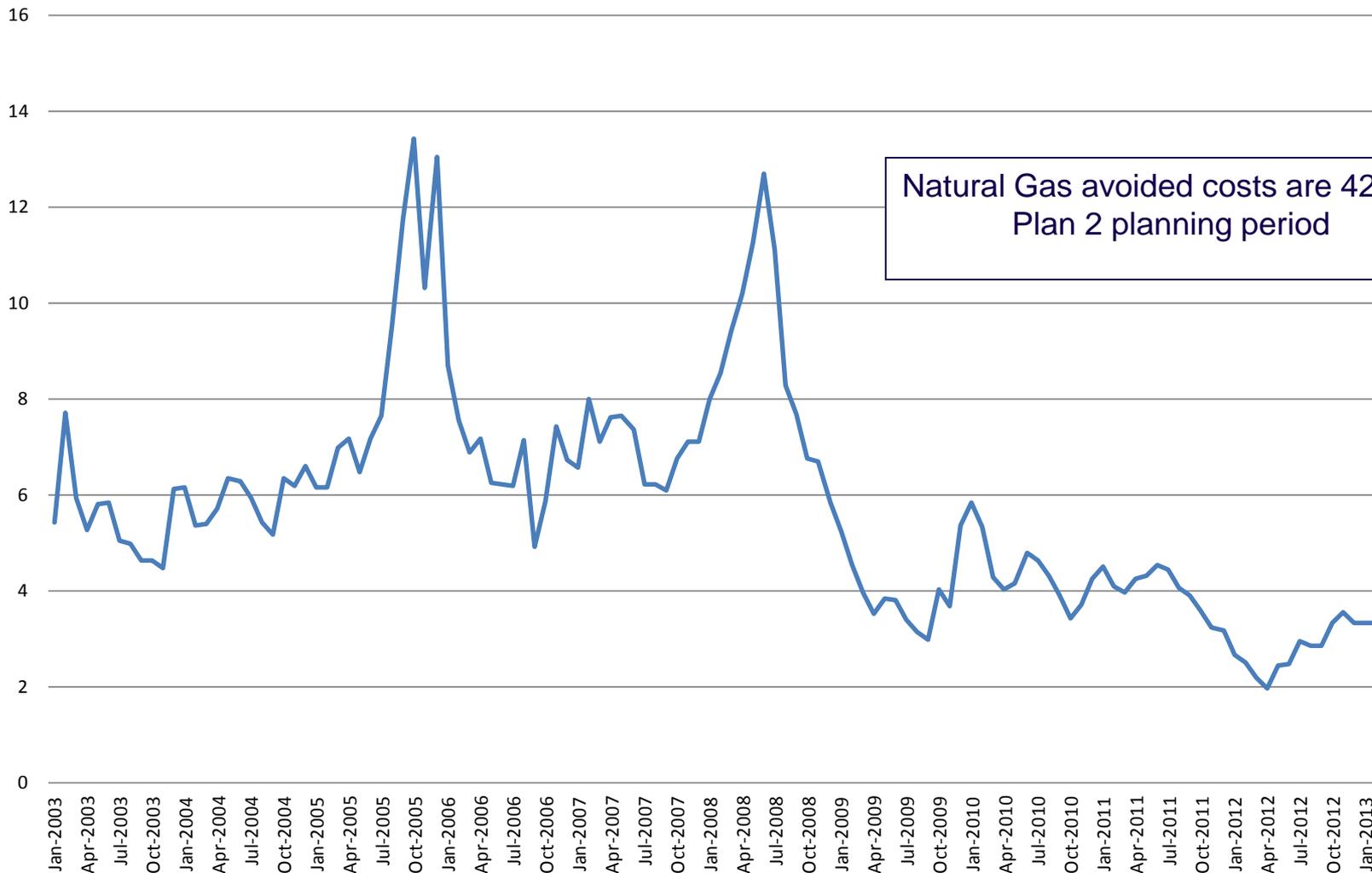
Key Modeling Points

Many factors have resulted in diverging preliminary results from Plan 2.

- ▶ Decreased Avoided Costs from Plan 2
 - Avoided Electric Energy: 32% reduction
 - Avoided Electric Capacity: 56% reduction
 - Avoided Gas Energy: 42% reduction
- ▶ Decreased natural gas funding limits dual fuel measures/programs in addition to already existing gas vs electric budget limitations;
 - \$45 million for electric vs \$11 million for gas annually
 - Gas has **75% less** funding thereby limiting dual fuel measures/programs
 - Remodeled already for applying higher incentive costs to electric rather than gas (70% electric/30% gas)

