CITY OF LOS ANGELES

DEPARTMENT

OF

WATER AND POWER

2017 RETAIL ELECTRIC SALES AND DEMAND FORECAST

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Table of Contents

2017 Retail Electric Sales and Demand Forecast

Overview

The 2017 Retail Electric Sales and Demand Forecast (Forecast) supersedes the 2016 Retail Electric Sales and Demand Forecast as the City of Los Angeles Department of Water and Power's (LADWP) official Power System Forecast. The Forecast is the basis for LADWP Power System planning activities including but not limited to Financial Planning, Power Integrated Resource Planning (IRP), Transmission and Distribution Planning and Wholesale Marketing.

The Forecast is a public document. Only publically available information is used in the Forecast development. (This practice has become a standard among California electric utilities.) Being public data means all data sources are auditable. LADWP Planners developing alternative scenarios using their own proprietary data should adjust the Forecast accordingly. The Load Forecast Group (LFG) is available for consultation on making adjustments to the Forecast. The Forecast includes unpublished working papers to aid Planners in developing alternative scenarios.

Data Sources

1. Historical Sales reconciled to the Customer Care & Billing (CCB) Consumption and Earnings Report through December 2016.
2. Historical NEL, Peak Demand and Losses reconciled to the Wholesale Energy Resource Management website (WERM) database maintained by the Energy Reconciliation Group.
3. Historical weather data is provided by the National Weather Service and Los Angeles Pierce College.
4. Historical Los Angeles County employment data is provided by the State of California Economic Development Division using the March 2016 Benchmark.
5. Historical population estimates and projections are provided by the State of California Department of Finance Demographic Unit.
6. The long-term Los Angeles County economic forecast with quarterly short-run updates is provided by UCLA Anderson Forecast.
7. The construction activity forecast is provided by Dodge Data and Analytics.
8. The Electric Vehicle forecast is consistent with the 2016 IRP.
9. The LADWP program energy efficiency forecast is based on the AB 2021 goals adopted by Board Resolution and is consistent with 2016 IRP. Historical installations are provided by the Efficiency Solutions Group.
10. The forecasted impacts of the Energy Independence Security Act (EISA) and the Huffman Bill on residential lighting rely on the Energy Efficiency Potential Study prepared in 2014 by Nexant.
11. Projected solar rooftop installations are consistent with the 2016 IRP. Historical installations are provided by the Solar Energy Development Group.
12. Electric prices are based on FYE 2017 Power System Case 4 developed by Financial Services Organization.

Five-Year Sales Forecast

The Forecast represents total sales that will be realized at the meter incorporating future savings from known energy efficiency technologies and future loads expected to be served by distributed generation. The Forecast does not include changes in sales that may result from emerging technologies. Private enterprise and government are both currently funding new research mainly in the pursuit to slow man-made climate change. For example, the State of California has adopted an ambitious Energy Action Plan that includes four "Big Bold Strategies" for significant energy savings. The Energy Action Plan requires all new residential construction to be zero net energy by 2020; all new commercial construction to be zero net energy by 2030; Heating, Venting and Air Conditioning (HVAC) industry to be re-shaped to deliver maximum performance HVAC systems; and all eligible low-income customers be provided with all cost-effective energy efficiency measures in their residences by 2020.

The historical accumulated energy efficiency and solar savings reported in the Forecast are from 1999 forward. The 2016 Forecast only included savings from Codes and Standards from 2012 forward; in the 2017 Forecast, historical Codes and Standards savings for the years 1999 through 2011 based on California Energy Commission (CEC) analysis are included. True accumulated energy efficiency would more likely be dated back to 1974 when the Warren-Alquist Act passed in California but accurate records are not available. In the Forecast, projected energy efficiency and solar savings are expected to occur uniformly throughout the year as a simplifying assumption.

The LADWP billing system underwent a conversion in September 2013. It is the opinion of the Load Forecast Group that sales in FYE 2014 and 2015 are under-reported.

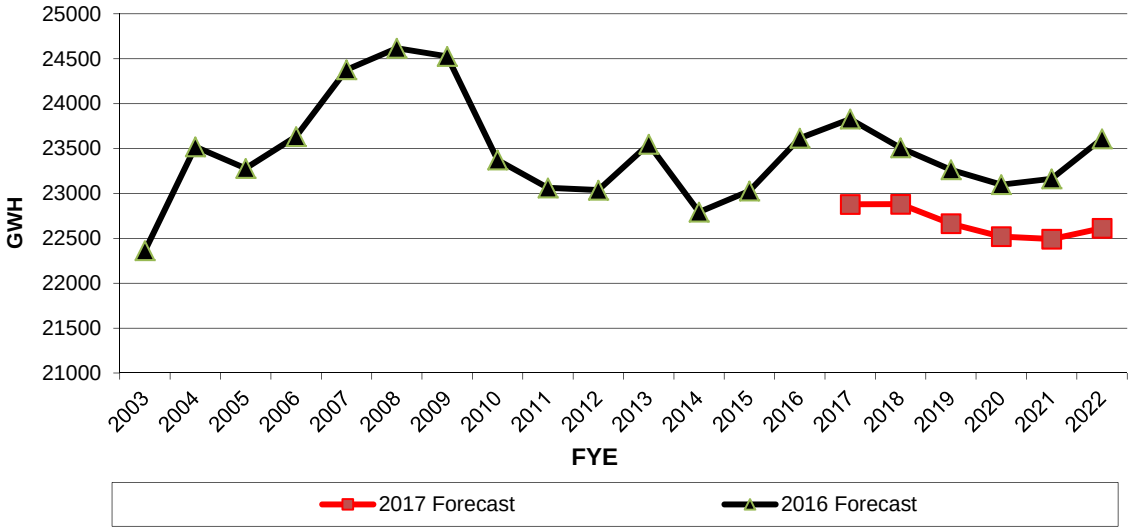
Estimated sales for FYE 2017 are 255 GWH or 1.1 percent below recorded sales in FYE 2016, and the compounded growth rate for sales is estimated to be -0.4 percent over the five-year budget period. This result is mainly attributed to accelerated incremental savings from LADWP's energy efficiency and solar distributed generation programs, and expected increases in real electric rates. In the Forecast, electric rate increases are lagged one year to allow for customer behavior to change.

Historical and future retail sales would be significantly higher absent LADWP energy efficiency and solar distributed generation programs. Based on installed savings, sales have been reduced by 2679 GWH since FYE 2000 through LADWP-sponsored programs. LADWP is accelerating these savings programs and retail sales are expected to be reduced by another 2244 GWH over the next five years.

Short-Run Growth

Fiscal Year Ending June 30	Retail Sales (GWH)	YOY Growth Rate	Accumulated EE & Solar Savings (GWH)	Estimated Sales wo Programs & Standards (GWH)	YOY Growth Rate
2016-17	22878		2679	25557	
Forecast					
2017-18	22880	0.0%	3260	26141	2.3%
2018-19	22663	-0.9%	3854	26517	1.4%
2019-20	22520	-0.6%	4366	26886	1.4%
2020-21	22492	-0.1%	4724	27216	1.2%
2021-22	22613	0.5%	4923	27536	1.2%

Retail Sales Net of Energy Efficiency and Distributed Generation



Peak Demand Forecast

Growth in annual peak demand over the next ten years is 0.4 percent.

Long-Run Growth

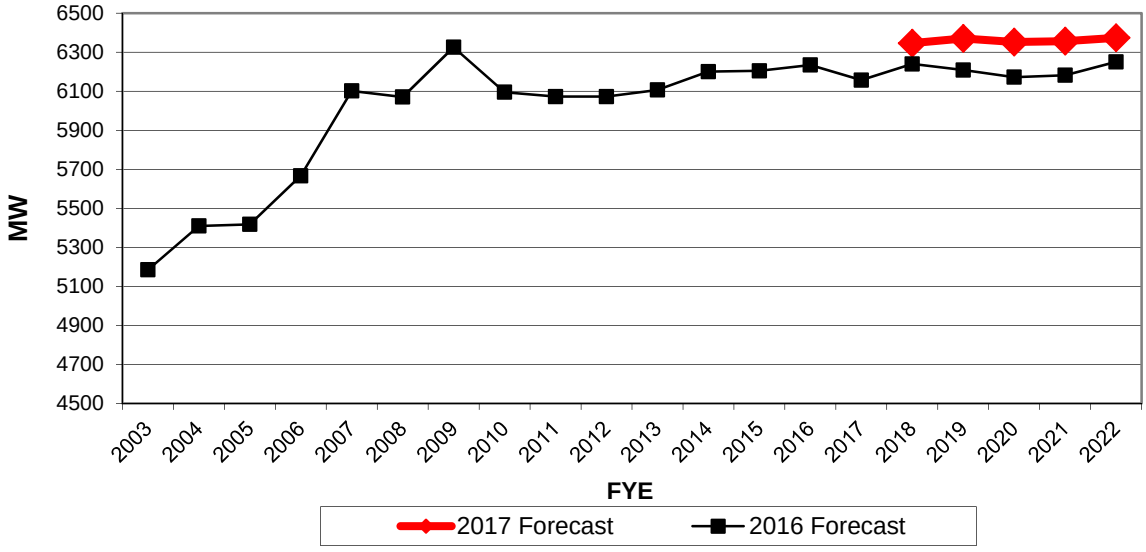
Fiscal Year End June 30	Base Case Peak Demand (MW)	Growth Rate Base Year 2016-17	One-in-Ten Peak Demand (MW)
2016-17	5733[1]		6235
2017-18	5854[1]		6347
Forecast[2]			
2021-22	5889	0.5%	6423
2026-27	6129	0.7%	6640
2036-37	6716	0.8%	7288
2040-41	6998	0.8%	7600

[1]Weather-normalized. Actual peak was 5762 MW in 2016-17 and 6432 MW in 2017-18.
[2]Forecast has been modified to include all-time high occurred on August 31, 2017.

The System set its all-time high peak at 6432 MW on August 31, 2017, a 1-in-12.6 weather event. The weather-adjusted One-in-Two peak for 2017 is 5854 MW. The previous System all-time high peak at 6343 MW was set on September 16, 2014, a 1-in-10.4 weather event. Included in the weather-adjusted peak are normalized DC line losses from the Nevada-Oregon border (NOB). NOB DC line losses at the peak hour on August 31, 2017 were 224 MW, which is higher than the average loss of 173 MW used in the peak weather-normalization calculation.

The following graph of the One-in-Ten Peak Demand Forecast is used for the Integrated Resource Plan (IRP). Peak demand growth generally has been diverging from sales growth. In the last 15 years, annual percentage change for Total Sales was 0.1%, compared to 1.2% for Peak Demand. To incorporate this, in the 2017 Forecast, LADWP used a slightly reduced System load factor while keeping its assumption of future peak being a constant load factor relative to NEL. Adjustments are also made for the Huffman Bill, energy efficiency, electric vehicles and solar distributed generation.

One-in-Ten Peak Demand Forecast Comparisons



In general, system load factors are trending down. Given a constant energy production, a lower load factor means a higher peak. Three considerations are generally thought to be contributing to the lower load factor: 1) customers are making greater efforts to conserve energy but during extreme weather events safety and comfort predominate over conservation causing the peak to spike; 2) the majority of the historical and forecasted energy efficiency effort is oriented toward reducing consumption rather than peak; and 3) solar distributed generation production peak is non-coincident with system peak.

In contrast to the trend listed above, future load factor may increase if LADWP sees greater demand forward use of electric vehicles.

Summer system peak appears to be shifting toward later hours primarily due to the growth of distributed solar generation and electric vehicles. Three of the last five annual peaks occurred at Hour Ending (HE) 1700. LADWP models the peak to occur at Hour Ending 1600. Planners need to be mindful of the potential load shift.

The impacts from Demand Response programs including XRT Rates and Summer Shift are not included in this Forecast.

The Peak Demand Forecast is primarily used in the following areas:

1. Integrated Resource Planning
2. Wholesale Energy Marketing
3. Distribution Planning
4. Transmission Planning

For most planning, LADWP uses the One-in-Ten Case Peak Demand forecast rather than the Base Case forecast. LADWP's policy is to ensure reliability in times of volatility by controlling its own generation capacity. Planning at the One-in-Ten level has proven

over the years to be an effective tool in ensuring system reliability. The One-in-Ten case is based on historical peak day weather events.

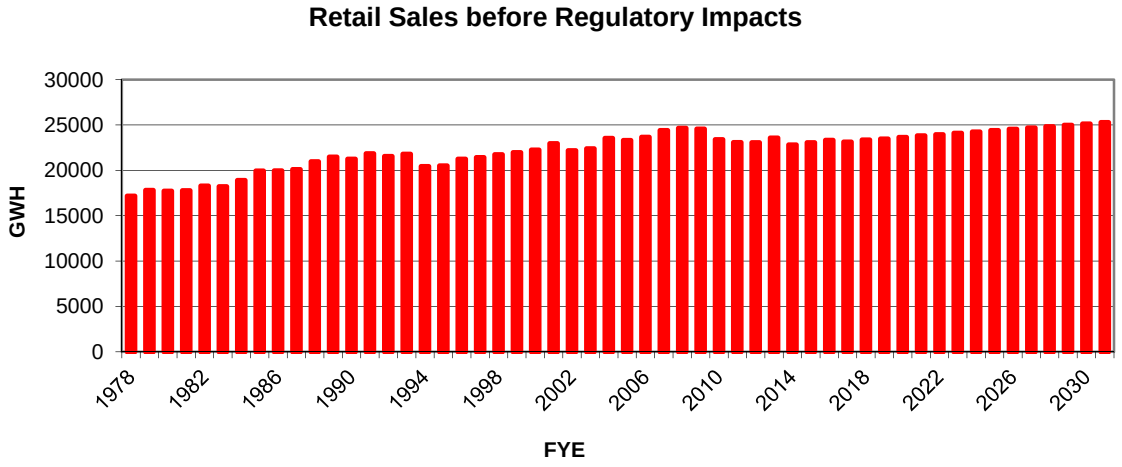
Plausibility

To measure plausibility of our sales forecast, LADWP assumes that growth in energy efficiency, distributed generation and electric vehicle consumption, negative or positive, is in a steady state and then compares the 2017 Forecast prior to adjustments to historical periods. The forecast prior to adjustments for program initiatives is called the unmitigated forecast. In the unmitigated forecast, the change variables are employment, personal income, construction activity and retail electric prices.

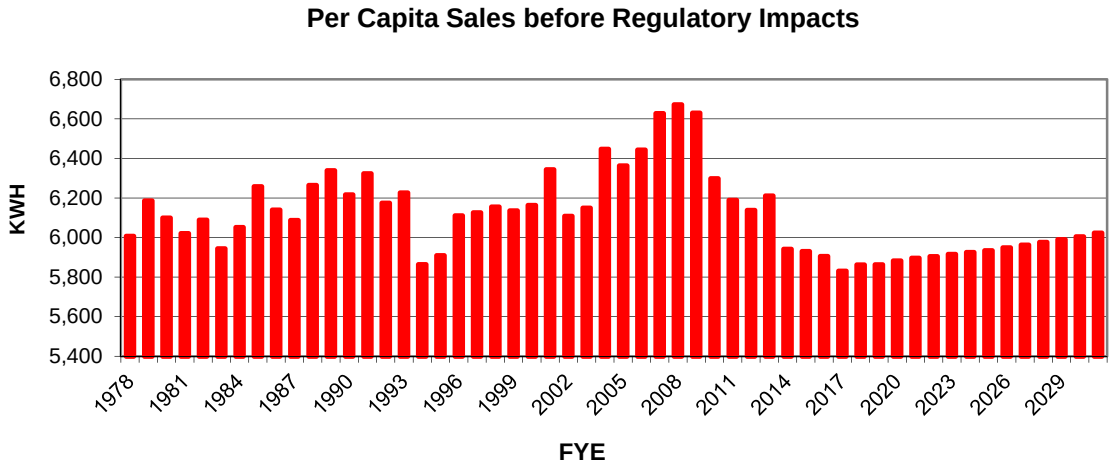
The 2008 recession coupled with historically ambitious energy efficiency and distributed generation programs implemented between 2000 and 2016 lowered the trajectory of electric sales significantly. Without the growth in electric vehicles, based solely on the economic variables in the Forecast and assuming energy efficiency Codes and Standards remain in a steady-state; sales will not reach 2008 levels until 2022.

