



MEMORANDUM

TO: Low Income Consumer Advisory Task Force

FROM: Liz Jambor, EdD, Manager, DABI

DATE: March 24, 2015

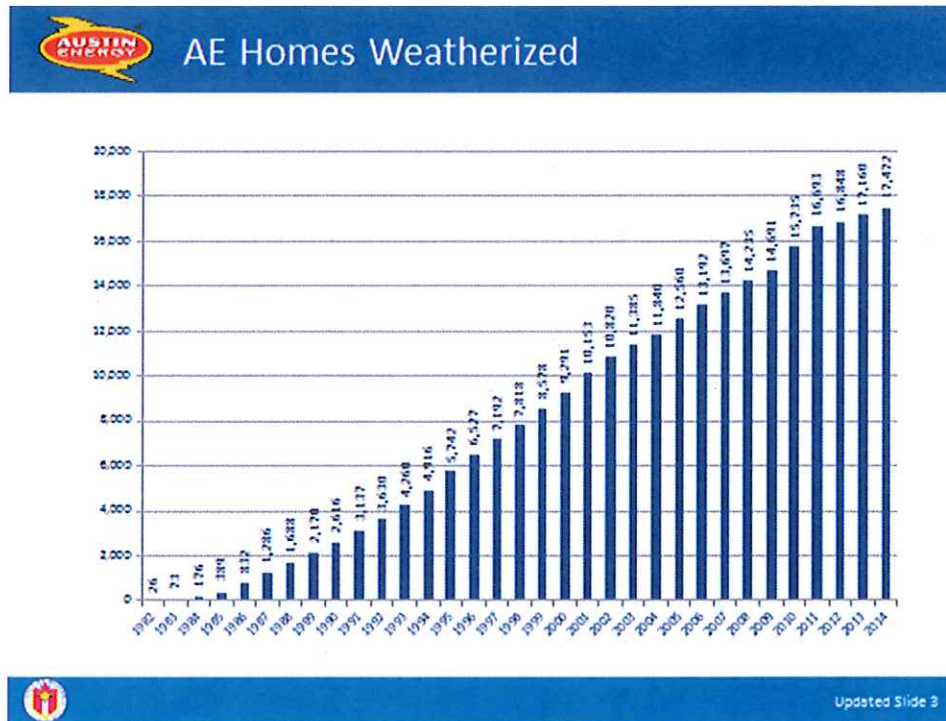
SUBJECT: Staff Update

Please find attached answers to questions posed at the February 27th meeting and in response to the presentation made by Denise Kuehn and Liz Jambor.

Follow up to Questions from February 27 LICATF Presentation

From Richard Halpin – Please update Slide 3. The data for 2014 is too low.

Updated Slide 3



From Carol Biedrzycki – Provide numbers per year for Slide 3.

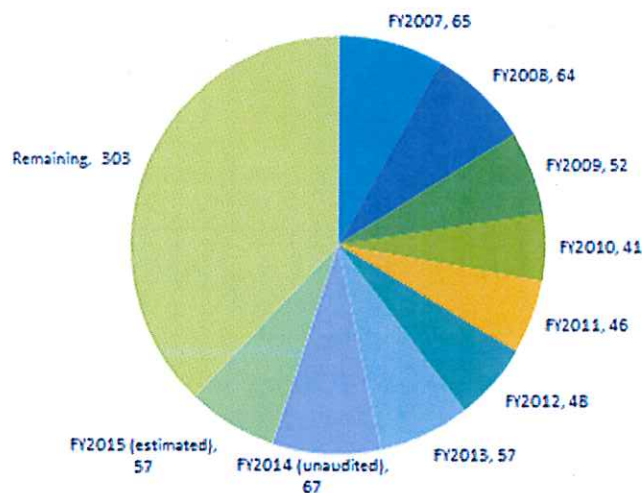
Slide 3 broken out by years.

Year	Homes
1982	26
1983	47
1984	103
1985	213
1986	443
1987	454
1988	402
1989	482
1990	446
1991	521
1992	493
1993	630
1994	656
1995	826
1996	785
1997	665
1998	626
1999	760
2000	713
2001	862
2002	667
2003	565
2004	455
2005	720
2006	632
2007	505
2008	538
2009	456
2010	1,044
2011	958
2012	155
2013	312
2014	312

Per Cyrus Reed – Provide the 2020 and 2025 goals.