Decreased Natural Gas Prices

10 Year Henry Hub Natural Gas Spot Price (\$/MMBTU)



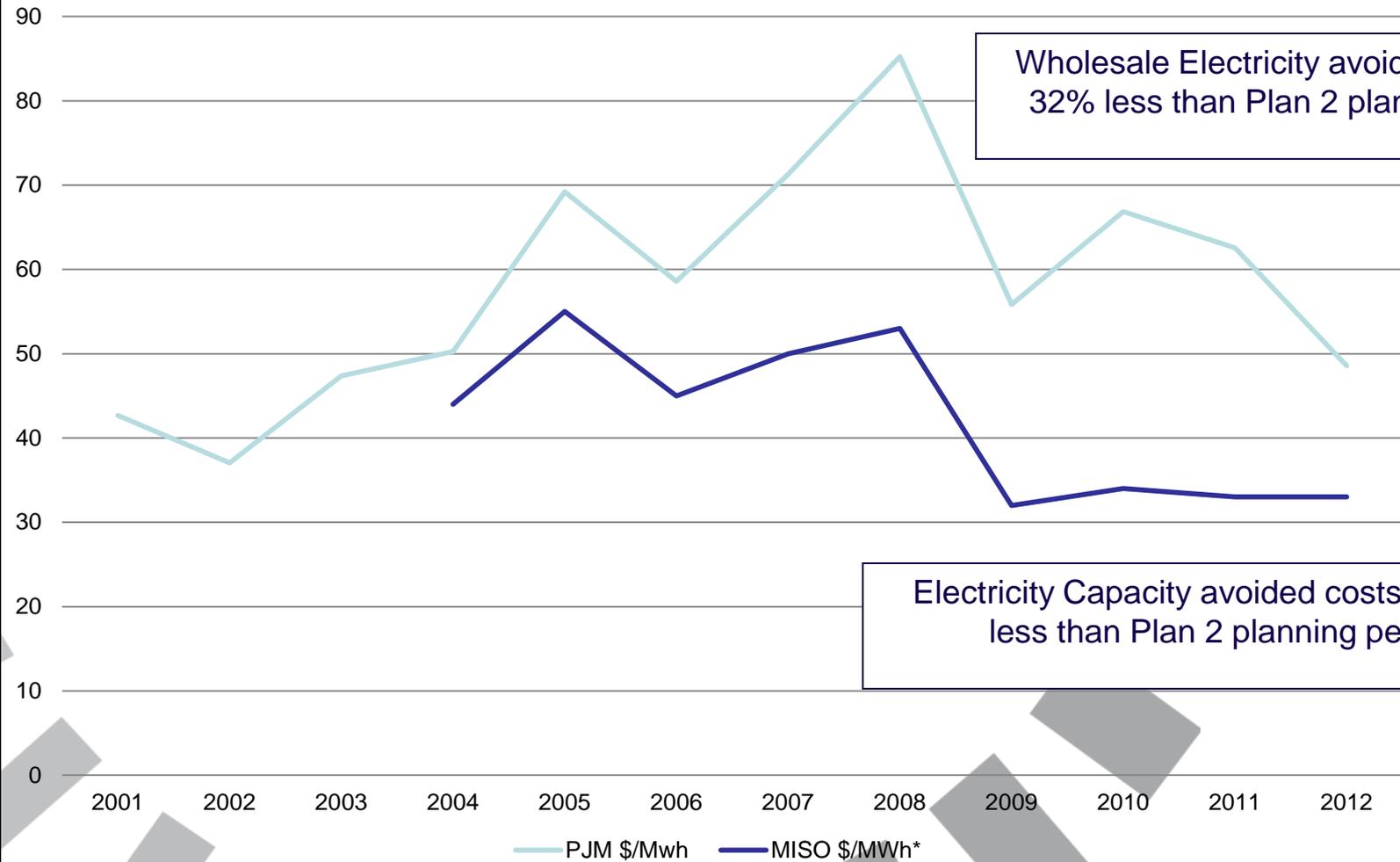
Natural Gas avoided costs are 42% less than Plan 2 planning period

Henry Hub Gulf Coast Natural Gas Spot Price (\$/MMBTU)

Data Source: Energy Information Administration

Decreased Wholesale Electricity Prices

PJM vs. MISO Wholesale Electricity Prices



Wholesale Electricity avoided costs are 32% less than Plan 2 planning period

Electricity Capacity avoided costs are 56% less than Plan 2 planning period

Data Source: PJM and MISO State of the Market Reports

Key Modeling Points

Many factors have resulted in diverging preliminary results from Plan 2.

- ▶ First year cost per energy saved and levelized costs have increased from Plan 2 from:
 - Decreased avoided costs
 - Lower NTGRs
 - Increased baselines due to codes and standards (resulting in decreased savings)
 - Increased incentive levels
- ▶ Changes in lighting markets (both residential and commercial)



Program Challenges

Preliminary Portfolio Program Summary Based on Plan 2



Residential Energy Efficiency Programs	
Lighting	Offers rebates to residential customers to purchase only standard CFLs.
Residential Energy Efficiency Program (REEP)	Offers rebates to residential customers to purchase programmable thermostats, water heaters, air purifiers, and smart power strips.
HVAC	Residential customers receive rebates to purchase and install efficient central air conditioners, air source heat pumps, blower motors, furnaces and boilers.
Appliance Recycling	Residential customers receive rebates for recycling older, inefficient refrigerators or freezers.
Home Energy Performance (HEP)	Residential customers receive direct install CFLs, showerheads, and aerators and/or rebates for air sealing and insulation.
ENERGY STAR New Homes	Offers financial incentives to construct or design new or preexisting homes according to ENERGY STAR new homes certification standards.
Multi-family	Offers direct install measures to residential customers in apartment and condominium complexes of programmable thermostats, CFLs, faucet aerators, and showerheads.
Behavioral Modification	Engages residential customers through monthly reports that summarize their energy use and encourage them to make energy efficiency improvements targeted at highest use customers.
Moderate Income	Income-qualified residential customers receive direct install CFLs, showerheads, and aerators and/or higher than average rebates for air sealing, insulation, heating equipment, and cooling equipment.
Business Efficiency Programs	
Standard Incentive	Provides rebates to C&I customers to purchase and install energy efficient lighting, heating and cooling equipment, refrigeration, cooking equipment, and other high efficiency products.
Custom Incentive	Provides rebates to C&I customers to purchase and install cost-effective efficiency measures that are not included in the standard incentive program.
Retro-commissioning	Offers financial incentives to C&I customers for cost-effective energy optimization of facility operations and processes.

Lighting Market Changes

Lighting provides a significant contribution to program savings, but impacts are greatly reduced from Plan 2 due to:

- ▶ Continued impacts of EISA
- ▶ The current and decreasing Residential Lighting NTGR
- ▶ CFL Saturation in the AIC service territory

Impacts of EISA on Lighting Market

The impacts of EISA were first realized during the latter stages of Plan 2, but the full impact of EISA will be seen during the entirety of Plan 3.

- ▶ Restrictions of 40W Incandescent bulbs are implemented in 2014
 - 100W and 60W standards will already be in place
- ▶ Causes a 'Mid-Life Baseline Adjustment' to savings as prescribed in the Illinois TRM
- ▶ Due to increasing baselines, measure lifetime is reduced in PY8 and PY9
- ▶ Net Savings will decrease with EISA's continued implementation
 - Majority of program sales are 60-watt equivalent CFLs, causing a significant savings impact for PY7
- ▶ In-Service Rate adjustment based on installation year
 - Carryover savings

Residential Lighting NTGR

The current Residential Lighting program NTGR is approximately 30% lower than NTGR used for Plan 2 planning. :

- ▶ Most recently evaluated NTGR for AIC Residential Lighting program is 44%
 - Plan 2 planning NTGR values were 62-64%
 - Assuming 0.44 here for Y7 and declining to 0.36 for Y9
- ▶ Significant leakage in AIC service territory: 11% of discounted bulbs purchased by non-AIC customers
- ▶ NTGR expected to decrease in coming years due to:
 - Continued implementation of EISA
 - Increased saturation of CFLs
 - Leakage in AIC service territory

Residential Lighting Saturation

Residential CFLs have increased in AIC's service territory, decreasing the potential program savings.⁽¹⁾

- ▶ CFL's comprise 33% of bulbs installed in the average AIC service territory home
 - 25% CFL Saturation in 2010
- ▶ 93% penetration rate in AIC service territory
 - 87% CFL Penetration in 2010
- ▶ LED purchases unlikely to compensate for EISA impacts
 - 62% of AIC customers stated they were unlikely to purchase LEDs due to high barriers

(1) Per AIC ODC EMV 2012 on site visits and reports

Key Factors

Key factors impacting the development of Plan 3 programs and portfolio.