Sales in FYE 2014 declined unexpectedly given a strong underlying local economy. In the 2016 Forecast much of this decline was attributed to the change in billing systems. It was understood that some bills were deferred as the new billing system was being fine-tuned; therefore the 2016 Forecast models included variables to quantify the billing system change effect. Subsequent research suggests that these billing system change variables were correlated with other factors and might have overstated the impact due to the change in billing systems. For example, contemporaneously to the change in billing systems, a large cogeneration customer stopped wheeling its power generation which also lowered sales. Also the billing change variable might have been picking up effects from rate changes and other effects from energy efficiency and distributed generation. In the 2017 Forecast, all the billing change variables have been removed.

The following table shows the long-term perspective.



An alternative way to look at historical and forecasted sales is on a per capita basis. Sales on a per capita basis peaked in FYE 2008 at 6671 KWH per capita. On a per capita basis, sales will be well below this level at the end of the forecast period.



On a per capita sales basis, very low numbers were recorded in FYE 2014 through 2016 compared to what was recorded in the three years previous. The lower per capita sales are probably a combination of billing changes and lower sales due to distributed generation, energy efficiency, conservation and higher electric rates. In general, higher electric rates encourage increased distributed generation, energy efficiency and conservation.

The economic outlook is fundamentally changed in the 2017 Forecast. On the Federal level, the current Administration's proposed budget is calling for higher deficit spending in the near term through tax cuts as a part of tax reform bill coupled with higher spending on military and infrastructure. The details of all these proposals have yet to be written into law and in the end the final law will inevitably differ from the proposal. Even if we do not see all these increases on the Federal level, California, on the state level, has made a commitment to increasing infrastructure spending through its increased gas tax mechanism.

As we write, the current expansion is into its 96th month versus the average historical expansion of 60 months. The longest expansion since World War II has been 120 months. Full employment is sustainable for a long period but the next recession is likely now somewhere on the horizon. Faster growth would require positive growth in net migration as the large cohort of baby boomers are nearing the stage when they are most likely to retire and leave the labor force rather than continue working.

In 2016, net migration was a negative 15,000 people in Los Angeles County. The last positive year for net migration in Los Angeles County was 2011. Population growth has been due to natural increase (the difference between the number of live births and the number of deaths).

Variables in the Forecast

Population: The 2010 United States Census reported 3,792,621 residents in the City of Los Angeles. This number was well below the previous 4,094,764 estimated by State of California Department of Finance Demographic Unit at the time. The State relies on birth-death records and driver license data to estimate population between censuses. The

2000 United States Census reported a population of 3,694,742 for the city of Los Angeles. The population growth rate was only 0.26 percent per annum in the first decade of the 21st century. Since the 2010 census, Department of Finance has estimated an increase in population for the City of Los Angeles of 238,283 people or 1.0 percent a year. In the same time period, LADWP has added 38,598 residential accounts or 0.5 percent per annum. As these differences show, the estimate of population can be problematic between censuses. Additionally, two issues may be affecting the count the number of residential accounts. The Billing System is counting billing adjustments differently since the changeover to CCB. Also LADWP may no longer be individually metering all the units in large apartment buildings especially if the buildings include solar distributed generation.

Retail Electric Prices: Retail Electric prices in this Forecast are based on Power System FYE 2017 Financial Plan Case 4. Some costs are recovered through pass-through rates which vary over time and are a potential source for variance in the Forecast. Nominal price changes are deflated using the Consumer Price Index and the Gross State Product Deflator forecasted by UCLA Anderson Forecast. Price elasticities are statistically derived from the sales models based on historical interactions within the LADWP service area. The derived price elasticities are at the upper bounds of national and international historical research. Elasticities may be overstated since they are highly correlated with LADWP energy savings programs and LADWP's billing system changeover.

Sector	Price Elasticity (%)
Residential	-.35
Commercial	-.29
Industrial	-.70

Customer Care & Billing System: The Customer Care & Billing System (CCB) replaced the TRES system in September 2013. From a forecasting perspective, the reported data was inconsistent and erratic as adjustments were made to the billings. In the 2016 Forecast LADWP used smoothing techniques in its modeling of data to account for the changeover since in the Load Forecast Group's opinion the sales data was normalizing. The smoothing techniques once again led to sales underperforming the Forecast so that the techniques were not included in the 2017 Forecast.

Sustainable Communities and Climate Protection Act (SB 375): SB 375 layers statewide guidelines onto local planning decisions. The goal is to reduce vehicle miles traveled thereby reducing emissions, and to encourage more compact, complete, and efficient communities for the future. SB 375 favors redevelopment areas near transportation centers over new development. In LADWP service territory, many apartment complexes are being built in downtown and vacant industrial land has been replaced with residential and commercial buildings. In 2017, workshops are being held to evaluate whether or not targets are being met. New policies could arise out of these workshops.

Zero Net Energy Policy: Current state law states that all new residential building will be zero net energy by 2020 and all new commercial buildings will be zero net energy by 2030.

Emission Allowances: AB 32 program seeks to reduce greenhouse gas emissions to 1990 levels using a cap-and-trade approach. In 2016, AB 32 was replaced by SB 32. SB 32 sets new targets for the State of California to reduce greenhouse emissions to 40 percent below 1990 levels. Workshops are being held in 2017 to revise policies and programs to meet this new goal. SB 32 impacts the Forecast mainly through the retail price forecast and the increase in electricity consumed by electric vehicles. Potential changes in SB 32 policy and program design add an element of uncertainty to the Forecast.

Large Construction Projects: Most construction activity currently is concentrated in large projects and this trend is forecasted to continue. The last of the small developers left the market during the 2008 recession, ending a trend that began in the 1990s. Having development concentrated in larger projects could potentially lead to faster and bigger swings in construction activity since each project is a larger percentage of overall construction activity. During the last recession, many large projects were deferred or abandoned.

Uncertainty in Economic Forecast: This Forecast uses the UCLA Anderson long-term economic forecast. This Forecast was based on a continuation of Obama-era economic policies. The new Administration has very different view of fiscal policy. Tax cuts, tax reform, military spending, infrastructure spending and immigration policy could all change the trajectory of the economy. As this Forecast is being written, there are many proposals on the table and outcomes are unclear.

Electric Vehicles: Electric vehicles are a key strategic initiative for LADWP. The Forecast adopts the numbers approved in the 2016 IRP.

The 2017 Forecast uses the same load shape that was first revised in the 2016 Forecast. In the 2016 Forecast, load was shifted to daytime and evening hours from nighttime. The load shape shift increases the peak demand in the Forecast.

Energy Efficiency: The Forecast uses the AB 2021 Energy Efficiency goals adopted by the Board on August 5, 2014.

Title 24 Building and Appliance standards are included in the AB 2021 goal of reducing electric consumption by fifteen percent by year 2020. This action aligns LADWP's policy with the California's investor-owned utilities.

In a change from the 2016 Forecast, the 2017 Forecast includes all the energy efficiency savings adopted in 2016 Integrated Resource Plan (IRP). In previous Forecasts, energy efficiency savings were only included through the five-year program window. Final decisions on energy efficiency savings are made in the Integrated Resource planning process.

One finding from the Energy Efficiency Potential Study is that energy efficiency in the LADWP service area is more effective in reducing energy consumption and less effective in reducing coincident peak demand.

Demand Response: LADWP is experimenting with several different Demand Response programs. The goal is to obtain 200 MW by 2020 and 500 MW by 2026. LADWP has had a voluntary load curtailment program in place for many years however it has not been consistently used on the peak days because capacity has not been constrained.

In summer 2016, LADWP adopted a Summer Shift program which reduced peak demands in July, August and September by an estimated 100 MW. LADWP plans to continue the Summer Shift program in 2017.

As in previous forecasting cycles, Demand Response effects are accounted for in the IRP instead of the Forecast. As such, to the extent Demand Response programs are employed in the future, some of the forecasted demand will not be realized at the meter.

Distributed Solar Generation: In a change from the 2016 Forecast, impacts to future sales from the installation of distributed solar are modeled over the entire forecast period based on 2016 IRP. Previous forecasts only forecast the change in sales and peaks though the Budget program years.

A unique characteristic of LADWP's residential sector is that over half the population are renters living in large apartment complexes containing five or more units. Because of this fact, LADWP does not have the technical and market potential for behind the meter solar installation when compared to other utilities in the State. Solar panels installed behind the meter reduce LADWP energy sales but not consumption.

The alternative for LADWP is to have solar panels directly connected to the grid using the feed-in tariff mechanism. When solar panels are connected to the grid it becomes wholesale energy and neither retail sales nor consumption are affected. Details of LADWP's solar strategy are included in the IRP.

Smart Grid Investment Program: LADWP is conducting a smart grid demonstration project. Outcomes are yet to be determined. All future impacts from the project are detailed in the IRP. Smart Grid is an integrated strategy which will affect future LADWP policy regarding Demand Response, Electric Vehicle, Customer Behavior and Cyber Security.

Recent characteristics of Residential Sector: The LADWP service area has the lowest rate of owner-occupied housing in the United States at 38 percent. The Millennial Generation throughout the United States and Los Angeles has delayed forming traditional households when compared to previous generations. There is growing concern that the scarcity of affordable housing will continue to keep the owner-occupied rate down in Los Angeles. The California Department of Finance has vacancy rate in LADWP service area is moderately on the high side at 5.9 percent. The 25-year low for vacancy rate was 4.6 percent in 1994. However there are private surveys that show that vacancy is as low as 2.8% in the apartment rental markets. The private surveys may be only covering the large apartment complexes which would partially explain the difference. Los Angeles residents spent 50 percent of their income on rent in 2016 compared to the 28 percent that they spent in 2000. This is the highest ratios of rent to income for any city in the United States according to Zillow. The fair market rent in Los Angeles for a standard two-bedroom

apartment increased by 3.7% between 2016 and 2017, and the median house price increased by $23,000 according to California Association of Realtors.

Recent Characteristics of the Commercial Sector: In the retail sector, the combination of the growth in big box retailer and buying over the internet is hurting the B and C graded malls. The Grade A or "high-end" malls are still viable but they are changing their retail mix to become more of a destination type experience by adding theaters and restaurants. Vacancy rates in commercial office space are improving but are still high when compared to historical averages. There is an argument that current vacant office space is not configured for the higher density offices that employers favor today, which is an indication that this space is not vacant but instead should be torn down or remodeled. There is some anecdotal evidence that subleasing activity is up. High rates of office subleasing often occur close to the top of a market.

Port of Los Angeles: In 2016, the Port set a new record when cargo volumes reached 8.8 million TEUs, marking the busiest year ever for a Western Hemisphere Port. With the opening of newly expanded Panama Canal in June 2016, there will be increased competition for cargo wharfage and increased pressure on the Port of Los Angeles. Ultimate impacts on electric sales are unknown. At this point in the business cycle, the Port of Los Angeles does not expect a large slowdown due to the Panama Canal expansion. If there is a recession, the eastern ports in combination with the Panama Canal might compete for a larger share of a potentially smaller market. Los Angeles leads in total dollar value of shipments through its ports while Gulf of Mexico and Eastern seaports lead in tonnage. The most obvious reason for this difference is the transportation of oil and other fuels.

In June 2017, the Mayor announced that the Port of Los Angeles will strive to become a zero greenhouse emission facility. Targets and timelines for achieving this goal will be announced in November 2017. Incremental electric sales that may result are not included in this Forecast.

Losses in NEL: The loss factor used to calculate NEL after FYE 2017 is 12 percent. For a two-year period after the change in billing systems in FYE 2014 and FYE 2015, rolling twelve-month losses reached as high as 15.2 percent. In our opinion, sales were being under-reported in this time frame due to the conversion of CCB. For FYE 2016 and 2017, losses are still high at 12.6% and 12.5% respectively.

Although the Load Forecast includes a loss factor of 12%, the IRP Group has found in a preliminary study that future generation mix may lower the loss factor to 11%.

A separate initiative within LADWP seeks to find additional ways to lower system losses. This initiative is not included in the Forecast.

NEL Accounting: Preliminary analysis indicates that the energy received assumption from Distributed Generation and the Feed-in Tariff programs might have overstated annual NEL by approximately 146 GWH in calendar year 2015 and 70 GWH in 2016. Annual Peak Demand in 2015 would be an estimated 6215 MW instead of the reported 6234 MW. Calendar peak in 2016 would be an estimated 6042 MW instead 6052 MW.

2017 ENERGY AND DEMAND FORECAST

NET ELECTRICITY SALES BY CUSTOMER CLASS AND SYSTEM PEAK DEMAND WITH REGULATORY IMPACTS

	Page 17	Page 18	Page 19			Page 16				Page 15			Page 13		
	SECTOR SALES					Total Sales to Ultimate	LOSSES			Net Energy	Customer	Service	Peak	Customer Self-Generation	Service
Fiscal Year	Residential (GWh)	Commercial (GWh)	Industrial (GWh)	Miscellaneous* (GWh)	Electric Vehicles (GWh)	Customers (GWh)	Total (GWh)	Percentage (%)	DC Line (GWh)	for Load (GWh)	Self-Generation (GWh)	Area Load (GWh)	Demand (MW)	Peak (MW)	Area Peak (MW)
2000-01	7,542	12,248	2,754	389	0	22,934	2,753	10.7%	407	25,688	1,294	26,982	5,299	184	5,483
2001-02	7,282	11,979	2,496	391	0	22,149	2,755	11.1%	350	24,903	1,059	25,962	4,805	181	4,986
2002-03	7,358	12,230	2,383	392	0	22,363	3,006	11.8%	444	25,370	1,069	26,439	5,185	184	5,369
2003-04	8,061	12,559	2,485	414	0	23,520	3,181	11.9%	239	26,701	1,081	27,782	5,410	187	5,597
2004-05	7,907	12,502	2,447	423	0	23,279	3,059	11.6%	216	26,338	1,081	27,420	5,418	187	5,605
2005-06	8,051	12,699	2,451	432	0	23,634	3,194	11.9%	482	26,828	1,083	27,911	5,667	187	5,854
2006-07	8,495	13,130	2,332	421	0	24,378	3,125	11.7%	377	27,502	1,084	28,586	6,102	188	6,290
2007-08	8,540	13,269	2,366	441	0	24,617	3,311	11.9%	425	27,928	1,086	29,014	6,071	188	6,260
2008-09	8,578	13,210	2,303	434	0	24,526	2,921	10.6%	350	27,447	1,089	28,536	5,647	189	5,836
2009-10	8,300	12,582	2,073	417	0	23,373	3,153	11.9%	262	26,526	1,096	27,622	5,709	191	5,899
2010-11	8,068	12,429	2,189	376	0	23,062	3,191	12.2%	598	26,252	1,111	27,364	6,142	194	6,336
2011-12	8,162	12,601	1,924	349	0	23,037	3,515	13.2%	886	26,552	1,137	27,689	5,907	201	6,108
2012-13	8,442	12,845	1,947	314	0	23,548	3,606	13.3%	888	27,154	1,181	28,335	5,782	219	6,000
2013-14	7,957	12,740	1,827	269	0	22,793	3,963	14.8%	836	26,756	1,266	28,022	5,862	230	6,092
2014-15	8,131	12,938	1,720	239	0	23,028	3,664	13.7%	506	26,692	1,307	27,999	6,343	240	6,583
2015-16	8,291	13,109	1,630	262	0	23,292	3,364	12.6%	615	26,657	1,358	28,015	6,234	253	6,487
2016-17	8,060	12,869	1,689	255	6	22,878	3,302	12.6%	574	26,180	1,440	27,620	5,762	273	6,035
2017-18	8,017	12,689	1,804	267	103	22,880	3,130	12.0%	574	26,010	1,542	27,552	6,432	298	6,730
2018-19	8,017	12,404	1,792	268	182	22,663	3,109	12.1%	574	25,772	1,593	27,366	5,881	311	6,192
2019-20	8,008	12,179	1,799	268	265	22,520	3,165	12.3%	574	25,684	1,636	27,320	5,866	322	6,188
2020-21	8,013	12,059	1,806	269	345	22,492	3,093	12.1%	574	25,585	1,677	27,262	5,872	332	6,204
2021-22	8,046	12,056	1,813	270	428	22,613	3,091	12.0%	574	25,703	1,719	27,422	5,889	342	6,231
2022-23	8,088	12,118	1,818	271	508	22,802	3,118	12.0%	574	25,919	1,761	27,681	5,933	353	6,286
2023-24	8,140	12,215	1,820	271	587	23,033	3,212	12.2%	574	26,245	1,803	28,048	5,976	363	6,339
2024-25	8,201	12,339	1,823	272	650	23,286	3,174	12.0%	574	26,459	1,852	28,311	6,029	375	6,405
2025-26	8,258	12,462	1,828	273	716	23,537	3,211	12.0%	574	26,748	1,925	28,673	6,076	393	6,469
2026-27	8,327	12,602	1,833	273	771	23,807	3,246	12.0%	574	27,053	1,971	29,023	6,129	405	6,534
2027-28	8,399	12,742	1,838	274	826	24,078	3,350	12.2%	574	27,428	2,012	29,440	6,182	415	6,597
2028-29	8,472	12,881	1,842	275	872	24,341	3,320	12.0%	574	27,662	2,053	29,715	6,239	425	6,665
2029-30	8,546	13,015	1,847	275	925	24,609	3,352	12.0%	574	27,961	2,095	30,055	6,291	435	6,727
2030-31	8,619	13,146	1,852	276	973	24,867	3,393	12.0%	574	28,260	2,136	30,396	6,348	446	6,794
2031-32	8,694	13,281	1,857	277	1,025	25,135	3,497	12.2%	574	28,631	2,177	30,809	6,400	456	6,856
2032-33	8,771	13,431	1,862	278	1,073	25,415	3,468	12.0%	574	28,883	2,218	31,101	6,473	466	6,940
2033-34	8,851	13,592	1,868	278	1,125	25,714	3,504	12.0%	574	29,218	2,260	31,477	6,514	476	6,990
2034-35	8,931	13,755	1,873	279	1,177	26,015	3,547	12.0%	574	29,561	2,301	31,862	6,576	487	7,062
2035-36	9,011	13,922	1,878	280	1,229	26,320	3,661	12.2%	574	29,981	2,336	32,317	6,633	495	7,128
2036-37	9,100	14,110	1,883	281	1,281	26,654	3,632	12.0%	574	30,286	2,341	32,627	6,716	496	7,212
2037-38	9,190	14,300	1,888	281	1,333	26,993	3,677	12.0%	574	30,669	2,341	33,010	6,769	496	7,266
2038-39	9,281	14,490	1,893	282	1,385	27,331	3,724	12.0%	574	31,055	2,341	33,395	6,841	496	7,338
2039-40	9,372	14,678	1,899	283	1,437	27,668	3,841	12.2%	574	31,509	2,341	33,849	6,911	496	7,407
Annual Percent Change															
1993-2003	0.46%	0.44%	-1.17%	0.85%		0.27%				0.37%		0.34%	-0.18%		-0.11%
2001-16	0.68%	0.49%	-3.68%	-2.78%		0.11%				0.26%		0.27%	1.17%		1.21%
2016-22	-0.50%	-1.39%	1.80%	0.46%		-0.49%				-0.61%		-0.36%	-0.95%		-0.67%
2016-26	-0.04%	-0.51%	1.16%	0.38%		0.10%				0.03%		0.23%	-0.26%		-0.03%
2016-36	0.42%	0.30%	0.71%	0.32%		0.61%				0.59%		0.72%	0.31%		0.47%
2016-40	0.49%	0.45%	0.61%	0.30%		0.69%				0.67%		0.76%	0.41%		0.53%