Updated Slide 12, 2020 800 MW Goal

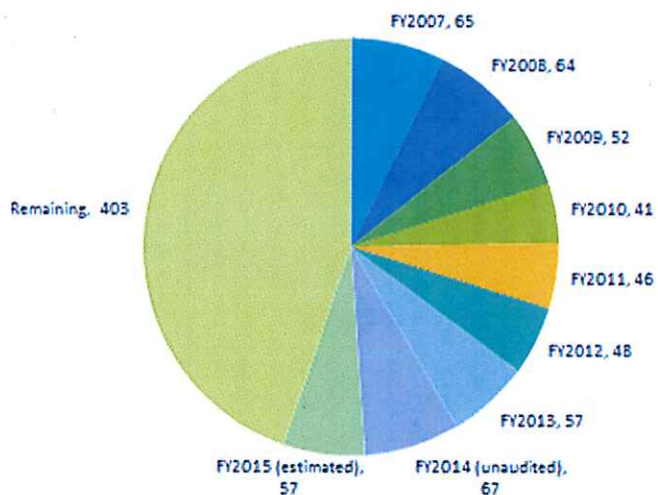
AUSTIN ENERGY EE Customer Benefit Charge – Reducing Peak, 800 MW by 2020



Updated Slide 12, Part 1

Updated Slide 12, 2025 900 MW Goal

AUSTIN ENERGY EE Customer Benefit Charge – Reducing Peak, 900 MW by 2025



Updated Slide 12, Part 2

Per Cyrus Reed – What is the kWh goal?

As a result of Resolution No. 030925-02, the goal is a 15% energy reduction from 2003 to 2020. This results in energy efficiency kWh equating to 15% of the total kWh.

Per Cyrus Reed – What is the kWh savings per program?

KWH Savings per Program, 2007-2014

Program	2007	2008	2009	2010	2011	2012	2013	2014
Residential								
EES- Appliance Efficiency Program	2,768	4,092	4,542	5,353	6,205	7,276	6,547	6,217
EES- Home Performance ES - Rebate	3,382	4,390	4,864	5,808	5,765	4,349	3,593	3,227
EES- Home Performance ES - Loan	496	421	377	215	140	67	760	903
EES- Free Weatherization	691	552	588	498	1,141	1,047	192	387
EES- Clothes Washer Rebate	254	234	253	296	186	119	72	10
EES- Refrigerator Recycling	2,979	2,988	2,562	2,694	2,057	1,667	1,568	1,384
EES- Compact Fluorescent Lighting	5,440	6,244	13,890	0	0	0	0	252
GB- Residential Ratings	1,470	1,529	1,067	1,082	200	121	211	944
GB- Residential Energy Code	5,639	7,914	4,677	5,137	7,258	9,357	10,878	11,397
Residential Subtotal	25,072	28,365	32,820	21,084	22,953	24,003	23,821	24,719

Program	2007	2008	2009	2010	2011	2012	2013	2014
Commercial								
EES- Commercial Rebate	59,166	42,783	29,998	37,126	53,244	55,927	34,158	41,298
EES- Small Business	7,449	3,652	2,033	5,311	12,292	1,997	4,674	10,692
EES- Municipal	0	383	646	1,802	3,150	1,380	10,684	1,691
EES- Commercial Smart Vendor	566	492	182	137	158	4	-	-
EES- Multifamily	7,198	23,847	11,359	13,231	7,197	7,886	8,533	6,813
EES/GB Commercial Projects	-	-	-	-	-	-	-	4,533
GB- Multifamily Ratings	0	0	1,812	641	208	1,813	12,219	4,788
GB- Multifamily Energy Code	5,832	4,627	2,176	281	2,564	8,020	3,751	10,504
GB- Commercial Ratings	3,716	13,377	11,934	5,299	7,503	1,747	10,428	7,153
GB- Commercial Energy Code	8,923	14,590	9,011	4,138	8,006	5,814	8,735	15,404
Commercial Subtotal	92,850	103,752	69,151	67,966	94,322	84,588	93,183	102,876

Program	2007	2008	2009	2010	2011	2012	2013	2014
Demand Response (DR)								
DR- Power Partner	102	97	77	45	15	9	51	39
DR- Cycle Saver	14	7	10	12	6	4	9	15
DR- Power Partner (Comm & Muni)	1,285	14	8	8	2	3	0	0
DR- Load Coop	129	19	57	5	0	0	133	0
DR- Engineering Support & TES	0	0	0	0	0	0	0	0
DR Subtotal	1,530	138	152	71	22	15	194	54

Per Chris Strand – Provide the deemed kW, like the kWh provided.