- ▶ Changes in NTGR
- ▶ Advancements in technology
- ▶ Pilot program results
- ▶ IL TRM updates and modifications
- ▶ State of economy in Illinois
- ▶ IPA program impacts
- ▶ Pending baseline shifts
- ▶ Low cost of energy discourages EE investment by residential and business customers especially without having a short term payback
 - Most businesses require 3-5 years payback to make investment



Portfolio Overview

Increasing Costs per Energy Savings and Levelized Costs

Cost per Energy and Levelized Costs have increased from Plan 2. The main factors for the increase are:

- ▶ Greatly reduced savings from Residential Lighting due to changing standards and reduced NTGR
- ▶ Baseline Shifts
 - RES: CACs, furnaces, ENERGY STAR appliances
 - BUS: T-12 Lighting
- ▶ Higher costs to reach target markets (increased incentives, marketing, etc)
 - Increased saturation of common measures (for ex. RES CFLs)
- ▶ A diversified portfolio that equally distributes funding between Residential and Business programs (Residential programs have 50% higher first year cost per energy and 100% higher levelized costs)

Key Modeling Inputs

The following inputs affect all measures and programs:

- ▶ Inputs to BENCOST affect all measures and programs
 - Non-Energy Benefits
 - Energy and Demand: 10%
 - Natural Gas: 7.5%
 - WACC: 6.95%
 - Avoided costs and discount rates based on projections provided by the Ameren Corporate Planning department
 - Still need to screen measures for TRC
 - At this point only modeled implementer proposals
 - May use a 1.2 TRC to screen measures to compensate for risk and ensure portfolio level TRC remains at 1.0

Most values are preliminary and still being finalized/reviewed internally.

Preliminary Portfolio Overview

Key Components of Preliminary Portfolio Include

- ▶ Based on Plan 2 Existing Programs
- ▶ Modeled Programs provided by the Implementation Contractors (ICs) and include:
 - Combined Natural Gas and Electricity Programs/Portfolio
 - 9 Residential Programs
 - 3 Business Programs
- ▶ R&D Projects: funding reserved for R&D projects and Emerging Technologies
- ▶ IPA programs/measures were excluded from Preliminary 8-103 modeling

R&D / Emerging Technologies Overview

Key Components of the Emerging Technologies budget allocation and possible uses of funding:

- ▶ Budget is 3% cap
- ▶ Continue Volt Var as a pilot
- ▶ Potential Measures
 - Business Behavior Modification
 - Codes and Standards
 - Residential New Construction
 - Being developed by MEEA
- ▶ Investigate Combined Heat and Power



Preliminary Modeling Results

Preliminary Modeling Results Key Points

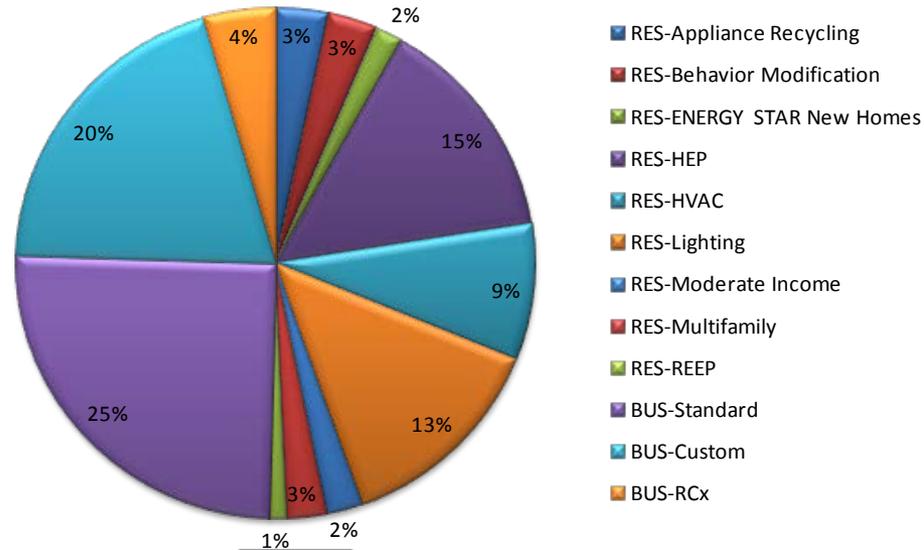
The modeling results are meant to serve as a starting point for more detailed program design and to determine which programs/measures will potentially be included in Plan 3. Initial modeling results are based on:

- ▶ Current AIC Plan 2 programs implemented by the ICs using:
 - Updated Avoided costs
 - Most recent EMV NTGR
 - Savings using IL TRM Version 2
 - Budget caps as percent of updated forecast
- ▶ Portfolio Administration, Marketing, Education, and EM&V cost percentages consistent with Plan 2
- ▶ Next steps
 - Allocate “Gap” funding available from difference between statutory goals and IC budgets
 - Program and measure adjustments based on TRC screening

Combined Program Budgets

Energy Efficiency	Combined Electric and Gas Costs (\$)		
	PY7	PY8	PY9
RES-Appliance Recycling	\$1,500,742	\$1,500,742	\$1,500,742
RES-Behavior Modification	\$1,406,250	\$1,406,250	\$1,406,250
RES-ENERGY STAR New Homes	\$771,517	\$771,517	\$771,517
RES-HEP	\$6,572,042	\$6,572,042	\$6,572,042
RES-HVAC	\$3,917,573	\$3,917,573	\$3,917,573
RES-Lighting	\$6,108,458	\$6,108,458	\$6,108,458
RES-Moderate Income	\$1,030,413	\$1,030,413	\$1,030,413
RES-Multifamily	\$1,122,603	\$1,122,603	\$1,122,603
RES-REEP	\$514,653	\$514,653	\$514,653
RESIDENTIAL PORTFOLIO TOTAL	\$22,944,250	\$22,944,250	\$22,944,250
BUS-Standard	\$11,409,729	\$11,371,735	\$11,333,867
BUS-Custom	\$9,140,339	\$9,139,372	\$9,138,408
BUS-RCx	\$2,009,931	\$2,003,238	\$1,996,567
BUSINESS PORTFOLIO TOTAL	\$22,560,000	\$22,514,345	\$22,468,843
Ameren Illinois - Portfolio Admin costs	\$2,425,185	\$2,458,077	\$2,469,683
Ameren Illinois - EM&V costs	\$1,691,990	\$1,714,937	\$1,723,034
Ameren Illinois - Education	\$1,212,592	\$1,229,039	\$1,234,841
Ameren Illinois - Marketing	\$1,212,592	\$1,229,039	\$1,234,841
R&D Budget (Emerging Technologies)	\$1,691,990	\$1,714,937	\$1,723,034
AMEREN ILLINOIS PORTFOLIO TOTAL	\$53,738,599	\$53,804,624	\$53,798,526
DCEO AMEREN ILLINOIS TOTAL	\$18,799,884	\$19,054,861	\$19,144,826
TOTAL PORTFOLIO	\$72,538,482	\$72,859,485	\$72,943,352
Portfolio Statutory Goal	\$75,199,534	\$76,219,444	\$76,579,304
AIC Statutory Goal	\$56,399,651	\$57,164,583	\$57,434,478