Table updated through December 2016

Electric Vehicle Sales before December 2016 included in Residential and Commercial Sales

Intradepartmental sales, historically included in Miscellaneous, are now included in Commercial sector

***'Miscellaneous' includes Streetlighting, Owens Valley.

PEAK DEMAND - MW
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	MAXIMUM
2001-02	4799	4805	4681	4604	3694	3626	3632	3576	3421	3599	4177	4493	4805
2002-03	4910	4874	5185	4463	4039	3735	3878	3724	3932	3860	4782	4522	5185
2003-04	5337	5410	5273	4159	3825	3887	3632	3606	4080	5161	5316	4448	5410
2004-05	5402	5123	5418	4087	3701	3956	3848	3698	3583	3815	4629	4524	5418
2005-06	5667	5405	5093	4692	4040	3732	3709	3702	3677	3592	4587	5498	5667
2006-07	6102	5305	5656	4529	4406	3965	4023	3694	4214	4059	4840	4729	6102
2007-08	5341	6071	5917	4557	4052	3908	3908	3778	3868	4769	5303	6006	6071
2008-09	5128	5384	5472	5647	3997	4176	3707	3672	3706	5064	4761	4304	5647
2009-10	5569	5553	5709	4510	3794	3918	3925	3756	3597	3523	3818	4322	5709
2010-11	5511	5592	6142	4900	4457	3786	3766	3628	4114	4246	4518	4387	6142
2011-12	5340	5348	5907	5039	3591	3887	3575	3525	3457	4071	4288	4343	5907
2012-13	5009	5782	5775	5477	4111	3807	3854	3546	3620	3712	5222	5305	5782
2013-14	5300	5856	5862	3964	3892	3798	3472	3458	3637	4320	5612	4576	5862
2014-15	5517	5327	6343	4838	3887	3616	3448	3496	4148	4212	4040	5090	6343
2015-16	4946	5821	6234	5529	3481	3614	3610	3858	3532	3917	3597	6052	6234

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	MAXIMUM
2016-17	5762	5406	5761	4376	4285	3551	3715	3568	3775	3847	4297	5413	5762
2017-18	5639	6432	5689	4653	3763	3685	3568	3567	3696	4003	4303	4816	6432
2018-19	5297	5881	5634	4607	3727	3650	3537	3536	3664	3965	4262	4770	5881
2019-20	5248	5866	5581	4564	3695	3618	3525	3536	3652	3948	4245	4751	5866
2020-21	5227	5872	5559	4546	3683	3606	3529	3529	3656	3950	4246	4754	5872
2021-22	5230	5889	5563	4547	3688	3611	3559	3559	3687	3977	4276	4787	5889
2022-23	5268	5933	5603	4579	3719	3641	3589	3589	3718	4003	4305	4821	5933
2023-24	5305	5976	5643	4611	3750	3672	3631	3638	3761	4043	4348	4870	5976
2024-25	5360	6029	5702	4658	3793	3714	3667	3667	3799	4078	4386	4913	6029
2025-26	5408	6076	5754	4699	3831	3752	3711	3710	3844	4121	4433	4967	6076
2026-27	5467	6129	5817	4750	3877	3796	3751	3750	3885	4161	4476	5016	6129
2027-28	5522	6182	5875	4796	3919	3837	3795	3797	3931	4207	4525	5071	6182
2028-29	5583	6239	5941	4849	3965	3883	3834	3834	3972	4246	4568	5120	6239
2029-30	5637	6291	5998	4895	4006	3923	3878	3878	4017	4291	4617	5175	6291
2030-31	5698	6348	6063	4948	4052	3967	3916	3916	4057	4330	4659	5222	6348
2031-32	5750	6400	6119	4993	4092	4007	3962	3957	4104	4376	4709	5278	6400
3032-33	5813	6473	6186	5047	4139	4053	4005	4004	4149	4420	4756	5332	6473
2033-34	5872	6514	6250	5098	4184	4097	4054	4054	4200	4471	4811	5394	6514
2034-35	5941	6576	6324	5157	4236	4148	4099	4099	4246	4517	4861	5450	6576
2035-36	6003	6633	6390	5211	4283	4194	4151	4140	4300	4570	4919	5516	6633
2036-37	6076	6716	6467	5273	4337	4247	4203	4202	4354	4623	4977	5581	6716
2037-38	6148	6769	6544	5335	4391	4300	4257	4256	4410	4680	5037	5649	6769
2038-39	6224	6841	6625	5401	4448	4355	4309	4308	4464	4733	5095	5715	6841
2039-40	6296	6911	6702	5463	4502	4408	4363	4345	4520	4789	5156	5783	6911

MINIMUM DEMAND - MW
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	AVERAGE
2001-02	1933	1944	1985	1927	1879	1988	2010	1936	1881	1932	1879	1942	1936
2002-03	2009	1986	2015	1940	1917	1984	1996	1996	1913	1858	1892	1996	1959
2003-04	2140	2187	2163	1808	1982	2030	2107	2103	1931	1926	1912	2095	2032
2004-05	2071	2171	2161	2061	2057	2108	1984	2083	1982	1944	1925	2035	2049
2005-06	2100	2187	2043	2083	2085	2128	2109	2074	2114	2041	2068	2122	2096
2006-07	2406	2246	2196	2093	2088	2242	2276	2170	2080	2036	2050	2152	2170
2007-08	2287	2289	2173	2146	2106	2114	2229	2190	2121	2125	2078	2192	2171
2008-09	2262	2347	2229	2182	2091	2155	2131	2135	2117	2022	2062	1997	2144
2009-10	2041	2172	2155	2049	2050	2170	2142	2107	2047	2015	2000	2066	2085
2010-11	2084	1925	1981	2029	2045	2091	2126	2151	2094	2061	2031	2055	2056
2011-12	2114	2207	2134	2056	2062	2144	2033	2042	2016	2108	2058	2150	2094
2012-13	2039	2244	2176	2091	2024	2101	2077	2037	2020	2039	2116	2024	2082
2013-14	2189	2108	2034	2086	2053	2076	2108	2044	2149	2087	2201	2230	2114
2014-15	2354	2327	2174	1848	2032	2061	2081	1983	2018	2036	2010	1977	2075
2015-16	2110	2231	2206	2143	2030	2109	2071	2001	2027	2069	2059	2096	2096

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	AVERAGE
2016-17	2241	2186	2087	2068	2104	2133	2058	1914	2093	2052	2155	2011	2092
2017-18	2093	2232	2271	2128	1958	2028	2038	1895	2073	2032	2135	1992	2073
2018-19	2073	2211	2249	2108	1939	2009	2021	1879	2055	2015	2116	1975	2054
2019-20	2055	2192	2229	2090	1923	1991	2014	1946	2048	2008	2109	1968	2048
2020-21	2049	2184	2222	2083	1916	1985	2016	1875	2051	2011	2112	1971	2040
2021-22	2051	2187	2225	2085	1919	1987	2034	1891	2068	2028	2130	1988	2049
2022-23	2068	2206	2244	2103	1935	2004	2051	1907	2085	2045	2147	2004	2067
2023-24	2086	2224	2262	2120	1951	2021	2074	2002	2109	2068	2172	2027	2093
2024-25	2110	2250	2289	2145	1974	2044	2095	1948	2130	2089	2194	2048	2110
2025-26	2131	2272	2312	2167	1994	2065	2120	1971	2156	2114	2220	2072	2133
2026-27	2156	2299	2339	2192	2017	2090	2143	1993	2179	2137	2244	2094	2157
2027-28	2180	2324	2364	2216	2039	2112	2168	2089	2205	2162	2271	2119	2187
2028-29	2205	2352	2392	2242	2063	2137	2191	2037	2228	2184	2294	2141	2206
2029-30	2228	2376	2417	2265	2084	2159	2216	2060	2253	2209	2320	2165	2229
2030-31	2254	2403	2445	2291	2108	2184	2237	2080	2275	2231	2343	2187	2253
2031-32	2276	2427	2469	2314	2129	2205	2263	2178	2302	2257	2370	2212	2283
3032-33	2302	2455	2497	2341	2154	2231	2288	2128	2327	2282	2396	2236	2303
2033-34	2327	2482	2524	2366	2177	2255	2316	2154	2355	2310	2426	2264	2330
2034-35	2356	2512	2556	2395	2204	2283	2342	2178	2382	2335	2453	2289	2357
2035-36	2382	2540	2584	2422	2228	2308	2372	2278	2412	2365	2484	2318	2391
2036-37	2412	2572	2617	2453	2257	2337	2401	2233	2442	2394	2515	2347	2415
2037-38	2442	2604	2649	2483	2285	2367	2432	2261	2473	2425	2547	2377	2445
2038-39	2474	2638	2683	2515	2314	2397	2462	2289	2503	2455	2578	2406	2476
2039-40	2504	2670	2716	2546	2342	2426	2493	2391	2535	2486	2610	2436	2513

NET ENERGY FOR LOAD- GWH
2017 ENERGY AND DEMAND FORECAST
2000-2001 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	2206	2338	2138	2109	1965	2044	2100	1830	1972	1966	2068	2168	24903
2002-03	2391	2324	2306	2096	2005	2076	2077	1854	2069	1957	2104	2111	25370
2003-04	2581	2621	2352	2262	1983	2139	2119	1964	2136	2069	2253	2221	26701
2004-05	2460	2444	2440	2175	2051	2187	2166	1912	2101	2020	2209	2172	26338
2005-06	2582	2572	2232	2221	2076	2154	2141	1927	2143	2015	2238	2527	26828
2006-07	2935	2589	2398	2187	2142	2227	2178	1972	2200	2091	2267	2318	27502
2007-08	2664	2760	2420	2267	2119	2222	2251	2079	2144	2132	2288	2580	27928
2008-09	2701	2703	2528	2406	2115	2240	2187	1962	2131	2069	2253	2152	27447
2009-10	2597	2523	2542	2176	2030	2201	2151	1917	2087	1985	2078	2239	26526
2010-11	2373	2424	2311	2171	2069	2165	2193	1953	2185	2068	2157	2183	26252
2011-12	2514	2570	2333	2201	2038	2164	2094	1916	2084	2111	2264	2262	26552
2012-13	2449	2845	2600	2280	2032	2178	2163	1885	2048	2077	2293	2303	27154
2013-14	2534	2523	2436	2160	2017	2124	2077	1860	2157	2118	2398	2353	26756
2014-15	2691	2631	2621	2331	1993	2104	2081	1845	2152	1994	2012	2239	26692
2015-16	2442	2701	2659	2448	1959	2024	2051	1927	2040	2003	2033	2368	26657

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	2639	2604	2362	2138	2054	2101	2023	1835	2068	1992	2097	2268	26180
2017-18	2531	2586	2489	2253	1957	2029	2004	1818	2048	1973	2077	2246	26010
2018-19	2507	2561	2465	2231	1938	2010	1986	1802	2030	1956	2059	2226	25772
2019-20	2485	2539	2444	2212	1922	1992	1980	1866	2024	1949	2052	2219	25684
2020-21	2477	2531	2436	2205	1915	1986	1982	1798	2026	1952	2054	2222	25585
2021-22	2480	2534	2439	2207	1918	1988	1999	1814	2044	1968	2072	2241	25703
2022-23	2501	2555	2459	2226	1934	2005	2016	1829	2061	1985	2089	2259	25919
2023-24	2522	2576	2480	2245	1950	2022	2039	1920	2084	2008	2113	2286	26245
2024-25	2552	2606	2509	2271	1973	2045	2059	1868	2105	2028	2134	2308	26459
2025-26	2577	2632	2534	2294	1992	2066	2084	1891	2130	2052	2160	2336	26748
2026-27	2608	2664	2564	2321	2016	2091	2106	1911	2153	2074	2183	2361	27053
2027-28	2636	2692	2592	2346	2038	2113	2131	2004	2179	2099	2209	2389	27428
2028-29	2667	2724	2622	2374	2062	2138	2153	1954	2201	2120	2232	2414	27662
2029-30	2694	2752	2649	2398	2083	2160	2178	1976	2226	2144	2257	2441	27961
2030-31	2725	2784	2680	2425	2107	2185	2199	1995	2248	2166	2280	2465	28260
2031-32	2752	2811	2706	2449	2128	2206	2225	2088	2274	2191	2306	2494	28631
2032-33	2784	2844	2737	2478	2153	2232	2249	2041	2299	2215	2331	2521	28883
2033-34	2814	2875	2767	2505	2176	2256	2277	2066	2328	2242	2360	2552	29218
2034-35	2849	2910	2801	2536	2203	2284	2302	2089	2353	2267	2386	2581	29561
2035-36	2881	2943	2832	2564	2227	2309	2331	2185	2383	2295	2416	2613	29981
2036-37	2917	2980	2868	2596	2256	2339	2360	2141	2413	2324	2446	2646	30286
2037-38	2954	3017	2904	2629	2284	2368	2391	2169	2444	2354	2478	2680	30669
2038-39	2992	3056	2941	2662	2313	2398	2420	2195	2474	2383	2508	2712	31055
2039-40	3028	3093	2977	2695	2341	2427	2450	2293	2505	2413	2540	2747	31509