Single Family Deemed kW Savings

Measure	Deemed
AC or Heat Pump Upgrades:	Frontier Lookup Tables for Weather Zone 2
1.) Package AC and Heat Pump Systems	
2.) Split or Central AC and Heat Pump Systems	
Solar Screens	$KW = 0.002438 \times (\text{Area}), \text{ weather zone 2}$
Reflective Roof	$KW = 0.0035 \times (\text{Attic Area})$
Attic\Roof Insulation	$KW = (0.001027) \times (\text{Attic Area})$
Pipe Wrap	$KW = (0.004)$
LEDs	$KW = (0.002) \times (\text{Number of Bulbs})$
Water Heaters Timers	$KW = (0.399) \times (\text{Number of Water Heaters})$
Duct Seal	$KW_{\text{Top}} = (\text{Percentage Replaced}) \times (\text{Attic Deemed Savings})$
Air Seal	$KW_{\text{Middle}} = (\text{Percentage Replaced}) \times (\text{Conditioned Deemed Savings})$
	$KW_{\text{Bottom}} = (\text{Percentage Replaced}) \times (\text{Slab Deemed Savings})$
Water Saving Devices	$KW_{\text{Showerhead}} = (\text{Percentage replaced}) \times (\text{Fixtures}) \times (0.022)$
	$KW_{\text{Low Flow Devices}} = (\text{Percentage replaced}) \times (\text{Fixtures}) \times (0.0067)$
Duct Replacement	$KW_{\text{Top}} = (\text{Percentage Replaced}) \times (\text{Attic Deemed Savings})$
	$KW_{\text{Middle}} = (\text{Percentage Replaced}) \times (\text{Conditioned Deemed Savings})$
	$KW_{\text{Bottom}} = (\text{Percentage Replaced}) \times (\text{Slab Deemed Savings})$
Low-E Windows	$KW = (\text{SQFT Installed}) \times (0.0028)$
ENERGYSTAR® Ceiling fans	$KW = (\text{Percentage Installed}) \times (0.011)$
ENERGYSTAR® Dishwasher	$KW_{\text{Gas}} = (\text{Percentage Installed}) \times (0.00297)$
	$KW_{\text{Electric}} = (\text{Percentage Installed}) \times (0.00801)$
Window AC Units	$KW = (0.111) \times (\text{AC Unit})$

Central Air Conditioner

Climate Zone 2: North Region, Dallas / Ft. Worth Weather Data

Demand Savings (kW) for 12.44 SEER Retrofit Baseline - Zone 2

	SEER Range					
Size (tons)	14.0-14.4	14.5-14.9	15.0-15.9	16.0-16.9	17.0-17.9	18+
1.5	0.19	0.21	0.24	0.30	0.34	0.35
2.0	0.25	0.28	0.31	0.39	0.46	0.47
2.5	0.31	0.35	0.39	0.49	0.57	0.58
3.0	0.38	0.42	0.47	0.59	0.69	0.70
3.5	0.44	0.49	0.55	0.69	0.80	0.82
4.0	0.50	0.56	0.63	0.79	0.92	0.93
5.0	0.63	0.70	0.78	0.98	1.15	1.17