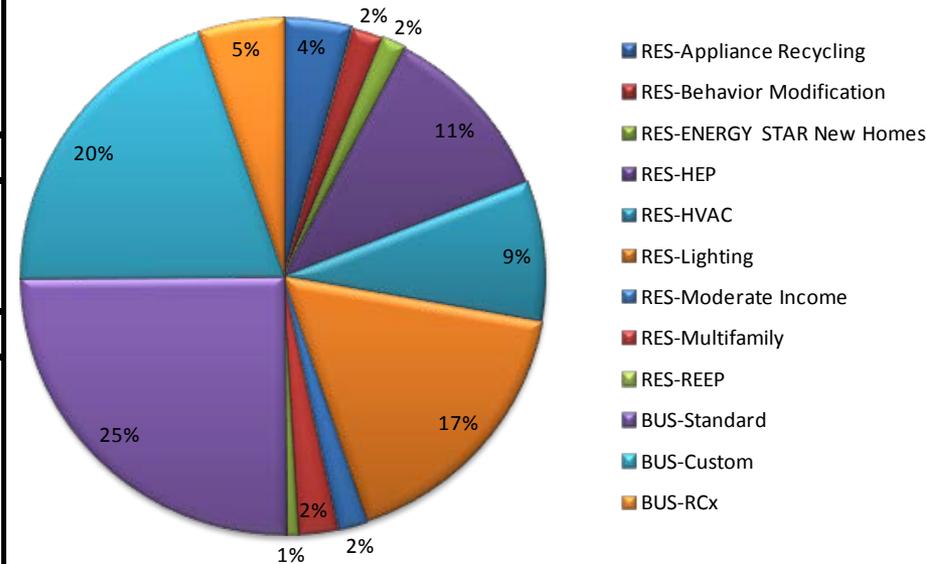
Portfolio Combined Costs



Electric Program Budgets

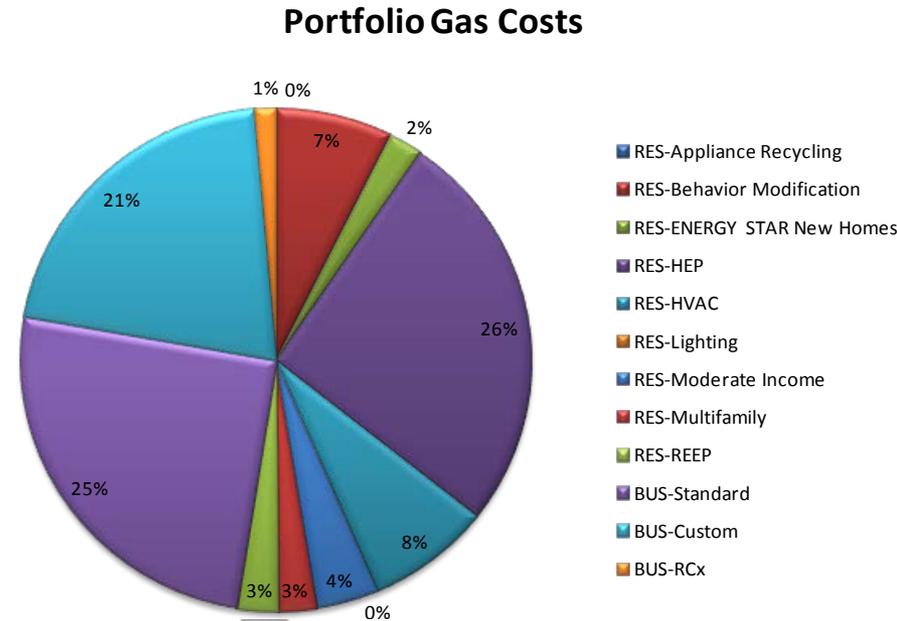
Energy Efficiency	Electric Costs (\$)		
	PY7	PY8	PY9
RES-Appliance Recycling	\$1,500,742	\$1,500,742	\$1,500,742
RES-Behavior Modification	\$703,125	\$703,125	\$703,125
RES-ENERGY STAR New Homes	\$561,422	\$561,422	\$561,422
RES-HEP	\$4,064,459	\$4,064,459	\$4,064,459
RES-HVAC	\$3,161,031	\$3,161,031	\$3,161,031
RES-Lighting	\$6,108,458	\$6,108,458	\$6,108,458
RES-Moderate Income	\$651,138	\$651,138	\$651,138
RES-Multifamily	\$893,851	\$893,851	\$893,851
RES-REEP	\$265,900	\$265,900	\$265,900
RESIDENTIAL PORTFOLIO TOTAL	\$17,910,125	\$17,910,125	\$17,910,125
BUS-Standard	\$8,980,519	\$8,950,614	\$8,920,808
BUS-Custom	\$7,137,404	\$7,136,692	\$7,135,983
BUS-RCx	\$1,882,077	\$1,875,810	\$1,869,563
BUSINESS PORTFOLIO TOTAL	\$18,000,000	\$17,963,116	\$17,926,354
Ameren Illinois - Portfolio Admin costs	\$1,921,679	\$1,952,771	\$1,963,352
Ameren Illinois - EM&V costs	\$1,340,706	\$1,362,399	\$1,369,780
Ameren Illinois - Education	\$960,839	\$976,386	\$981,676
Ameren Illinois - Marketing	\$960,839	\$976,386	\$981,676
R&D Budget (Emerging Technologies)	\$1,340,706	\$1,362,399	\$1,369,780
AMEREN ILLINOIS PORTFOLIO TOTAL	\$42,434,894	\$42,503,581	\$42,502,743
DCEO AMEREN ILLINOIS TOTAL	\$14,896,733	\$15,137,763	\$15,219,781
TOTAL PORTFOLIO	\$57,331,628	\$57,641,344	\$57,722,524
Portfolio Statutory Goal	\$59,586,934	\$60,551,052	\$60,879,122
AIC Statutory Goal	\$44,690,200	\$45,413,289	\$45,659,342