TOTAL SALES TO ULTIMATE CUSTOMERS- GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	1971	1948	2055	1903	1845	1794	1827	1798	1738	1724	1657	1888	22149
2002-03	1977	1932	1977	2037	1819	1918	1849	1872	1678	1755	1691	1860	22363
2003-04	1948	2164	2200	2110	2027	1891	2006	1810	1735	1852	1843	1933	23520
2004-05	1991	2120	2116	2070	1895	1977	1969	1852	1778	1798	1756	1956	23279
2005-06	1998	2176	2151	2055	1874	2038	1985	1863	1831	1828	1781	2053	23634
2006-07	2234	2390	2304	2137	1953	1959	1983	1932	1852	1853	1850	1932	24378
2007-08	2147	2253	2365	2187	1986	1979	2005	2015	1896	1899	1855	2031	24617
2008-09	2383	2143	2300	2270	2079	1964	2007	2002	1799	1819	1836	1926	24526
2009-10	1982	2127	2253	2289	1867	1881	1947	1925	1760	1745	1712	1884	23373
2010-11	1944	1988	2069	2110	1892	1961	1958	1941	1789	1826	1780	1803	23062
2011-12	1981	2043	2176	2074	1885	1895	1881	1814	1745	1798	1813	1932	23037
2012-13	1951	2079	2322	2294	2031	1940	1921	1879	1760	1717	1770	1884	23548
2013-14	2017	2088	1893	1953	1921	1875	1858	1879	1831	1743	1836	1899	22793
2014-15	2048	2178	2141	2270	1921	1861	1822	1805	1750	1730	1715	1787	23028
2015-16	1957	2185	2233	2359	3114	879	1894	1823	1636	1747	1684	1781	23292

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	1965	2233	2134	1992	1963	1880	1859	1829	1738	1728	1730	1826	22878
2017-18	1962	2120	2180	2197	1962	1860	1847	1815	1718	1708	1708	1803	22880
2018-19	1938	2099	2163	2181	1947	1845	1833	1800	1701	1689	1687	1780	22663
2019-20	1917	2080	2149	2169	1935	1834	1824	1791	1691	1680	1678	1771	22520
2020-21	1909	2075	2146	2169	1934	1834	1821	1789	1689	1678	1676	1771	22492
2021-22	1910	2079	2153	2177	1943	1842	1833	1802	1702	1692	1691	1788	22613
2022-23	1928	2098	2172	2196	1960	1858	1848	1817	1715	1705	1704	1801	22802
2023-24	1943	2115	2190	2216	1978	1877	1867	1836	1735	1726	1726	1824	23033
2024-25	1967	2140	2215	2240	2001	1899	1888	1856	1753	1743	1743	1842	23286
2025-26	1985	2160	2235	2262	2021	1919	1908	1877	1774	1764	1765	1866	23537
2026-27	2011	2186	2261	2288	2045	1941	1930	1898	1793	1783	1784	1886	23807
2027-28	2032	2209	2284	2312	2067	1963	1952	1921	1815	1805	1807	1911	24078
2028-29	2057	2235	2310	2337	2090	1985	1973	1941	1834	1823	1825	1930	24341
2029-30	2078	2257	2333	2360	2112	2006	1995	1963	1856	1845	1848	1955	24609
2030-31	2103	2283	2358	2385	2135	2027	2015	1983	1875	1863	1866	1973	24867
2031-32	2123	2305	2381	2409	2157	2049	2037	2005	1897	1886	1889	1999	25135
3032-33	2149	2332	2407	2435	2181	2072	2059	2027	1917	1906	1910	2020	25415
2033-34	2172	2357	2433	2461	2205	2096	2083	2052	1942	1931	1935	2048	25714
2034-35	2200	2386	2461	2489	2231	2120	2107	2075	1964	1952	1957	2071	26015
2035-36	2225	2412	2487	2516	2255	2144	2131	2100	1988	1978	1984	2100	26320
2036-37	2255	2444	2518	2546	2283	2171	2156	2126	2014	2004	2010	2127	26654
2037-38	2284	2474	2548	2576	2310	2197	2183	2153	2041	2031	2038	2157	26993
2038-39	2316	2506	2579	2606	2338	2223	2209	2179	2067	2057	2065	2185	27331
2039-40	2345	2537	2609	2636	2365	2249	2235	2206	2094	2085	2093	2215	27668

RESIDENTIAL SALES - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	608	659	640	661	582	622	653	654	568	559	520	557	7282
2002-03	600	673	670	678	595	618	652	647	560	560	530	576	7358
2003-04	639	773	787	746	641	682	701	688	596	595	578	635	8061
2004-05	630	726	745	731	620	680	724	687	600	606	552	606	7907
2005-06	640	772	771	712	610	659	701	685	625	649	583	644	8051
2006-07	774	919	838	750	629	669	724	733	631	624	576	628	8495
2007-08	694	812	838	799	646	694	734	761	664	634	593	670	8540
2008-09	758	859	815	816	692	706	731	735	636	616	581	634	8578
2009-10	665	793	820	819	675	696	712	725	629	598	560	607	8300
2010-11	635	710	720	765	659	697	720	719	631	631	581	600	8068
2011-12	647	753	806	760	651	698	713	698	616	628	575	618	8162
2012-13	648	772	854	902	721	686	721	753	617	592	553	622	8442
2013-14	697	759	809	822	610	647	651	640	547	561	559	654	7957
2014-15	709	807	839	857	678	638	655	658	579	574	540	595	8131
2015-16	665	798	834	911	751	691	699	697	573	561	521	589	8291

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	689	861	819	764	661	646	674	674	572	568	534	598	8060
2017-18	661	776	812	833	680	643	674	674	571	566	532	596	8017
2018-19	661	777	814	836	682	644	673	673	569	564	529	594	8017
2019-20	659	777	815	837	682	643	673	673	567	562	527	592	8008
2020-21	658	777	816	839	682	643	673	674	567	562	527	594	8013
2021-22	660	781	820	843	685	646	675	676	569	564	529	597	8046
2022-23	663	785	825	849	689	649	678	680	572	567	532	600	8088
2023-24	667	790	830	854	693	653	682	684	575	571	535	604	8140
2024-25	672	796	836	861	698	658	688	689	580	575	539	609	8201
2025-26	677	802	842	867	703	663	692	694	583	579	543	613	8258
2026-27	682	808	849	874	709	668	698	700	589	584	548	619	8327
2027-28	689	815	856	881	715	674	704	706	594	589	553	625	8399
2028-29	695	822	863	888	721	680	710	712	599	594	558	631	8472
2029-30	701	829	871	896	727	685	716	718	604	599	563	636	8546
2030-31	707	837	878	904	733	691	722	724	609	604	568	642	8619
2031-32	713	844	886	911	740	697	728	730	614	609	573	648	8694
3032-33	720	851	893	919	746	703	734	737	620	615	578	654	8771
2033-34	727	859	901	927	753	710	741	743	626	620	584	660	8851
2034-35	734	867	909	936	760	716	747	750	631	626	589	667	8931
2035-36	740	875	917	944	766	722	753	756	637	632	595	673	9011
2036-37	748	883	926	952	774	729	760	763	644	638	602	681	9100
2037-38	756	892	934	961	781	736	767	771	650	645	608	688	9190
2038-39	764	901	943	970	788	743	774	778	657	652	615	695	9281
2039-40	772	910	952	979	796	749	781	785	663	659	622	703	9372

COMMERCIAL SALES - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	1099	1039	1164	992	1033	958	925	897	944	939	911	1079	11979
2002-03	1156	1000	1069	1108	1003	1079	963	980	892	968	966	1048	12230
2003-04	1039	1156	1170	1115	1098	982	1085	874	953	989	1026	1074	12559
2004-05	1096	1138	1144	1113	998	1054	1019	942	963	963	976	1095	12502
2005-06	1110	1166	1133	1127	1026	1091	1036	967	967	959	991	1126	12699
2006-07	1212	1229	1197	1148	1105	1095	1020	977	1011	1008	1051	1078	13130
2007-08	1182	1184	1269	1144	1099	1072	1061	1032	1011	1034	1060	1122	13269
2008-09	1381	1046	1239	1211	1157	1064	1039	1042	958	965	1034	1072	13210
2009-10	1109	1077	1200	1253	989	1017	1026	993	933	967	971	1047	12582
2010-11	1092	1070	1133	1128	1031	1019	1024	998	943	966	1011	1014	12429
2011-12	1132	1102	1156	1121	1047	1016	985	942	974	986	1047	1093	12601
2012-13	1115	1125	1259	1184	1129	1080	989	945	965	962	1016	1074	12845
2013-14	1129	1111	912	976	1146	1075	1034	1077	1111	1012	1103	1055	12740
2014-15	1135	1192	1156	1216	1091	1055	1017	1002	1022	999	1005	1048	12938
2015-16	1139	1222	1212	1277	1185	1037	1056	982	935	1022	1006	1036	13109

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	1128	1214	1154	1110	1104	1078	1020	991	1000	992	1028	1050	12869
2017-18	1115	1156	1178	1178	1107	1040	995	965	973	964	999	1020	12689
2018-19	1084	1126	1151	1152	1083	1018	976	945	953	943	978	996	12404
2019-20	1061	1103	1130	1133	1065	1000	960	928	936	926	960	977	12179
2020-21	1043	1087	1117	1122	1056	992	950	919	928	919	954	972	12059
2021-22	1038	1083	1114	1120	1054	991	952	921	930	922	957	975	12056
2022-23	1042	1087	1119	1125	1059	996	957	926	935	927	962	981	12118
2023-24	1049	1095	1127	1133	1068	1004	965	934	943	935	971	991	12215
2024-25	1059	1105	1138	1144	1078	1015	975	944	953	945	981	1002	12339
2025-26	1070	1116	1149	1155	1089	1025	985	953	962	954	991	1013	12462
2026-27	1081	1128	1161	1168	1101	1037	996	964	973	965	1003	1025	12602
2027-28	1094	1141	1174	1180	1113	1048	1007	975	984	975	1014	1036	12742
2028-29	1106	1154	1186	1193	1125	1060	1017	986	995	986	1025	1049	12881
2029-30	1118	1166	1198	1205	1136	1071	1028	996	1005	996	1036	1059	13015
2030-31	1130	1178	1210	1217	1147	1081	1038	1006	1015	1007	1047	1071	13146
2031-32	1141	1190	1222	1229	1159	1092	1049	1017	1026	1017	1058	1082	13281
3032-33	1154	1203	1235	1241	1171	1104	1060	1028	1038	1029	1070	1096	13431
2033-34	1168	1218	1249	1256	1184	1117	1073	1041	1051	1042	1084	1110	13592
2034-35	1183	1232	1263	1270	1198	1131	1086	1054	1063	1054	1097	1124	13755
2035-36	1197	1247	1278	1284	1212	1144	1098	1067	1076	1068	1111	1140	13922
2036-37	1213	1264	1294	1300	1227	1158	1113	1081	1091	1083	1127	1157	14110
2037-38	1231	1282	1311	1317	1242	1173	1127	1096	1106	1099	1143	1173	14300
2038-39	1249	1299	1328	1333	1258	1188	1141	1110	1121	1114	1159	1190	14490
2039-40	1266	1317	1345	1349	1273	1202	1155	1124	1136	1129	1175	1206	14678

INDUSTRIAL SALES - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	232	217	219	217	199	182	217	213	195	194	194	218	2496
2002-03	187	225	205	219	189	199	192	212	195	195	163	203	2383
2003-04	237	202	210	229	242	197	186	213	152	231	199	187	2485
2004-05	229	218	192	190	245	208	190	188	182	195	193	218	2447
2005-06	209	198	216	180	206	251	207	175	204	187	173	245	2451
2006-07	209	205	233	203	187	166	204	188	175	186	187	190	2332
2007-08	232	214	220	209	206	176	175	184	185	195	167	202	2366
2008-09	206	201	210	202	194	158	201	188	171	203	185	184	2303
2009-10	171	218	196	180	163	134	177	174	167	148	147	199	2073
2010-11	181	175	184	183	171	214	185	195	184	200	160	156	2189
2011-12	173	153	185	162	159	150	155	147	129	154	168	188	1924
2012-13	157	155	182	176	157	147	186	153	156	132	184	160	1947
2013-14	167	196	152	137	148	126	147	136	151	149	153	165	1827
2014-15	190	150	134	166	133	144	130	124	140	138	140	133	1720
2015-16	132	143	166	146	1148	-870	121	120	121	142	127	133	1630

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	128	138	149	96	179	129	144	140	143	143	147	152	1689
2017-18	159	162	164	157	148	146	148	143	142	142	144	148	1804
2018-19	156	159	161	154	147	146	147	143	142	143	145	149	1792
2019-20	157	160	162	156	148	146	147	143	142	142	145	149	1799
2020-21	157	160	162	156	148	147	148	144	143	144	146	150	1806
2021-22	158	161	163	157	149	148	149	144	144	144	146	151	1813
2022-23	159	161	163	157	150	148	149	145	144	144	146	151	1818
2023-24	159	162	164	157	150	148	149	145	144	144	147	151	1820
2024-25	159	162	164	158	150	148	149	145	145	145	147	152	1823
2025-26	159	162	164	158	151	149	150	146	145	145	147	152	1828
2026-27	160	163	165	158	151	149	150	146	145	146	148	152	1833
2027-28	160	163	165	159	151	150	151	146	146	146	148	153	1838
2028-29	161	163	165	159	152	150	151	147	146	146	149	153	1842
2029-30	161	164	166	160	152	150	151	147	147	147	149	154	1847
2030-31	161	164	166	160	153	151	152	148	147	147	149	154	1852
2031-32	162	165	167	160	153	151	152	148	147	148	150	154	1857
3032-33	162	165	167	161	153	152	153	148	148	148	150	155	1862
2033-34	163	166	167	161	154	152	153	149	148	148	151	155	1868
2034-35	163	166	168	162	154	153	153	149	149	149	151	156	1873
2035-36	164	166	168	162	155	153	154	150	149	149	152	156	1878
2036-37	164	167	169	163	155	153	154	150	150	150	152	157	1883
2037-38	164	167	169	163	156	154	155	151	150	150	152	157	1888
2038-39	165	168	170	163	156	154	155	151	151	151	153	157	1893
2039-40	165	168	170	164	156	155	156	151	151	151	153	158	1899

R-1 wo LOW INCOME AND LIFE LINE SALES - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	442	492	470	490	423	454	470	482	407	406	370	403	5310
2002-03	432	503	492	505	427	449	469	472	432	435	406	447	5469
2003-04	499	616	627	596	498	531	542	539	460	462	453	501	6324
2004-05	500	583	599	589	487	534	570	545	467	476	431	477	6258
2005-06	507	624	625	574	482	520	557	551	496	520	461	515	6431
2006-07	630	759	687	610	503	536	577	589	501	492	458	510	6852
2007-08	558	663	685	649	512	551	584	610	527	500	468	534	6841
2008-09	609	702	660	660	547	553	567	574	490	475	445	487	6769
2009-10	513	621	640	640	514	530	535	549	472	449	414	450	6327
2010-11	470	535	537	578	486	519	519	528	454	462	415	436	5939
2011-12	464	559	612	575	472	515	511	513	436	455	403	448	5964
2012-13	464	573	627	679	518	498	507	548	431	425	386	449	6106
2013-14	497	557	575	625	433	464	458	456	378	399	394	475	5711
2014-15	510	594	607	639	488	461	462	473	403	412	381	431	5862
2015-16	476	588	612	688	549	509	501	511	408	405	371	431	6050