Multifamily Deemed kW Savings

Measure	Deemed
AC or Heat Pump Upgrades	Use Frontier Lookup Tables
Solar Screens	$KW = 0.002438 \times (\text{Area}), \text{ weather zone 2}$
Reflective Roof	$KW = 0.0035 \times (\text{Attic Area})$
Attic\Roof Insulation	$KW = (0.001027) \times (\text{Attic Area})$
Pipe Wrap	$KW = (0.004) \times (\text{Number of Apartments})$
LEDs	$KW = (0.002) \times (\text{Number of Bulbs})$
Water Heaters Timers	$KW = (0.399) \times (\text{Number of Apartments})$
Duct Seal	$KW_{\text{Top}} = (\text{Percentage Replaced}) \times (\text{Apts / Floors}) \times (0.8) \times (\text{Attic Deemed Savings})$
	$KW_{\text{Middle}} = (\text{Percentage Replaced}) \times (\text{Apts / Floors}) \times (0.8) \times (\text{Conditioned Deemed Savings})$
	$KW_{\text{Bottom}} = (\text{Percentage Replaced}) \times (\text{Apts / Floors}) \times (0.8) \times (\text{Slab Deemed Savings})$
Air Seal	$KW = (\text{Percentage Sealed}) \times (\text{Apts}) \times$ $CFM_{50} \times (0.00019)$
Water Saving Devices	$KW_{\text{Showerhead}} = (\text{Percentage replaced}) \times (\text{Apts}) \times (0.022)$
	$KW_{\text{Low Flow Devices}} = (\text{Percentage replaced}) \times (\text{Apts}) \times (0.0067)$
Duct Replacement	$KW_{\text{Top}} = (\text{Percentage Replaced}) \times (\text{Apts / Floors}) \times (0.8) \times (\text{Attic Deemed Savings})$
	$KW_{\text{Middle}} = (\text{Percentage Replaced}) \times (\text{Apts / Floors}) \times (0.8) \times (\text{Conditioned Deemed Savings})$
	$KW_{\text{Bottom}} = (\text{Percentage Replaced}) \times (\text{Apts / Floors}) \times (0.8) \times (\text{Slab Deemed Savings})$
Low-E Windows	$KW = (\text{SQFT Installed}) \times (0.0028)$
ENERGYSTAR® Ceiling fans	$KW = (\text{Percentage Installed}) \times (\text{Apts}) \times (0.011)$
ENERGYSTAR® Dishwasher	$KW_{\text{Gas}} = (\text{Percentage Installed}) \times (\text{Apts}) \times (0.00297)$
	$KW_{\text{Electric}} = (\text{Percentage Installed}) \times (\text{Apts}) \times (0.00801)$

Central Air Conditioner

Climate Zone 2: North Region, Dallas / Ft. Worth Weather Data

Demand Savings (kW) for 13 SEER New Construction Baseline - Zone 2

	SEER Range					
Size (tons)	14.0-14.4	14.5-14.9	15.0-15.9	16.0-16.9	17.0-17.9	18+
1.5	0.12	0.14	0.17	0.23	0.28	0.28
2.0	0.16	0.19	0.22	0.30	0.37	0.37
2.5	0.20	0.24	0.28	0.38	0.46	0.47
3.0	0.24	0.28	0.33	0.45	0.55	0.56
3.5	0.28	0.33	0.39	0.53	0.64	0.65
4.0	0.32	0.38	0.44	0.60	0.73	0.75
5.0	0.39	0.47	0.55	0.75	0.92	0.93

Per Chris Strand – What are the [projected savings – deemed vs. actual?

To assess deemed versus actual savings requires at least two summers worth of data to assess the impacts of the energy efficiency measures and to compare to deemed savings. Past studies have focused on percentage of savings as very few single measures are conducted. Past studies have shown that savings ranges from 8-28% during summer months and dependent on age of home and measures implemented.

Per Carol Biedrzycki – Provide the data for Slide 15.