Portfolio Electric Costs



Natural Gas Program Budgets

Energy Efficiency	Gas Costs (\$)		
	PY7	PY8	PY9
RES-Appliance Recycling	\$0	\$0	\$0
RES-Behavior Modification	\$703,125	\$703,125	\$703,125
RES-ENERGY STAR New Homes	\$210,095	\$210,095	\$210,095
RES-HEP	\$2,507,583	\$2,507,583	\$2,507,583
RES-HVAC	\$756,541	\$756,541	\$756,541
RES-Lighting	\$0	\$0	\$0
RES-Moderate Income	\$379,276	\$379,276	\$379,276
RES-Multifamily	\$228,752	\$228,752	\$228,752
RES-REEP	\$248,753	\$248,753	\$248,753
RESIDENTIAL PORTFOLIO TOTAL	\$5,034,125	\$5,034,125	\$5,034,125
BUS-Standard	\$2,429,211	\$2,421,121	\$2,413,059
BUS-Custom	\$2,002,935	\$2,002,680	\$2,002,425
BUS-RCx	\$127,854	\$127,428	\$127,004
BUSINESS PORTFOLIO TOTAL	\$4,560,000	\$4,551,230	\$4,542,488
Ameren Illinois - Portfolio Admin costs	\$503,506	\$505,306	\$506,331
Ameren Illinois - EM&V costs	\$351,284	\$352,539	\$353,254
Ameren Illinois - Education	\$251,753	\$252,653	\$253,165
Ameren Illinois - Marketing	\$251,753	\$252,653	\$253,165
R&D Budget (Emerging Technologies)	\$351,284	\$352,539	\$353,254
AMEREN ILLINOIS PORTFOLIO TOTAL	\$11,303,705	\$11,301,043	\$11,295,783
DCEO AMEREN ILLINOIS TOTAL	\$3,903,150	\$3,917,098	\$3,925,046
TOTAL PORTFOLIO	\$15,206,855	\$15,218,141	\$15,220,829

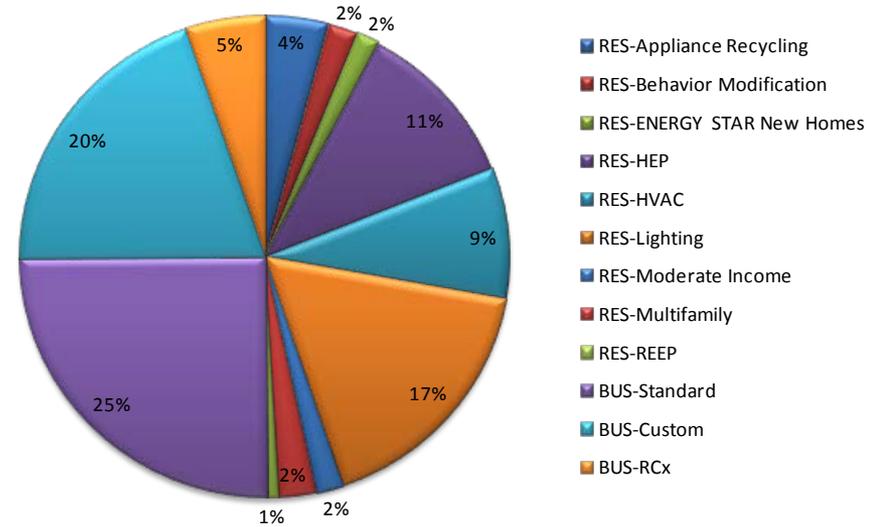


Portfolio Statutory Goal	\$15,612,600	\$15,668,392	\$15,700,182
AIC Statutory Goal	\$11,709,450	\$11,751,294	\$11,775,137

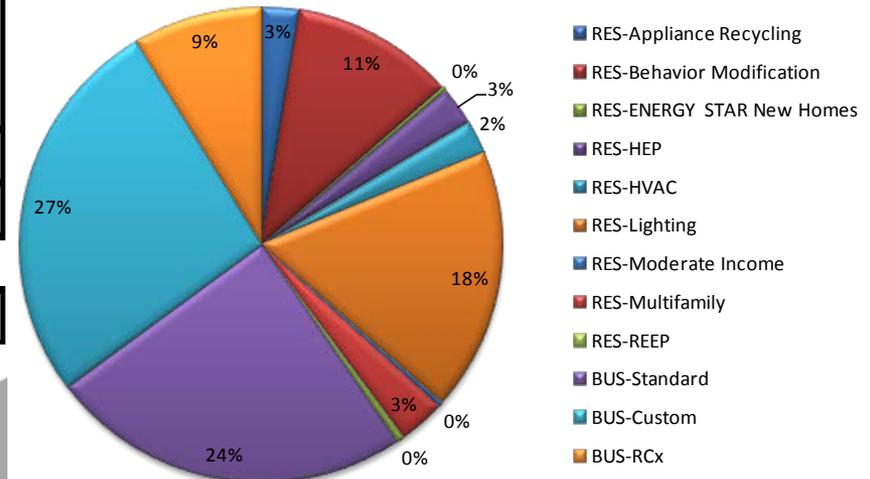
Electric Program Savings

Energy Efficiency	Annual MWH Savings		
	PY7	PY8	PY9
RES-Appliance Recycling	5,098	5,098	5,098
RES-Behavior Modification	21,688	21,688	21,688
RES-ENERGY STAR New Homes	579	579	579
RES-HEP	5,136	5,136	5,136
RES-HVAC	4,544	4,544	4,544
RES-Lighting	35,342	32,129	28,916
RES-Moderate Income	589	589	589
RES-Multifamily	6,232	6,232	6,232
RES-REEP	1,048	1,048	1,048
RESIDENTIAL PORTFOLIO TOTAL	80,255	77,042	73,829
BUS-Standard	48,107	44,000	39,019
BUS-Custom	52,705	52,525	52,347
BUS-RCx	17,075	17,017	16,959
BUSINESS PORTFOLIO TOTAL	117,886	113,542	108,325
AMEREN ILLINOIS PORTFOLIO TOTAL	198,141	190,584	182,154
AMEREN ILLINOIS STATUTORY GOAL	566,286	640,693	644,164