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	507	655	614	581	488	483	494	495	421	418	393	441	5988
2017-18	487	572	598	614	501	473	496	496	420	417	392	439	5906
2018-19	487	572	600	616	502	474	496	496	419	416	390	438	5905
2019-20	485	572	600	617	502	474	495	496	418	414	388	436	5898
2020-21	485	572	601	618	502	474	496	496	418	414	388	437	5902
2021-22	486	575	604	621	504	476	497	498	419	416	390	439	5926
2022-23	489	578	608	625	507	478	500	501	421	418	392	442	5957
2023-24	492	582	611	629	510	481	503	504	424	420	394	445	5995
2024-25	495	586	616	634	514	485	506	508	427	423	397	448	6040
2025-26	499	590	620	638	518	488	510	511	430	426	400	452	6082
2026-27	503	595	625	643	522	492	514	516	433	430	404	456	6133
2027-28	507	600	630	649	527	496	518	520	437	433	407	460	6186
2028-29	512	606	636	654	531	501	523	524	441	437	411	464	6240
2029-30	516	611	641	660	536	505	527	529	445	441	415	469	6294
2030-31	521	616	647	666	540	509	532	533	449	445	418	473	6348
2031-32	525	622	652	671	545	513	536	538	453	449	422	477	6403
3032-33	530	627	658	677	550	518	541	543	457	453	426	482	6460
2033-34	535	633	664	683	555	523	546	547	461	457	430	486	6519
2034-35	540	639	670	689	560	527	550	552	465	461	434	491	6578
2035-36	545	644	675	695	565	532	555	557	469	465	438	496	6637
2036-37	551	651	682	701	570	537	560	562	474	470	443	501	6702
2037-38	557	657	688	708	575	542	565	568	479	475	448	507	6769
2038-39	563	664	695	714	581	547	570	573	484	480	453	512	6835
2039-40	569	670	701	721	586	552	576	578	489	485	458	518	6902

LIFELINE SALES - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	30	36	32	36	29	34	33	37	28	31	26	30	382
2002-03	29	36	33	36	29	33	32	35	27	30	26	31	376
2003-04	31	40	38	38	30	36	34	37	29	32	27	33	406
2004-05	30	38	36	37	30	36	36	37	29	32	26	31	398
2005-06	30	39	36	36	28	34	33	36	30	34	28	32	398
2006-07	35	46	38	36	28	34	34	38	30	31	26	31	408
2007-08	32	41	39	40	30	35	35	40	32	32	28	34	419
2008-09	36	44	39	41	33	37	37	41	33	34	30	35	439
2009-10	34	43	43	46	38	41	41	44	37	36	32	36	473
2010-11	37	43	42	46	39	43	45	47	39	40	35	38	493
2011-12	39	47	37	38	33	38	39	39	33	36	31	35	446
2012-13	35	44	47	51	40	39	42	45	36	35	30	36	480
2013-14	39	45	53	49	36	42	41	41	33	36	34	40	488
2014-15	41	51	50	53	41	40	41	44	35	36	33	37	503
2015-16	40	49	50	55	45	42	43	45	37	35	35	36	511

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	40	52	48	46	38	40	42	42	35	35	33	37	488
2017-18	41	48	50	52	42	40	42	42	35	35	33	37	496
2018-19	41	48	50	52	42	40	42	42	35	35	33	37	496
2019-20	41	48	50	52	42	40	42	42	35	35	33	37	495
2020-21	41	48	51	52	42	40	42	42	35	35	33	37	496
2021-22	41	48	51	52	42	40	42	42	35	35	33	37	498
2022-23	41	49	51	53	43	40	42	42	35	35	33	37	500
2023-24	41	49	51	53	43	40	42	42	36	35	33	37	504
2024-25	42	49	52	53	43	41	43	43	36	36	33	38	507
2025-26	42	50	52	54	44	41	43	43	36	36	34	38	511
2026-27	42	50	53	54	44	41	43	43	36	36	34	38	515
2027-28	43	50	53	55	44	42	44	44	37	36	34	39	520
2028-29	43	51	53	55	45	42	44	44	37	37	35	39	524
2029-30	43	51	54	55	45	42	44	44	37	37	35	39	529
2030-31	44	52	54	56	45	43	45	45	38	37	35	40	533
2031-32	44	52	55	56	46	43	45	45	38	38	35	40	538
3032-33	45	53	55	57	46	44	45	46	38	38	36	40	543
2033-34	45	53	56	57	47	44	46	46	39	38	36	41	548
2034-35	45	54	56	58	47	44	46	46	39	39	36	41	553
2035-36	46	54	57	58	47	45	47	47	39	39	37	42	558
2036-37	46	55	57	59	48	45	47	47	40	40	37	42	563
2037-38	47	55	58	59	48	46	47	48	40	40	38	43	569
2038-39	47	56	58	60	49	46	48	48	41	40	38	43	574
2039-40	48	56	59	61	49	46	48	49	41	41	38	43	580

LOW INCOME SALES - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	66	62	69	62	66	62	75	67	66	56	60	56	767
2002-03	69	66	76	68	71	64	78	68	34	30	34	31	688
2003-04	40	43	50	41	42	40	47	41	39	33	32	30	477
2004-05	31	34	39	34	34	34	41	34	34	30	29	28	402
2005-06	33	35	38	30	30	29	32	27	27	25	26	25	358
2006-07	34	37	37	29	27	24	33	32	29	27	27	26	362
2007-08	31	33	37	33	30	30	34	34	32	27	28	29	379
2008-09	36	37	39	35	35	37	47	43	41	37	40	40	466
2009-10	48	52	61	55	51	49	57	52	51	43	47	48	613
2010-11	58	58	68	63	62	59	73	66	67	58	62	55	747
2011-12	70	70	83	70	73	68	85	70	72	63	68	61	852
2012-13	76	78	100	89	86	69	90	80	78	61	67	64	939
2013-14	86	80	110	88	76	71	86	69	69	62	71	69	937
2014-15	89	90	109	93	88	69	86	74	74	60	66	62	959
2015-16	81	86	101	92	91	69	84	71	65	53	59	55	906

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	74	79	87	68	68	56	68	67	57	56	53	58	792
2017-18	65	75	79	81	67	63	66	66	56	55	52	58	783
2018-19	65	76	80	82	67	63	66	66	56	55	52	58	784
2019-20	64	76	80	82	67	63	66	66	55	55	52	58	783
2020-21	64	76	80	82	67	63	66	66	55	55	52	58	784
2021-22	65	76	80	82	67	63	66	66	56	55	52	58	787
2022-23	65	77	81	83	67	63	66	66	56	55	52	59	791
2023-24	65	77	81	84	68	64	67	67	56	56	52	59	796
2024-25	66	78	82	84	68	64	67	67	57	56	53	60	802
2025-26	66	78	82	85	69	65	68	68	57	57	53	60	808
2026-27	67	79	83	85	69	65	68	68	58	57	54	61	814
2027-28	67	80	84	86	70	66	69	69	58	58	54	61	821
2028-29	68	80	84	87	71	66	69	70	59	58	55	62	828
2029-30	69	81	85	88	71	67	70	70	59	59	55	62	836
2030-31	69	82	86	88	72	68	71	71	60	59	56	63	843
2031-32	70	83	87	89	72	68	71	71	60	60	56	63	850
3032-33	70	83	87	90	73	69	72	72	61	60	57	64	858
2033-34	71	84	88	91	74	69	72	73	61	61	57	65	866
2034-35	72	85	89	91	74	70	73	73	62	61	58	65	873
2035-36	72	86	90	92	75	71	74	74	62	62	58	66	881
2036-37	73	86	91	93	76	71	74	75	63	62	59	67	890
2037-38	74	87	91	94	76	72	75	75	64	63	59	67	899
2038-39	75	88	92	95	77	73	76	76	64	64	60	68	908
2039-40	75	89	93	96	78	73	76	77	65	64	61	69	916

A-1 SALES - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	256	253	256	253	236	227	233	224	222	218	218	234	2829
2002-03	250	258	249	245	231	300	170	235	211	254	179	238	2820
2003-04	252	271	269	251	243	233	244	218	225	226	233	241	2906
2004-05	246	260	258	244	221	239	238	215	218	218	219	239	2816
2005-06	249	268	254	246	226	240	240	221	225	219	221	251	2861
2006-07	268	276	262	244	233	236	239	222	222	225	230	213	2871
2007-08	253	264	274	243	237	232	232	227	223	229	215	238	2866
2008-09	260	264	250	250	234	232	227	225	210	209	214	226	2802
2009-10	238	252	256	348	123	224	227	224	205	214	206	226	2743
2010-11	237	238	248	244	221	227	234	225	215	215	218	224	2746
2011-12	245	252	253	247	233	235	238	224	224	224	227	244	2846
2012-13	251	265	282	276	250	241	245	236	230	229	235	254	2996
2013-14	269	263	293	242	243	237	227	236	256	230	263	276	3035
2014-15	289	303	308	285	269	250	253	245	238	237	240	253	3169
2015-16	288	287	306	332	274	268	267	261	256	270	276	280	3365

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	314	347	322	314	311	271	283	276	272	270	276	286	3542
2017-18	305	321	329	329	303	286	278	271	266	263	269	278	3497
2018-19	297	314	322	324	298	281	273	266	261	259	264	273	3433
2019-20	292	309	318	320	294	277	270	262	257	255	260	269	3383
2020-21	288	306	315	317	292	275	268	261	256	253	259	268	3358
2021-22	287	305	315	317	292	275	268	261	256	254	260	269	3360
2022-23	288	307	316	319	293	276	270	262	258	255	261	270	3377
2023-24	290	309	319	321	295	279	272	265	260	258	263	273	3402
2024-25	293	311	321	324	298	281	274	267	262	260	266	275	3433
2025-26	296	314	324	327	301	284	277	270	264	262	269	278	3465
2026-27	298	317	327	330	304	287	280	272	267	265	271	281	3501
2027-28	302	321	331	333	307	290	282	275	270	268	274	284	3537
2028-29	305	324	334	336	310	293	285	278	273	271	277	287	3572
2029-30	308	327	337	340	313	295	288	281	275	273	280	290	3607
2030-31	311	330	340	343	316	298	291	283	278	276	283	293	3642
2031-32	314	333	343	346	319	301	294	286	281	278	285	296	3677
3032-33	317	337	347	349	322	304	297	289	284	282	289	300	3715
2033-34	321	341	350	353	325	308	300	292	287	285	292	303	3757
2034-35	325	344	354	357	329	311	303	296	290	288	295	307	3798
2035-36	328	348	358	360	332	314	306	299	294	291	299	311	3841
2036-37	332	353	362	365	336	318	310	303	297	295	303	315	3889
2037-38	337	357	366	369	340	322	314	306	301	299	307	319	3937
2038-39	341	362	371	373	344	325	317	310	305	303	311	323	3985
2039-40	346	366	375	377	348	329	321	314	309	307	315	327	4033

A-2 SALES - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	327	321	383	266	302	298	264	253	285	257	303	289	3549
2002-03	314	330	328	323	289	299	292	286	262	271	274	306	3574
2003-04	342	342	345	332	312	296	291	276	270	293	307	325	3732
2004-05	325	346	345	329	293	306	296	274	282	283	288	319	3686
2005-06	327	351	340	327	300	310	302	276	283	274	288	335	3713
2006-07	357	375	349	334	310	301	309	271	289	287	297	312	3792
2007-08	344	346	365	336	314	291	294	294	281	288	302	320	3775
2008-09	356	345	361	346	326	299	289	291	270	269	294	300	3745
2009-10	301	274	317	319	291	272	267	265	246	256	259	283	3349
2010-11	287	288	303	305	279	215	269	259	244	252	264	265	3232
2011-12	295	290	297	274	249	230	227	220	257	273	292	299	3203
2012-13	276	296	317	304	277	249	259	227	234	241	252	269	3201
2013-14	280	282	245	179	322	236	251	251	258	234	280	250	3068
2014-15	264	285	272	278	243	228	220	224	247	241	230	239	2972
2015-16	270	274	294	291	1267	-768	217	220	208	225	222	230	2951

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	255	268	241	252	240	227	228	222	221	220	226	233	2832
2017-18	247	258	263	263	245	231	223	217	216	214	220	226	2824
2018-19	241	252	258	258	240	227	219	213	212	210	216	222	2768
2019-20	237	248	254	254	237	223	216	210	209	207	213	218	2725
2020-21	233	245	251	252	235	222	215	208	207	206	212	217	2703
2021-22	232	244	251	252	235	222	215	209	208	206	212	218	2704
2022-23	233	245	252	253	236	223	216	210	209	207	214	219	2717
2023-24	235	246	254	255	238	225	218	211	211	209	215	221	2737
2024-25	237	249	256	257	240	227	220	213	213	211	217	223	2763
2025-26	239	251	258	259	242	229	222	215	215	213	220	226	2788
2026-27	241	253	261	262	245	231	224	218	217	215	222	228	2817
2027-28	244	256	264	265	247	234	226	220	219	217	224	231	2846
2028-29	246	259	266	267	250	236	229	222	221	220	227	233	2875
2029-30	249	261	269	270	252	238	231	224	223	222	229	235	2903
2030-31	251	264	271	272	254	240	233	226	226	224	231	238	2930
2031-32	254	266	274	275	257	243	235	229	228	226	233	240	2959
3032-33	256	269	276	277	259	245	238	231	230	228	236	243	2990
2033-34	259	272	279	280	262	248	240	234	233	231	239	246	3023
2034-35	262	275	282	283	265	251	243	236	235	234	241	249	3057
2035-36	265	278	285	286	268	253	245	239	238	236	244	252	3091
2036-37	269	282	289	290	271	256	248	242	241	240	247	255	3130
2037-38	272	285	292	293	274	259	251	245	244	243	251	259	3169
2038-39	276	289	296	296	277	262	254	248	247	246	254	262	3208
2039-40	279	293	299	300	280	265	257	251	250	249	257	266	3246

A-3 SALES - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	731	660	724	676	677	615	615	618	622	647	565	754	7905
2002-03	785	606	680	727	669	671	677	638	596	613	683	678	8023
2003-04	641	746	748	731	736	640	733	556	627	642	660	686	8146
2004-05	705	726	720	711	669	695	662	610	626	630	641	706	8101
2005-06	715	733	720	730	680	719	668	633	623	630	649	735	8236
2006-07	776	770	780	743	737	727	656	653	663	659	683	703	8552
2007-08	790	763	821	754	725	727	699	682	680	700	699	732	8774
2008-09	952	624	814	803	769	705	684	697	633	669	691	710	8751
2009-10	750	721	806	779	744	677	716	689	650	659	670	721	8582
2010-11	753	718	770	763	700	696	703	706	670	700	680	689	8548
2011-12	756	722	774	756	724	693	682	642	622	647	686	738	8442
2012-13	724	721	803	768	735	721	639	617	628	619	662	693	8331
2013-14	710	716	484	659	668	686	674	706	718	664	685	658	8027
2014-15	712	718	671	773	666	669	620	616	645	628	625	656	7997
2015-16	682	664	744	757	735	631	647	594	563	587	597	622	7823

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	648	688	683	611	688	648	615	598	603	598	618	634	7633
2017-18	672	697	710	707	662	626	604	586	588	583	602	616	7653
2018-19	654	680	694	692	650	614	594	576	578	573	591	604	7500
2019-20	643	668	684	683	641	606	586	567	569	564	582	594	7386
2020-21	634	660	678	677	636	602	581	563	565	561	579	592	7328
2021-22	632	659	677	677	636	602	582	564	567	562	581	594	7331
2022-23	634	661	679	680	639	605	585	567	569	565	584	598	7366
2023-24	638	665	684	684	643	609	589	571	574	570	589	603	7418
2024-25	643	671	690	690	649	615	595	577	579	575	594	609	7485
2025-26	649	677	696	696	655	620	600	582	584	580	600	614	7552
2026-27	655	683	702	703	661	627	606	588	590	586	606	621	7629
2027-28	662	691	709	710	668	633	612	594	596	592	612	627	7705
2028-29	669	697	716	716	674	639	618	600	602	597	618	634	7780
2029-30	675	704	722	723	681	645	624	605	608	603	624	640	7854
2030-31	682	711	729	730	687	651	630	611	613	609	630	646	7926
2031-32	688	717	735	736	693	657	635	617	619	614	636	653	8000
3032-33	695	724	742	743	700	663	642	623	626	621	643	660	8081
2033-34	702	732	750	751	707	671	649	630	632	628	650	668	8169
2034-35	710	740	758	759	714	678	655	637	639	635	657	675	8258
2035-36	718	748	766	766	722	685	662	644	646	642	665	684	8348
2036-37	727	757	775	775	730	693	670	652	655	650	674	693	8450
2037-38	737	767	784	784	738	701	678	659	663	659	682	702	8552
2038-39	746	776	793	793	747	709	685	667	671	667	691	711	8655
2039-40	755	786	802	802	755	716	693	675	679	675	699	720	8757