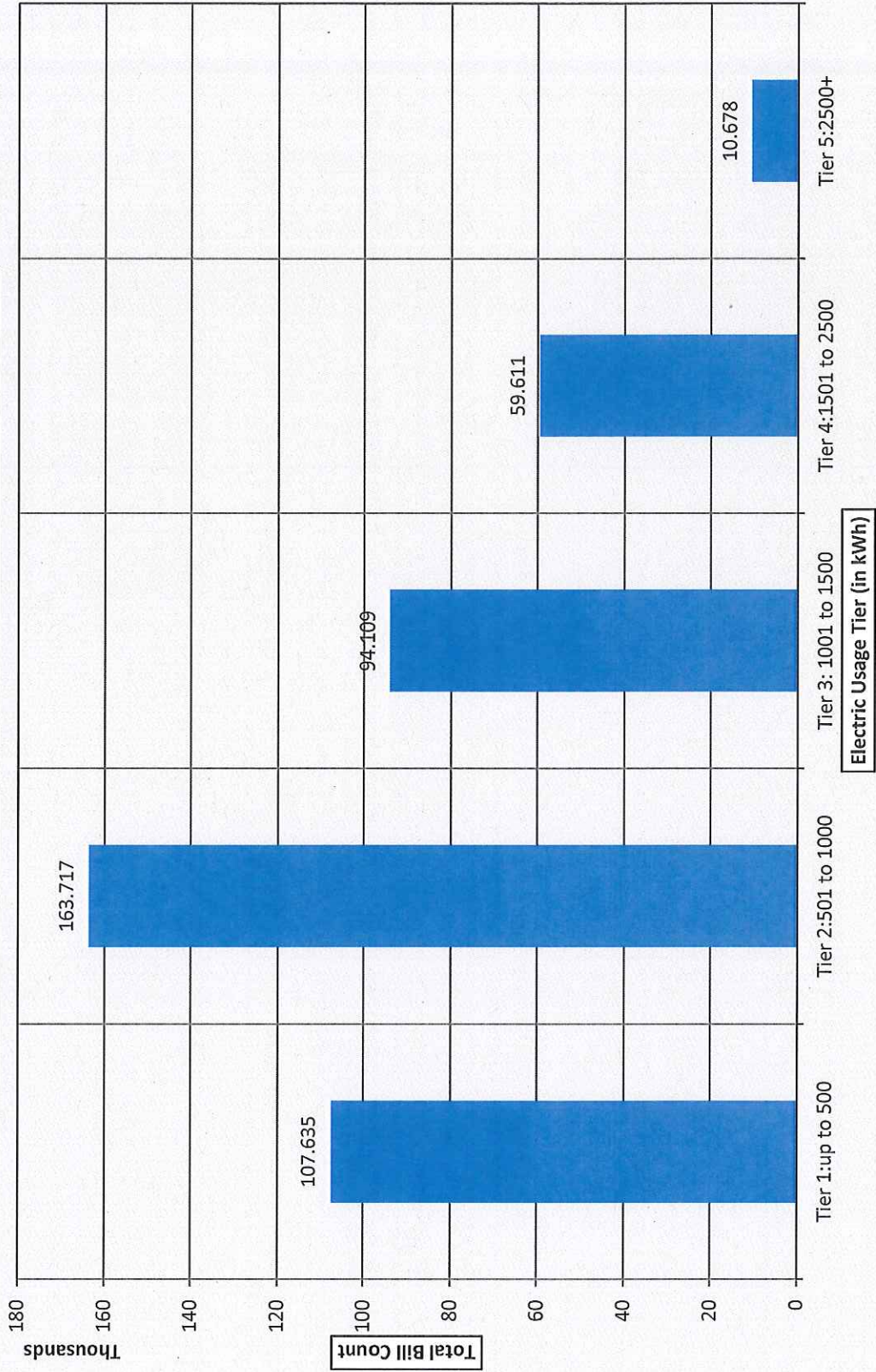
Data for Slide 15.

FY	Spend	Homes
1997	\$ 714,636	785
1998	\$ 852,873	665
1999	\$ 785,000	626
2000	\$ 834,007	760
2001	\$ 1,141,449	713
2002	\$ 1,018,009	862
2003	\$ 961,000	667
2004	\$ 830,000	565
2005	\$ 874,937	455
2006	\$ 717,934	720
2007	\$ 175,304	632
2008	\$ 757,545	505
2009	\$ 752,132	538
2010	\$ 513,909	456
2011	\$ 6,291	1,044
2012	\$ 598,003	958
2013	\$ 1,075,405	155
2014*	\$ 1,884,212	312

FY2014 is unaudited.

Request From Carol Biedrzycki regarding the number of CAP customers by rate tier.

Calendar Year 2014 CAP Electric Usage in Tier Rates



Request from Carol Biedrzycki regarding the percent of CAP customers at various usage levels.