Portfolio Electric Costs



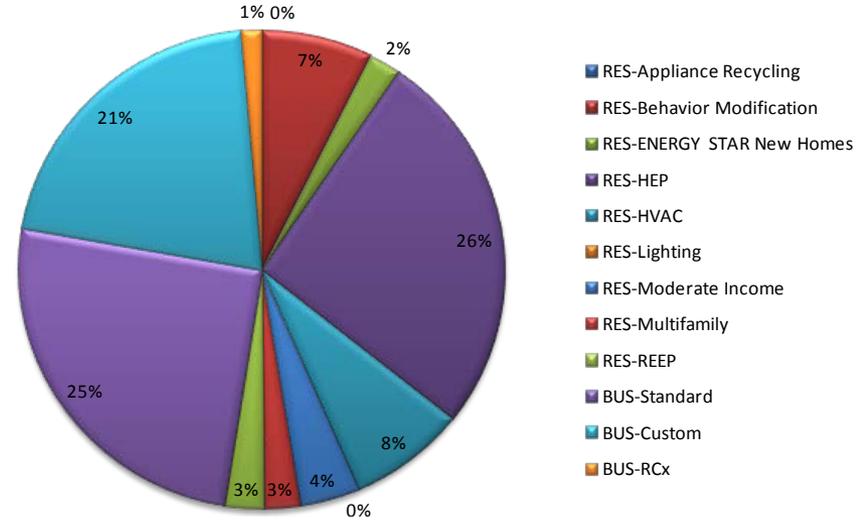
Portfolio kWh Savings



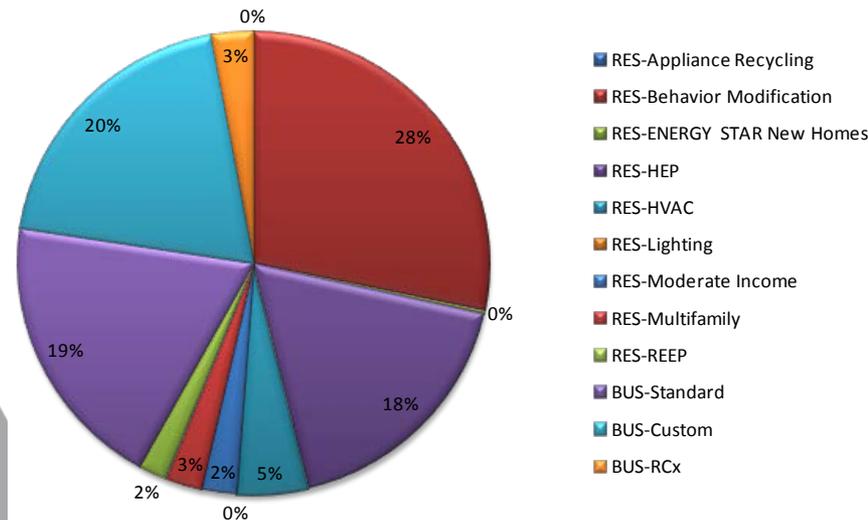
Natural Gas Program Savings

Energy Efficiency	Annual Therm Savings		
	PY7	PY8	PY9
RES-Appliance Recycling	0	0	0
RES-Behavior Modification	1,337,500	1,337,500	1,337,500
RES-ENERGY STAR New Homes	12,473	12,473	12,473
RES-HEP	837,883	837,883	837,883
RES-HVAC	233,228	233,228	233,228
RES-Lighting	0	0	0
RES-Moderate Income	114,566	114,566	114,566
RES-Multifamily	118,961	118,961	118,961
RES-REEP	93,324	93,324	93,324
RESIDENTIAL PORTFOLIO TOTAL	2,747,934	2,747,934	2,747,934
BUS-Standard	918,168	915,111	912,063
BUS-Custom	935,823	932,644	929,476
BUS-RCx	133,681	133,227	132,774
BUSINESS PORTFOLIO TOTAL	1,987,672	1,980,982	1,974,314
AMEREN ILLINOIS PORTFOLIO TOTAL	4,735,606	4,728,915	4,722,247
AMEREN ILLINOIS STATUTORY GOAL	7,224,394	9,030,493	10,836,591

Portfolio Gas Costs



Portfolio Therm Savings



Program Cost-Effectiveness, Cost per Energy, Levelized Costs

Program TRCs are based on the RES and BUS portfolios proposed by the existing ICs, excluding IPA measures, where programs and measures in Plan 2 continue to be offered.

Energy Efficiency	TRC	\$/kWh			\$/Therm			Levelized Costs		
		PY7	PY8	PY9	PY7	PY8	PY9	\$/kWh	\$/kW	\$/Therm
RES-Appliance Recycling	1.39	\$0.29	\$0.29	\$0.29	N/A	N/A	N/A	\$0.043	\$347.23	N/A
RES-Behavior Modification	1.26	\$0.06	\$0.06	\$0.06	\$0.53	\$0.53	\$0.53	\$0.060	\$261.72	\$1.033
RES-ENERGY STAR New Homes	0.81	\$1.33	\$1.33	\$1.33	\$16.84	\$16.84	\$16.84	\$0.100	\$328.04	\$4.929
RES-HEP	0.62	\$1.28	\$1.28	\$1.28	\$2.99	\$2.99	\$2.99	\$0.158	\$252.07	\$1.023
RES-HVAC	0.62	\$0.86	\$0.86	\$0.86	\$3.24	\$3.24	\$3.24	\$0.070	\$98.50	\$1.450
RES-Lighting	1.14	\$0.17	\$0.19	\$0.21	N/A	N/A	N/A	\$0.034	\$300.95	N/A
RES-Moderate Income	0.50	\$1.75	\$1.75	\$1.75	\$3.31	\$3.31	\$3.31	\$0.233	\$416.64	\$1.265
RES-Multifamily	0.94	\$0.18	\$0.18	\$0.18	\$1.92	\$1.92	\$1.92	\$0.033	\$440.79	\$1.815
RES-REEP	0.70	\$0.49	\$0.49	\$0.49	\$2.67	\$2.67	\$2.67	\$0.089	\$1,781.29	\$1.061
RESIDENTIAL PORTFOLIO TOTAL	0.78	\$0.29	\$0.30	\$0.31	\$1.83	\$1.83	\$1.83	\$0.059	\$221.69	\$1.827
BUS-Standard	2.41	\$0.24	\$0.26	\$0.29	\$2.65	\$2.65	\$2.65	\$0.029	\$82.38	\$1.458
BUS-Custom	1.99	\$0.17	\$0.17	\$0.17	\$2.14	\$2.15	\$2.15	\$0.018	\$73.28	\$1.074
BUS-RCx	2.21	\$0.12	\$0.12	\$0.12	\$0.96	\$0.96	\$0.96	\$0.025	\$98.54	\$3.363
BUSINESS PORTFOLIO TOTAL	2.17	\$0.19	\$0.20	\$0.21	\$2.29	\$2.30	\$2.30	\$0.023	\$79.53	\$1.332
TOTAL PORTFOLIO	1.34	\$0.21	\$0.22	\$0.23	\$2.39	\$2.39	\$2.39	\$0.038	\$134.69	\$1.767
STATUTORY GOAL		\$0.15	\$0.15	\$0.15	\$1.73	\$1.39	\$1.16	N/A	N/A	N/A