CONTRACT RATES - ELECTRICITY SALES - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	85	89	89	87	80	72	105	83	76	77	83	87	1014
2002-03	64	99	86	100	71	80	89	105	84	89	56	94	1017
2003-04	110	72	89	100	120	85	79	107	51	126	90	79	1109
2004-05	118	94	83	88	129	97	89	101	88	94	87	118	1184
2005-06	98	84	105	75	96	148	111	83	111	92	73	122	1199
2006-07	96	90	113	103	83	73	98	92	83	97	91	99	1119
2007-08	100	100	105	97	103	77	90	89	85	87	80	108	1121
2008-09	96	91	101	94	98	65	120	95	88	91	87	93	1119
2009-10	60	124	93	65	65	54	72	68	68	55	50	88	863
2010-11	67	73	70	76	73	58	83	79	70	69	75	63	856
2011-12	82	67	90	82	70	84	69	77	74	69	81	73	918
2012-13	94	72	116	94	97	95	111	96	99	74	118	92	1156
2013-14	108	122	111	92	107	95	95	94	96	96	84	101	1203
2014-15	125	103	97	114	103	111	113	100	95	91	102	91	1245
2015-16	96	211	101	114	118	102	111	94	88	147	85	92	1359

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	97	110	117	92	100	118	109	106	107	107	110	113	1285
2017-18	119	123	125	123	116	111	108	105	105	104	107	110	1356
2018-19	116	120	122	121	114	109	107	103	104	103	106	109	1333
2019-20	115	119	121	120	113	108	105	102	103	102	105	107	1320
2020-21	114	118	120	119	112	108	105	102	102	102	105	107	1313
2021-22	114	118	120	119	113	108	105	102	102	102	105	107	1315
2022-23	114	118	121	119	113	108	106	102	103	102	105	108	1320
2023-24	115	119	121	120	114	109	106	103	104	103	106	109	1328
2024-25	115	119	122	121	114	110	107	104	104	104	107	110	1337
2025-26	116	120	123	122	115	110	108	105	105	104	108	110	1347
2026-27	117	121	124	123	116	111	109	105	106	105	109	111	1358
2027-28	118	122	125	124	117	112	110	106	107	106	109	112	1369
2028-29	119	123	126	125	118	113	110	107	108	107	110	113	1379
2029-30	120	124	127	126	119	114	111	108	108	108	111	114	1390
2030-31	121	125	128	127	120	115	112	109	109	109	112	115	1400
2031-32	122	126	129	128	121	116	113	110	110	109	113	116	1411
3032-33	123	127	130	129	122	117	114	110	111	110	114	117	1423
2033-34	124	128	131	130	123	118	115	111	112	111	115	118	1435
2034-35	125	129	132	131	124	119	116	112	113	112	116	119	1448
2035-36	126	130	133	132	125	120	117	113	114	113	117	120	1461
2036-37	127	132	134	133	126	121	118	115	115	115	118	122	1475
2037-38	129	133	136	134	127	122	119	116	116	116	119	123	1490
2038-39	130	134	137	136	128	123	120	117	117	117	121	124	1504
2039-40	131	136	138	137	130	124	121	118	119	118	122	125	1518

RESIDENTIAL ACCUMULATED ENERGY EFFICIENCY SAVINGS - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	2	2	2	3	3	3	3	3	3	3	3	3	34
2002-03	3	4	4	4	4	4	3	4	4	4	4	4	45
2003-04	4	5	4	4	4	4	4	4	4	4	5	5	53
2004-05	5	5	5	5	5	5	5	5	5	5	6	6	62
2005-06	6	6	6	6	6	6	5	6	6	6	6	7	71
2006-07	7	7	7	7	7	7	7	7	7	7	8	8	86
2007-08	9	9	9	9	9	9	9	9	10	10	11	12	115
2008-09	13	13	13	13	12	12	14	16	21	22	23	25	195
2009-10	25	26	24	24	23	22	22	22	23	23	24	26	283
2010-11	27	27	25	25	24	23	22	23	24	24	26	28	297
2011-12	29	29	27	27	26	25	24	25	26	26	28	30	322
2012-13	31	31	29	28	27	26	26	26	27	27	29	31	337
2013-14	32	32	30	30	28	27	27	28	28	29	30	33	354
2014-15	34	34	32	31	30	29	28	29	30	30	32	35	374
2015-16	36	36	34	33	32	31	30	31	32	33	34	37	400

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	38	39	36	36	34	33	33	35	36	37	40	44	441
2017-18	45	46	44	44	42	42	41	43	44	46	49	53	539
2018-19	55	56	53	53	51	50	49	51	53	54	58	63	645
2019-20	65	66	62	61	59	58	57	59	60	62	66	71	744
2020-21	73	74	69	68	65	63	62	64	65	66	70	76	814
2021-22	78	78	73	71	68	66	65	67	68	69	73	79	853
2022-23	81	81	75	74	70	68	67	69	70	71	75	81	881
2023-24	83	83	77	75	72	70	68	70	71	72	76	82	899
2024-25	84	84	78	76	73	71	69	71	72	73	77	83	910
2025-26	85	85	79	77	73	71	69	71	72	73	77	83	917
2026-27	85	85	79	78	74	72	70	72	73	74	78	84	923
2027-28	86	86	80	78	74	72	70	72	73	74	78	84	930
2028-29	86	86	81	79	75	73	71	73	74	75	79	85	937
2029-30	87	87	81	79	75	73	72	74	75	76	80	86	944
2030-31	88	88	82	80	76	74	72	74	75	76	80	87	953
2031-32	89	89	83	81	77	75	73	75	76	77	81	87	960
3032-33	89	89	83	81	77	75	73	75	76	77	81	87	964
2033-34	89	89	83	81	77	75	73	75	76	77	81	87	964
2034-35	89	89	83	81	77	75	73	75	76	77	81	87	964
2035-36	89	89	83	81	77	75	73	75	76	77	81	87	964
2036-37	89	89	83	81	77	75	73	75	76	77	81	87	964
2037-38	89	89	83	81	77	75	73	75	76	77	81	87	964
2038-39	89	89	83	81	77	75	73	75	76	77	81	87	964
2039-40	89	89	83	81	77	75	73	75	76	77	81	87	964

COMMERCIAL ACCUMULATED ENERGY EFFICIENCY SAVINGS - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	26	27	26	26	26	26	27	28	30	31	33	37	343
2002-03	38	39	36	36	34	34	33	34	35	36	38	41	436
2003-04	43	43	40	39	37	37	36	37	38	38	40	44	472
2004-05	45	45	42	41	40	39	38	39	40	40	43	46	498
2005-06	47	48	45	44	42	41	40	41	42	43	45	49	525
2006-07	50	50	47	46	44	43	42	44	45	46	48	53	559
2007-08	54	55	51	51	48	47	46	48	49	51	55	62	618
2008-09	65	67	64	64	62	61	61	64	66	68	72	78	790
2009-10	82	83	78	77	74	73	72	74	77	78	85	93	946
2010-11	97	98	93	92	87	86	84	87	89	91	99	108	1112
2011-12	111	111	105	103	99	97	95	98	100	102	108	117	1246
2012-13	121	121	113	111	106	104	102	105	108	111	118	128	1349
2013-14	131	132	124	122	116	115	113	117	119	122	130	142	1483
2014-15	146	147	138	135	129	127	124	129	131	135	143	155	1639
2015-16	159	160	150	147	140	137	133	137	141	143	152	165	1763

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	169	171	160	157	150	147	145	152	157	162	173	189	1932
2017-18	197	200	190	188	182	180	178	185	191	196	209	228	2324
2018-19	237	240	227	224	216	213	210	218	224	230	245	266	2748
2019-20	275	278	262	258	248	244	239	248	254	260	277	300	3143
2020-21	309	310	290	285	272	266	260	268	273	278	294	317	3421
2021-22	326	327	305	299	285	278	271	280	284	289	305	329	3579
2022-23	338	338	316	309	294	287	280	288	293	297	313	338	3690
2023-24	346	346	323	316	300	293	285	294	298	302	319	343	3765
2024-25	351	351	328	320	304	296	288	296	301	305	321	345	3806
2025-26	354	354	330	322	306	298	290	299	303	307	323	348	3834
2026-27	356	356	332	324	308	300	292	300	305	309	325	350	3858
2027-28	358	358	334	326	310	302	294	303	307	311	328	353	3886
2028-29	361	361	337	329	313	304	296	305	309	313	330	355	3913
2029-30	363	364	339	331	315	307	299	307	312	316	333	358	3944
2030-31	367	367	342	334	318	310	301	310	314	319	336	361	3979
2031-32	370	370	345	337	320	312	304	312	317	321	338	364	4008
3032-33	372	372	347	338	321	313	305	313	317	322	339	364	4022
2033-34	372	372	347	339	322	313	305	313	317	322	339	364	4024
2034-35	372	372	347	339	322	313	305	313	317	322	339	364	4024
2035-36	372	372	347	339	322	313	305	313	317	322	339	364	4024
2036-37	372	372	347	339	322	313	305	313	317	322	339	364	4024
2037-38	372	372	347	339	322	313	305	313	317	322	339	364	4024
2038-39	372	372	347	339	322	313	305	313	317	322	339	364	4024
2039-40	372	372	347	339	322	313	305	313	317	322	339	364	4024

CROSS CUTTING ACCUMULATED ENERGY EFFICIENCY SAVINGS - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	17	18	17	18	17	18	18	19	20	21	23	26	232
2002-03	27	28	27	27	27	27	27	28	29	30	33	36	347
2003-04	38	39	37	37	36	36	35	37	38	40	42	46	461
2004-05	48	49	47	46	45	44	44	46	47	49	52	57	575
2005-06	59	60	57	56	54	53	53	55	56	58	62	67	689
2006-07	70	70	66	66	63	62	61	64	65	67	71	77	804
2007-08	80	81	76	75	72	71	70	73	74	76	81	88	918
2008-09	91	92	86	85	81	80	79	81	83	85	91	98	1032
2009-10	101	102	96	95	91	89	87	90	92	94	100	108	1146
2010-11	112	113	106	104	100	98	96	99	101	103	110	119	1261
2011-12	122	123	116	114	109	107	105	108	110	113	119	129	1375
2012-13	134	135	127	126	121	119	117	121	124	127	135	147	1533
2013-14	152	153	144	141	136	133	131	135	138	141	150	163	1717
2014-15	168	169	159	156	150	147	144	150	153	156	166	179	1897
2015-16	186	188	177	174	167	164	161	168	171	175	186	202	2120

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	209	210	197	193	185	181	178	184	187	191	202	219	2335
2017-18	225	226	211	207	198	193	189	195	198	202	214	231	2489
2018-19	237	238	223	218	208	203	199	205	208	212	224	242	2616
2019-20	248	249	233	228	218	213	208	214	218	221	234	252	2736
2020-21	259	259	242	237	225	220	214	221	224	228	240	259	2828
2021-22	265	266	248	243	231	225	220	226	230	233	246	265	2900
2022-23	272	272	254	248	236	231	225	231	235	238	251	271	2964
2023-24	277	278	259	253	241	235	229	235	239	242	256	275	3019
2024-25	282	282	263	257	245	239	233	239	243	246	260	280	3069
2025-26	287	287	268	261	249	242	236	243	247	250	264	284	3118
2026-27	291	291	272	265	252	246	240	247	250	254	268	288	3164
2027-28	295	295	276	269	256	250	243	250	254	257	271	292	3209
2028-29	299	299	279	273	259	253	246	253	257	261	275	296	3252
2029-30	303	303	283	276	263	256	249	257	260	264	278	299	3293
2030-31	306	306	286	279	265	258	251	258	261	265	279	300	3313
2031-32	307	307	286	279	265	258	251	258	262	265	279	300	3316
3032-33	307	307	286	279	265	258	251	258	262	265	279	300	3318
2033-34	307	307	286	279	265	258	251	258	262	265	279	300	3321
2034-35	307	307	286	280	266	259	252	259	262	266	280	301	3323
2035-36	308	308	287	280	266	259	252	259	262	266	280	301	3326
2036-37	308	308	287	280	266	259	252	259	263	266	280	301	3328
2037-38	308	308	287	280	266	259	252	259	263	266	280	301	3331
2038-39	308	308	287	280	266	259	252	259	263	266	281	302	3334
2039-40	309	309	288	281	267	260	253	260	263	267	281	302	3336

HUFFMAN BILL ACCUMULATED ENERGY EFFICIENCY SAVINGS - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2001-02	0	0	0	0	0	0	0	0	0	0	0	0	0
2002-03	0	0	0	0	0	0	0	0	0	0	0	0	0
2003-04	0	0	0	0	0	0	0	0	0	0	0	0	0
2004-05	0	0	0	0	0	0	0	0	0	0	0	0	0
2005-06	0	0	0	0	0	0	0	0	0	0	0	0	0
2006-07	0	0	0	0	0	0	0	0	0	0	0	0	0
2007-08	0	0	0	0	0	0	0	0	0	0	0	0	0
2008-09	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-10	0	0	0	0	0	0	0	0	0	0	0	0	0
2010-11	0	0	0	0	0	0	0	0	0	0	0	0	0
2011-12	0	0	0	0	0	0	1	1	1	2	2	2	9
2012-13	3	3	4	4	5	6	7	8	9	10	10	9	77
2013-14	10	11	13	14	17	20	20	19	20	20	19	17	201
2014-15	18	18	21	22	25	29	29	26	27	27	25	22	287
2015-16	23	23	27	27	31	35	35	32	32	33	30	27	354

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	27	27	32	32	36	41	40	36	37	37	34	29	408
2017-18	30	30	34	34	38	43	42	38	38	38	35	31	431
2018-19	31	31	35	36	39	45	44	40	40	40	36	32	448
2019-20	32	32	37	37	41	46	46	41	41	42	38	33	466
2020-21	34	34	39	39	43	49	49	44	44	44	40	35	494
2021-22	36	36	41	41	45	52	51	46	46	46	42	37	518
2022-23	37	37	43	43	47	54	53	47	47	48	43	38	536
2023-24	38	38	44	44	48	55	54	48	48	49	44	39	549
2024-25	39	39	44	44	49	56	55	49	49	49	45	39	556
2025-26	39	39	45	45	50	57	56	50	50	50	46	40	566
2026-27	40	40	46	46	50	57	56	51	51	51	46	41	575
2027-28	41	41	46	47	51	58	57	51	51	52	47	41	583
2028-29	41	41	47	47	52	59	58	52	52	52	48	42	592
2029-30	42	42	48	48	53	60	59	53	53	53	48	42	600
2030-31	42	42	48	49	53	61	60	54	54	54	49	43	609
2031-32	43	43	49	49	54	62	60	54	54	54	50	43	617
3032-33	43	44	50	50	55	62	61	55	55	55	50	44	625
2033-34	44	44	50	51	56	63	62	56	56	56	51	45	634
2034-35	45	45	51	51	56	64	63	57	57	57	52	45	642
2035-36	45	45	52	52	57	65	64	57	57	57	52	46	651
2036-37	46	46	53	53	58	66	65	58	58	58	53	46	659
2037-38	46	46	53	53	59	67	65	59	59	59	54	47	667
2038-39	47	47	54	54	59	68	66	60	60	60	54	48	676
2039-40	48	48	55	55	60	68	67	60	60	60	55	48	684

SOLAR ROOFTOP ACCUMULATED SAVINGS - GWH
2017 ENERGY AND DEMAND FORECAST
2001-2002 THROUGH 2039-2040
FISCAL YEAR

HISTORICAL

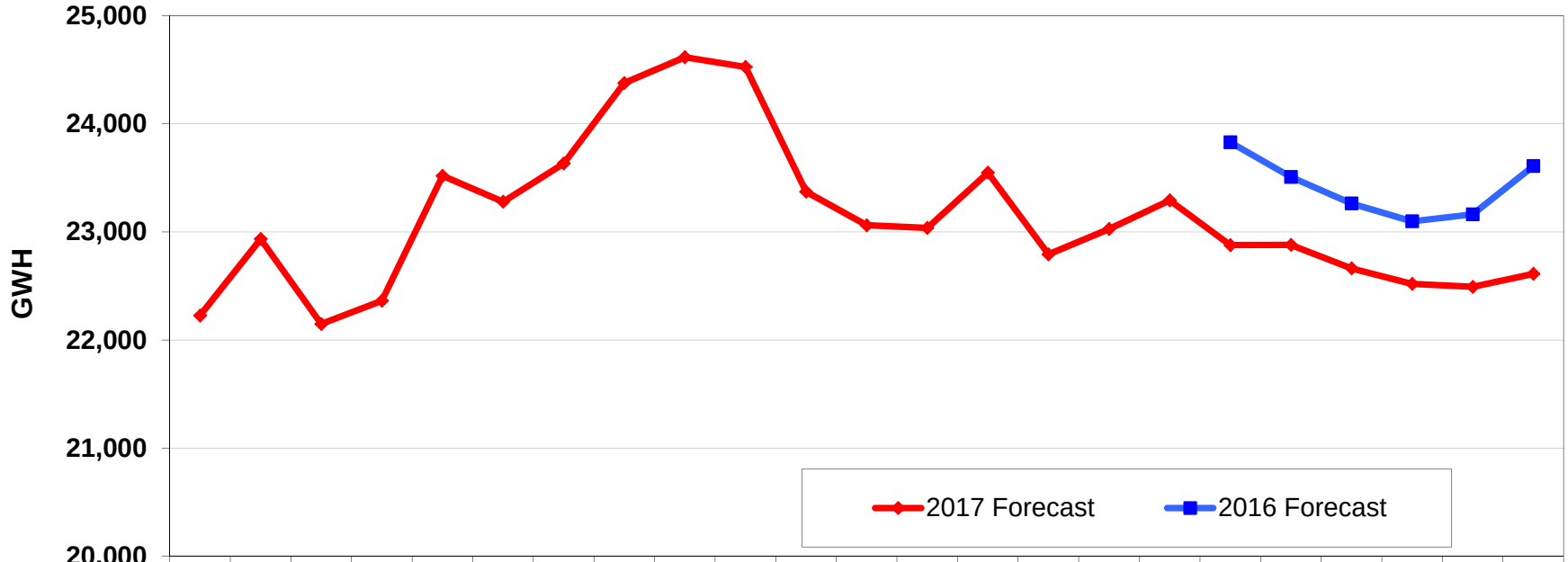
FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2000-01	0	0	0	0	0	0	0	0	0	0	0	0	0
2001-02	0	0	0	0	0	0	0	0	0	0	0	0	1
2002-03	1	1	1	1	1	1	0	0	0	0	0	0	5
2003-04	1	1	1	1	1	1	1	1	1	1	1	1	12
2004-05	1	1	1	1	1	1	1	1	1	1	1	1	12
2005-06	2	1	1	1	1	1	1	1	1	1	1	1	14
2006-07	2	2	1	1	1	1	1	1	1	1	1	1	15
2007-08	2	2	2	1	1	1	1	1	1	2	2	2	17
2008-09	2	2	2	2	1	1	1	1	2	2	2	2	20
2009-10	3	3	3	2	2	2	1	2	2	3	3	3	27
2010-11	4	4	3	3	3	2	2	3	4	5	5	5	42
2011-12	6	6	5	4	4	3	4	5	7	8	8	8	68
2012-13	10	9	9	7	6	5	6	7	9	11	11	12	104
2013-14	14	13	12	11	9	8	9	11	13	16	16	16	147
2014-15	18	18	16	13	12	10	11	14	17	20	20	20	189
2015-16	23	22	20	17	15	13	14	17	21	25	26	27	240

FORECAST

FISCAL YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2016-17	31	30	26	23	20	17	18	23	28	34	35	36	321
2017-18	41	40	36	31	27	24	25	30	37	43	44	44	423
2018-19	49	48	42	36	30	26	28	33	41	48	48	48	475
2019-20	54	52	45	39	33	28	30	36	44	52	52	52	517
2020-21	58	56	49	42	35	31	32	39	48	56	56	56	559
2021-22	63	61	53	45	38	33	35	42	51	60	60	60	600
2022-23	67	65	57	48	41	35	37	44	55	64	64	65	643
2023-24	72	69	60	51	43	37	40	47	58	68	68	69	684
2024-25	77	74	64	55	46	40	42	51	63	74	74	75	734
2025-26	84	81	71	61	51	44	47	56	69	80	81	81	806
2026-27	90	87	76	64	54	47	49	59	72	84	85	85	852
2027-28	95	91	79	67	57	49	52	62	76	88	89	89	894
2028-29	99	95	83	71	60	51	54	64	79	92	93	93	935
2029-30	104	100	87	74	62	53	57	67	83	96	97	97	976
2030-31	108	104	90	77	65	56	59	70	86	100	101	101	1017
2031-32	113	108	94	80	67	58	61	73	89	104	105	105	1059
3032-33	117	112	98	83	70	60	64	76	93	108	109	109	1100
2033-34	121	117	102	86	73	63	66	79	96	113	113	113	1141
2034-35	126	121	105	89	75	65	69	81	100	117	117	117	1182
2035-36	130	125	109	93	78	67	71	84	102	119	119	119	1217
2036-37	132	127	110	93	78	67	71	84	102	119	119	119	1222
2037-38	132	127	110	93	78	67	71	84	102	119	119	119	1222
2038-39	132	127	110	93	78	67	71	84	102	119	119	119	1222
2039-40	132	127	110	93	78	67	71	84	102	119	119	119	1222

Total Sales to Ultimate Customers

- Based on Financial Plan Case 4 of 2017. Energy Efficiency, PHEV, distributed generation targets as approved in 2016 IRP.
- Major Causes of Lower Forecasted Sales:
  - Removed CCB billing adjustments that were included in 2016 Load Forecast.
  - Energy Efficiency Savings and Solar Distributed Generation.
  - Declining Average Sales per Customer for both residential and commercial customers.

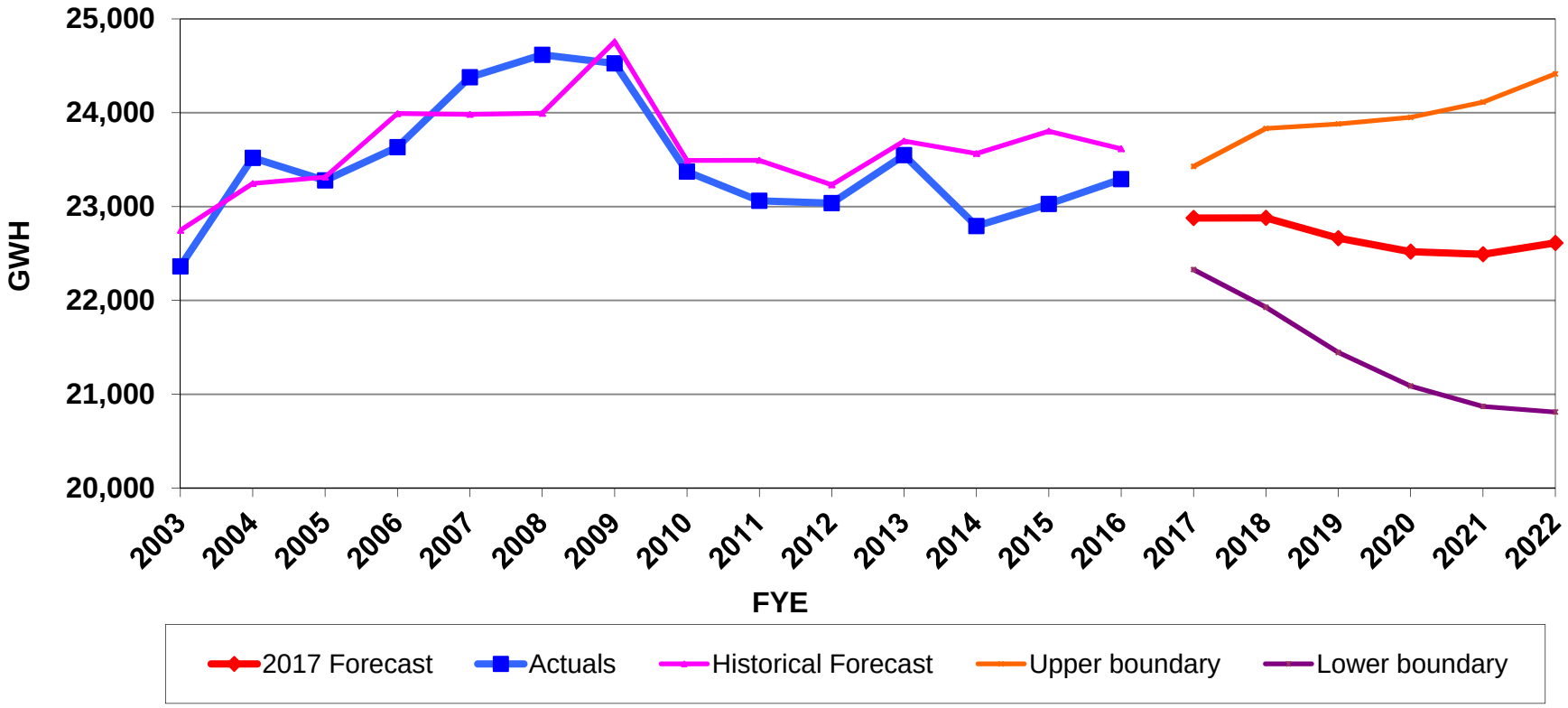


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2017 Forecast	22,227	22,934	22,149	22,363	23,520	23,279	23,634	24,378	24,617	24,526	23,373	23,062	23,037	23,548	22,793	23,028	23,292	22,878	22,880	22,663	22,520	22,492	22,613
2016 Forecast																		23,829	23,508	23,264	23,098	23,163	23,609

FYE

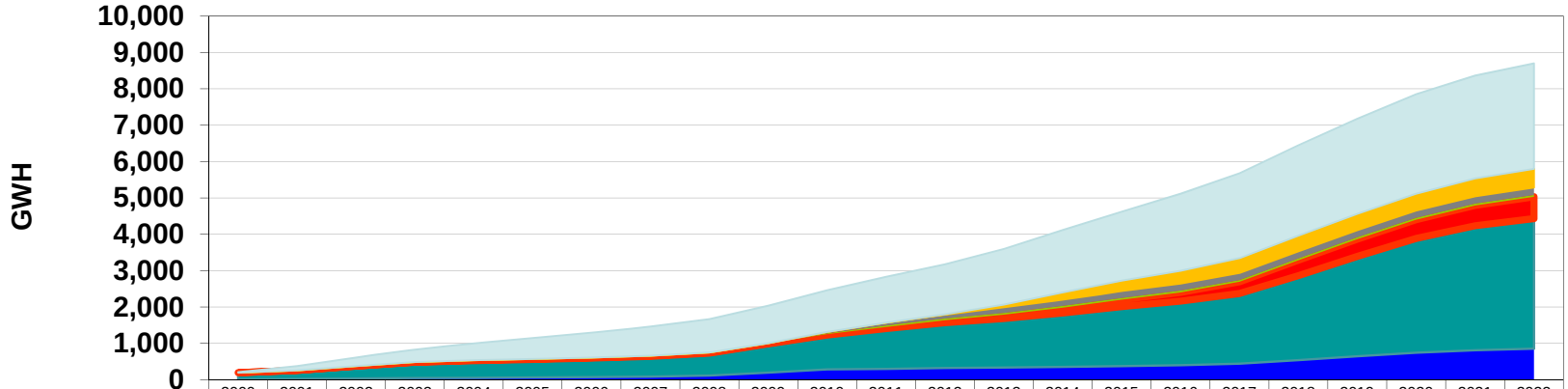
Retail Sales

- Historical average forecast variance is 0.8% with a 1.7% deviation.
- Historical variation is based on demographics, economics and weather.
- Expect larger variation in accuracy
  - Utility program targets tend to be aspirational.



Historical and Forecasted Accumulated Savings Energy Efficiency and Solar Rooftops

- Building and Appliance Standards now incorporated into LADWP's EE goals.
- EE and Distributed Generation savings in 2016 IRP continued throughout entire Forecast timespan.

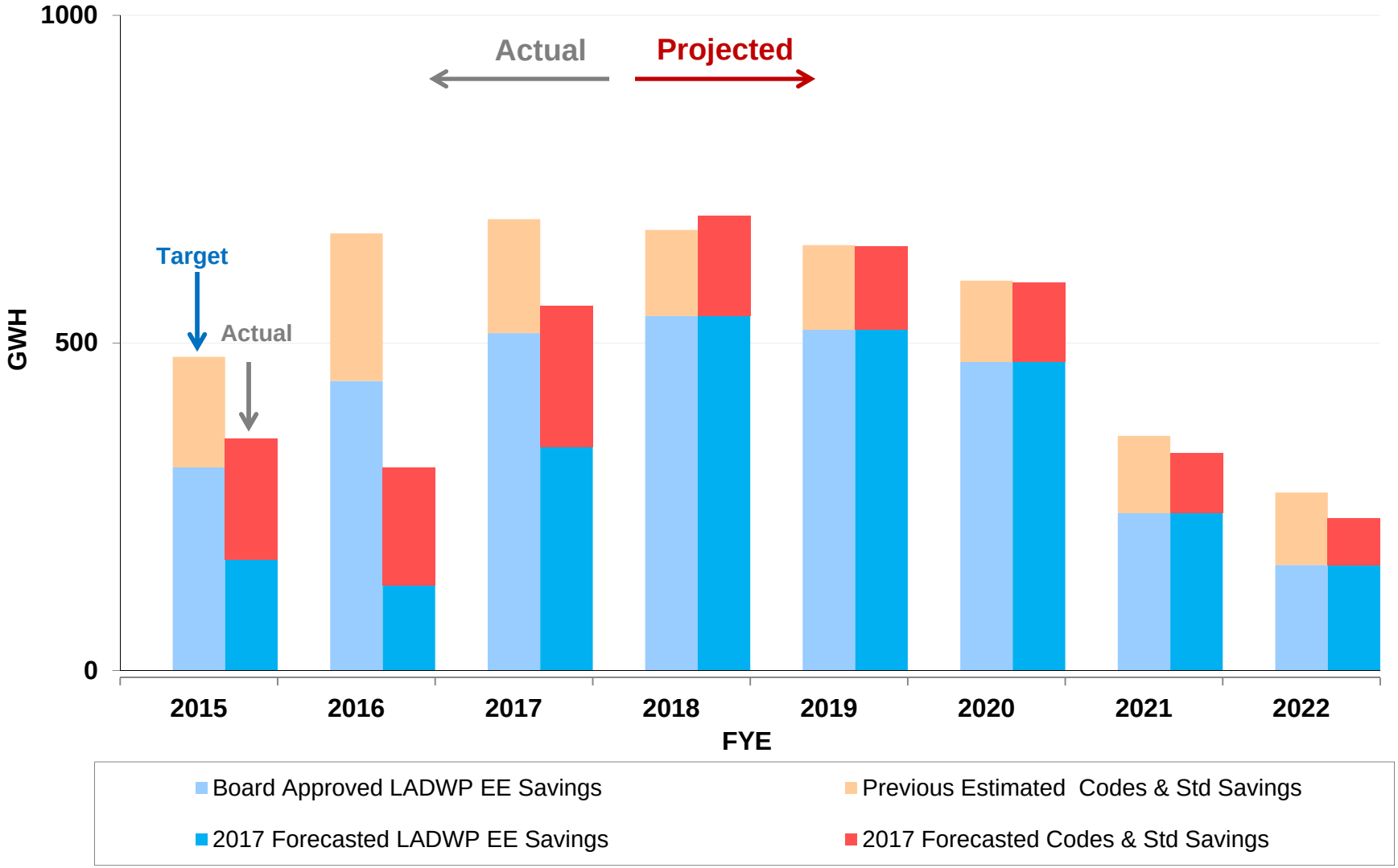


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Building and Appliance Standards	17	118	232	347	461	575	689	804	918	1,032	1,146	1,261	1,375	1,533	1,717	1,897	2,120	2,335	2,489	2,616	2,736	2,828	2,900
Light Bulb Replacement per Huffman Bill	0	0	0	0	0	0	0	0	0	0	0	0	9	77	201	287	354	408	431	448	466	494	518
LADWP Street Light	0	0	0	0	0	0	0	0	0	0	41	78	105	150	168	188	190	192	194	196	198	200	202
LADWP Traffic Light	0	0	0	0	0	0	0	0	0	0	20	42	50	50	50	50	50	50	50	50	50	50	50
LADWP Rooftop Solar	0	0	1	5	12	12	14	15	17	20	27	42	68	104	147	189	240	321	423	475	517	559	600
LADWP Commercial	179	238	343	436	472	498	525	559	618	790	946	1,112	1,246	1,349	1,483	1,639	1,763	1,932	2,324	2,748	3,143	3,421	3,579
LADWP Residential	15	21	34	45	53	62	71	86	115	195	283	297	322	337	354	374	400	441	539	645	744	814	853