Note: Plan 2 \$/kWh Levelized Costs were 0.027, cost per energy \$0.19/kWh and \$2.82/therm Page 32

Program Modification Sensitivity and Affects on TRC

With relatively simply changes/removals to RES program measures, the programs can pass TRC. For the sensitivity only measure participation was adjusted (in some cases resulting in delivery budget changes from direct measure costs), no program admin budgets were adjusted. These sensitivities are meant for illustrative purposes only and are not programmatic recommendations for Plan 3.

Program	Measures Removed	Remaining Measures
RES-HEP	All Direct Install (CFLs, aerators, showerheads)	Air Sealing, Insulation (Wall, Ceiling, Rim Joist, Crawl Space)
RES-HVAC	Removed CACs, Furnaces, and 16+ ASHP	ASHP, BPM Blower Motor, Boilers
RES-Moderate Income	All Direct Install (CFLs, aerators, showerheads), Furnaces, CACs	Air Sealing, Insulation, ASHP, Thermostats, Boilers
RES-Multifamily	Direct Install 43W to 14W CFLs	CFLs, Showerheads, Aerators, Thermostats
RES-REEP	Water Heaters	Thermostats, Smart Strips, Air Purifiers

Note: Portfolio is not optimized, program offerings may be changed after more detailed modeling.

Program Modification Sensitivity and Affects on TRC

Energy Efficiency	TRC	
	IC Proposal	IC w/ Changes
RES-Appliance Recycling	1.39	1.39
RES-Behavior Modification	1.26	1.26
RES-ENERGY STAR New Homes	0.81	0.81
RES-HEP	0.62	1.08
RES-HVAC	0.62	1.01
RES-Lighting	1.14	1.14
RES-Moderate Income	0.50	1.00
RES-Multifamily	0.94	1.06
RES-REEP	0.70	0.86
RESIDENTIAL PORTFOLIO TOTAL	0.78	1.11
BUS-Standard	2.41	2.41
BUS-Custom	1.99	1.99
BUS-RCx	2.21	2.21
BUSINESS PORTFOLIO TOTAL	2.17	2.17
AMEREN ILLINOIS PORTFOLIO TOTAL	1.34	1.57

Plan 2 & Plan 3 Costs and Targets vs. Statutory Goals

Energy Efficiency	Cycle 2	Cycle 3	Annual Program Costs (\$ millions)					
	TRC	TRC	PY4	PY5	PY6	PY7	PY8	PY9
RESIDENTIAL PORTFOLIO TOTAL	1.71	0.78	\$25.76	\$26.10	\$26.50	\$22.94	\$22.94	\$22.94
BUSINESS PORTFOLIO TOTAL	1.82	2.17	\$25.71	\$26.19	\$26.39	\$22.56	\$22.48	\$22.41
AMEREN ILLINOIS PORTFOLIO TOTAL	1.76	1.34	\$58.35	\$59.25	\$59.96	\$54.74	\$54.78	\$54.74

Energy Efficiency	Annual MWH Savings					
	PY4	PY5	PY6	PY7	PY8	PY9
RESIDENTIAL PORTFOLIO TOTAL	158,078	139,895	118,521	80,255	77,042	73,829
BUSINESS PORTFOLIO TOTAL	114,938	105,458	97,456	117,886	113,542	108,325
AMEREN ILLINOIS PORTFOLIO TOTAL	273,534	245,871	216,495	198,141	190,584	182,154

Energy Efficiency	Annual Therm Savings					
	PY4	PY5	PY6	PY7	PY8	PY9
RESIDENTIAL PORTFOLIO TOTAL	2,311,593	2,751,267	3,201,714	2,747,934	2,747,934	2,747,934
BUSINESS PORTFOLIO TOTAL	1,391,525	1,572,768	1,704,945	1,987,672	1,980,982	1,974,314
AMEREN ILLINOIS PORTFOLIO TOTAL	3,735,017	4,355,658	4,942,447	4,735,606	4,728,915	4,722,247

Plan 3 Preliminary Portfolio Comparison to Plan 2

Several factors contribute to the lower savings and higher cost per energy for Plan 3.

- ▶ Less low hanging fruit (residential lighting) for the portfolio to rely on and to drive portfolio savings
- ▶ Necessity to increase incentives to reach target markets and reach participation goals
- ▶ AIC will not be able to achieve natural gas goals
- ▶ Sunset of ARRA funding for energy efficiency
- ▶ Shifting appliance and equipment standards
- ▶ Changing lighting market
 - Residential: Continued impact of EISA (higher baselines yielding lower savings), lower NTGR
 - Commercial: T12 baseline changes



IPA Bid Summary

IPA Bid Summary

Proposals Received March 15:

- ▶ Six residential programs
- ▶ Four commercial programs

Currently under evaluation:

- ▶ Compliance with TRM
- ▶ Reasonableness of estimated NTGs and impacts of non-TRM measures
- ▶ Verifying proper allocation of costs for TRC analysis
- ▶ Analyzing potential programs for conflict or overlap with current programs

This presentation is based on “as-submitted” bids – results are subject to change

Residential Proposal Summary

Proposed Program	Bidder	1 st Year Annual Net MWh Savings	1 st Year Annual Net Therm Savings
Residential Specialty Lighting	CSG	5,569	-
Rural Efficiency Kits	CSG	3,317	-
Residential Multi-Family	CSG	13,289	-
Residential All-Electric Homes	CSG	10,693	-
Education Energy Kit Distribution	National Energy Foundation	142	9,277
Smart Power Strip Distribution	OneChange	1,970	-

Commercial Proposal Summary

Proposed Program	Bidder	1 st Year Annual Net MWh Savings	1 st Year Annual Net Therm Savings
Small Commercial Smart Power Strip Distribution	OneChange	4,361	-
RCx “Lite” Express Building Tune-Up	Resources Solution Group	3,000	150,000
Commercial Office Energy Efficiency Program	Matrix	5,880	-
\$CORE Direct Install	SAIC	20,232	-

Budget Summary

Proposed Program	Budget	1 st Year \$/kWh
Residential Specialty Lighting	\$379,351	\$0.114
Rural Efficiency Kits	\$2,575,199	\$0.462
Residential Multi-Family	\$3,827,181	\$0.288
Residential All-Electric Homes	\$6,324,477	\$0.591
Education Energy Kit Distribution	\$24,919	\$0.175
Residential Smart Power Strips	\$913,362	\$0.464
\$CORE Direct Install	\$7,934,105	\$0.392
Commercial Office Energy Efficiency	\$1,531,979	\$0.261
Commercial Smart Power Strips	\$1,451,982	\$0.300
RCx "Lite" Express Building Tune-Ups	\$1,359,852	\$0.453
TOTAL	\$26,322,406	\$0.382

Current Plan 3 cost per unit energy is \$0.21/kWh

Potential Range of Savings

Preliminary Analysis of TOTAL 1st Year Savings:

- ▶ Total Electric Savings: approximately 69,000 MWH
- ▶ Total Gas Savings: approximately 159,000 therms

Preliminary Analysis of Cost-Effective 1st Year Savings:

- ▶ Electric Savings: approximately 27,000 to 36,000 MWH
- ▶ Gas Savings: approximately 0 to 159,000 therms
- ▶ Low end of range eliminates programs that potentially overlap with existing programs



Appendix



Program Changes/Descriptions

Behavior Modification (Home Energy Reports)

- ▶ Participants decreased sharply from PY6
- ▶ Focus on highest-consumption households expected to increase per-household savings potential.
- ▶ Behavior Modification does not pass TRC unless:
 - Modeled using highest use dual fuel households
 - Therefore dual fuel Behavior Mod can not increase
 - Applying varying savings values based on EMV results:
 - Electric usage over 13,000 kWh/year: 1.29% annual reduction
 - Natural Gas usage over 940 therms/year: 1.03% annual reduction

Home Energy Performance

- ▶ No significant changes to incentives from PY6. Maximums may be adjusted if average measure quantities change.
- ▶ All non-incentive costs are allocated 70% electric and 30% gas.
- ▶ Incentives for all combo measures (measures with significant electric and gas savings) are allocated 70% electric and 30% gas.
- ▶ Most homes with electric resistance heat are expected to be retrofitted through the IPA program.
- ▶ Specialty CFLs (14W globes, candelabra base lamps, and reflectors) added as direct install measures
- ▶ Baseline for standard CFLs are halogens with comparable lumen output
- ▶ Water Heater Temperature Adjustment added as a direct install measure
- ▶ Production is increased from PY6

Appliance Recycling

- ▶ No change to incentives from PY6
- ▶ Sears retail program continues
- ▶ Production is decreased from PY6, consistent with expectations for reduced potential during Plan 3

Multifamily

- ▶ All non-incentive costs are allocated 70% electric and 30% gas
- ▶ In-Unit Direct Install measures only. Common Area and Major Measures moved to IPA program
- ▶ Baseline for standard CFLs are halogens with comparable lumen output
- ▶ Production consistent with PY6

HVAC

- ▶ No significant changes to incentives from PY6
- ▶ Remove incentive for 95% AFUE furnaces; focus shifts to 97% AFUE furnaces (pending passing TRC)
- ▶ Baseline for furnaces remains at 80% AFUE for planning
- ▶ Production of electric equipment consistent with PY6
- ▶ Production of gas equipment drastically reduced from PY6 with the removal of 95% AFUE furnaces
- ▶ All measures except Brushless Blower Motors (ECMs) have Early Retirement/Early Replacement (ER) options. Staff has stated they are seeking an errata to remove ER measures.
- ▶ De-rating of HSPF is not used in planning. Staff has stated they are seeking an errata to include a de-rating

Residential Energy Efficient Products (REEP)

- ▶ No significant changes to incentives or measures from PY6
- ▶ Changes to measure mix could affect savings values
- ▶ Baselines are subject to change due to ENERGY STAR updates
- ▶ No baseline changes planned
- ▶ Production consistent with PY6

ENERGY STAR New Homes

- ▶ Program reduced to two tiers; incentives adjusted accordingly
- ▶ All non-incentive costs are allocated 70% electric and 30% gas
- ▶ Entry-level tier removed; all projects must be ENERGY STAR certified
- ▶ Baseline assumes substantial compliance with 2012 IECC
- ▶ 2015 IECC expected to be adopted January, 1, 2016, resulting in a baseline change
- ▶ ENERGY STAR V3 assumed for planning; V4 update expected to be introduced in 2016, but is not expected to necessitate program changes
- ▶ Production is decreased from PY6 due to removal of entry-level tier

Moderate Income

- ▶ No significant changes to incentives or measures from PY6
- ▶ All non-incentive costs are allocated 70% electric and 30% gas
- ▶ Incentives for all combo measures (measures with significant electric and gas savings) are allocated 70% electric and 30% gas
- ▶ Specialty CFLs (14W globes, candelabra base lamps, and reflectors) added as direct install measures
- ▶ Baseline for standard CFLs are halogens with comparable lumen output
- ▶ Water Heater Temperature Adjustment added as a direct install measure
- ▶ Production is decreased from PY6

Business

- ▶ Strategic application of incentives potentially including: limited time offer, bundled (e.g. multi-project), project completion (e.g. survey to action), program ally performance, participation (e.g. training/event attendance or “first project”) and midstream (e.g. lighting distributor) incentives
- ▶ Delivery mechanism such as expansion of staffing grant and greening the supply chain
- ▶ Potential application of behavior-change delivery methods to select market segments
- ▶ Application of GIS to better target geographic and market segments
- ▶ Expansion of RCx to possibly include pump and heat recovery options and measure additions such as industrial/commercial pipe insulation
- ▶ Addition of emerging technologies, for example LED/SSL option, ECMs, power management software, etc.
- ▶ Motor market transformation in management (i.e. inventory, decision-making and preventative maintenance) practices and system optimization