FYE

LADWP Residential
LADWP Commercial
LADWP Rooftop Solar
LADWP Traffic Light
LADWP Street Light
Light Bulb Replacement per Huffman Bill
Building and Appliance Standards

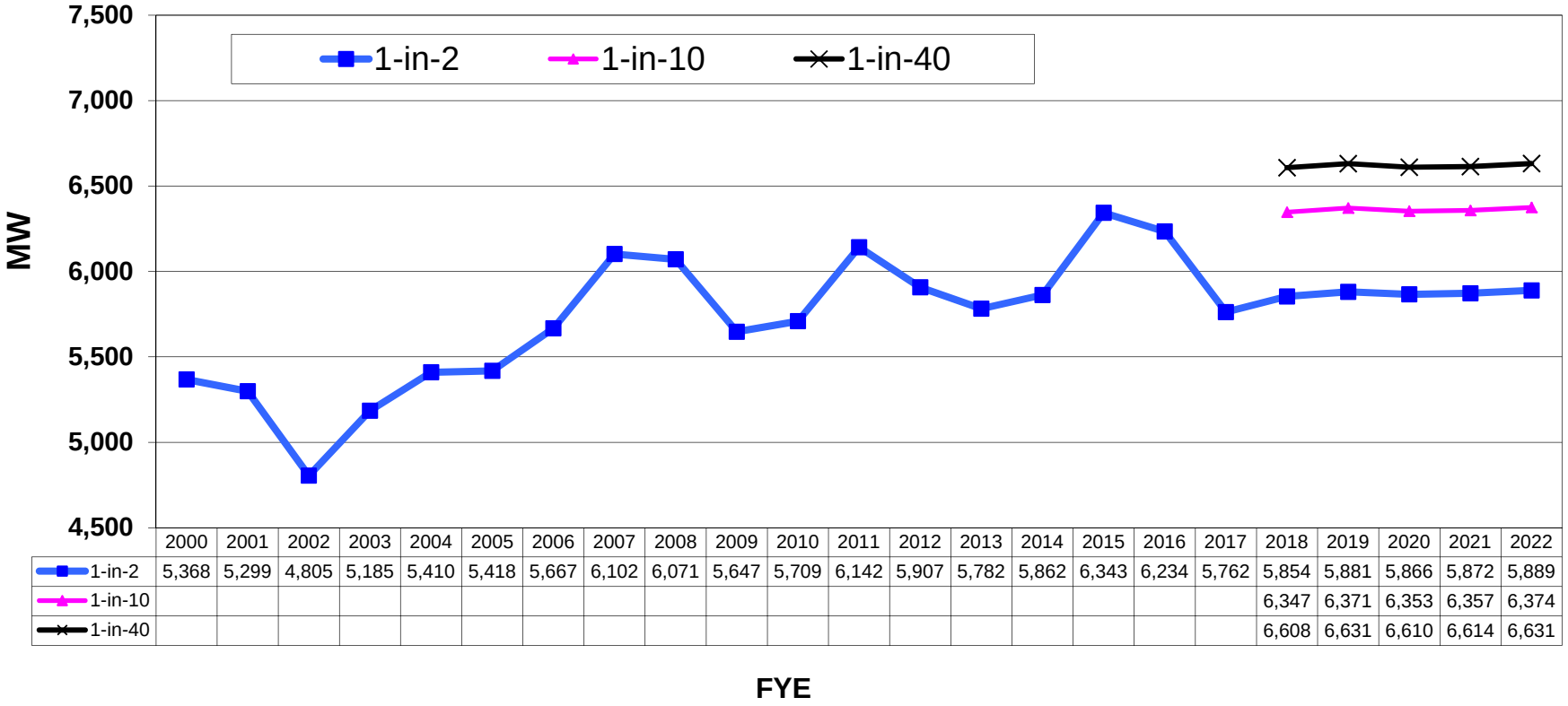
Total Installed EE Savings



Peak Demand

Cases

- Based on the recent climate change finding that more extreme weather events of longer duration will occur in the future, it is now expected that the System will approach its potential more frequently so the difference between the 1-in-10 and 1-in-40 forecasts is compressed.



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1-in-2	5,368	5,299	4,805	5,185	5,410	5,418	5,667	6,102	6,071	5,647	5,709	6,142	5,907	5,782	5,862	6,343	6,234	5,762	5,854	5,881	5,866	5,872	5,889
1-in-10																			6,347	6,371	6,353	6,357	6,374
1-in-40																			6,608	6,631	6,610	6,614	6,631

Peak Demand

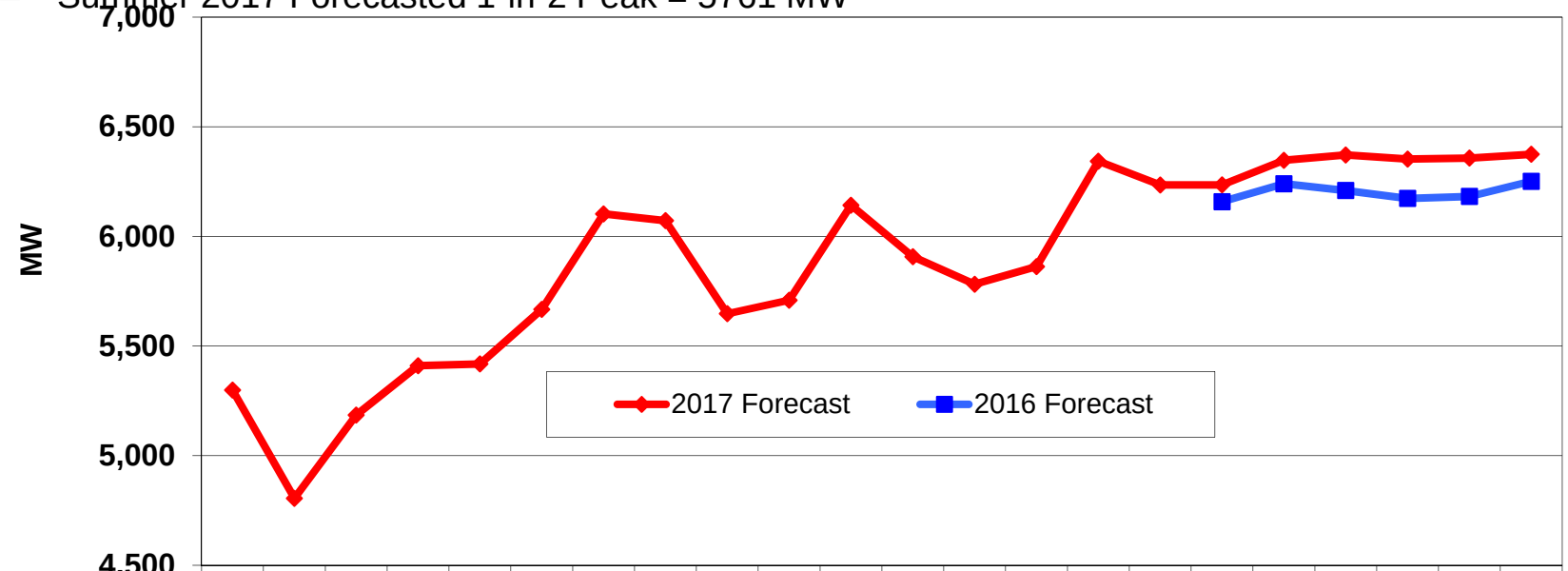
- Annual peak demand is dependent on the severity of the heat storms that are encountered during the year.
- The cases are built on the probability of a weather event occurring in a given year.

NEL (MW) Fiscal Year Annual Peak Demand

Fiscal Year	Base Case	1 in 5	1 in 10	1 in 40 Hot
2017-18	5854	6178	6347	6608
2018-19	5881	6203	6371	6631
2019-00	5866	6186	6353	6610
2020-21	5872	6191	6357	6614
2021-22	5889	6208	6374	6631
2022-23	5933	6255	6423	6682
2023-24	5976	6300	6469	6731
2024-25	6029	6357	6529	6793
2025-26	6076	6407	6580	6847
2026-27	6129	6464	6640	6910
2027-28	6182	6521	6698	6971
2028-29	6239	6582	6761	7038
2029-30	6291	6638	6819	7098
2030-31	6348	6698	6882	7164
2031-32	6400	6753	6938	7223

1-in-10 Peak Demand

- **Summer 2017 Actual Peak = 6432 MW (1-in-15.1 peak occurred on a 1-in-12.6 weather day)**
- **Weather Normalized Peaks for Summer 2017:**
  - Summer 2017 1-in-10 Peak = 6347 MW
  - Summer 2017 1-in-2 Peak = 5854 MW
  - Summer 2017 Forecasted 1-in-2 Peak = 5761 MW



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2017 Forecast	5,299	4,805	5,185	5,410	5,418	5,667	6,102	6,071	5,647	5,709	6,142	5,907	5,782	5,862	6,343	6,234	6235	6347	6371	6353	6357	6374
2016 Forecast																	6,158	6,240	6,209	6,173	6,182	6,251

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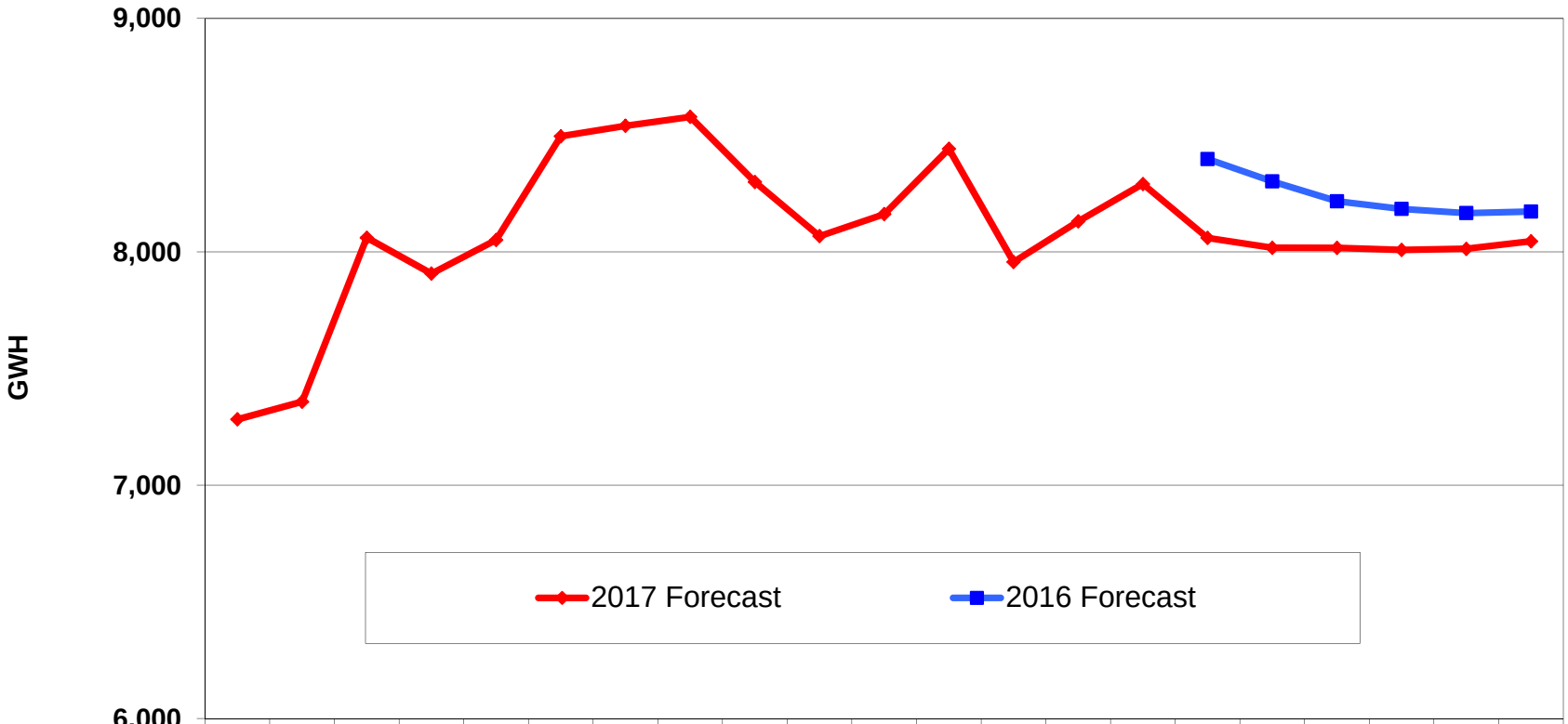
Residential Sales

- Incorporates electric rate increases from Financial Plan Case 4 with a 1-year lag.

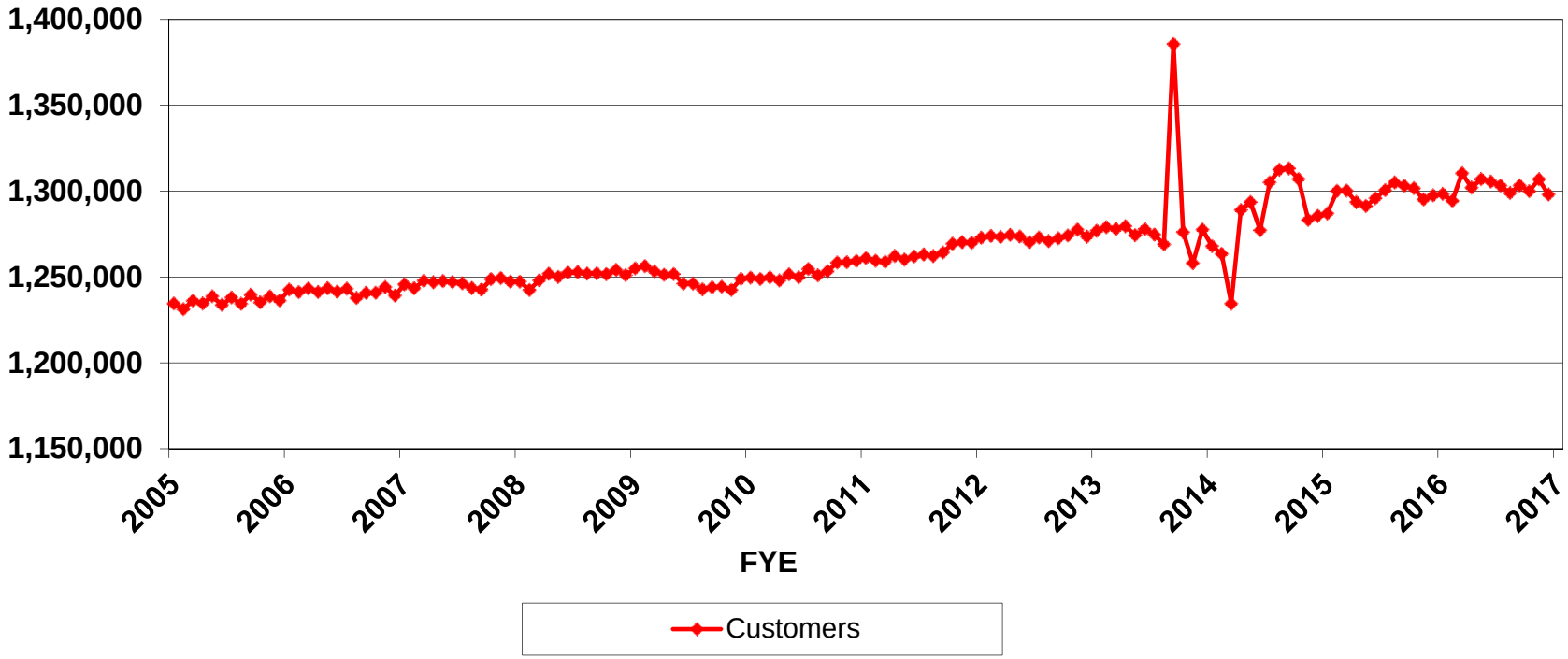


	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2017 Forecast	7,282	7,358	8,061	7,907	8,051	8,495	8,540	8,578	8,300	8,068	8,162	8,442	7,957	8,131	8,291	8,060	8,017	8,017	8,008	8,013	8,046
2016 Forecast																8,398	8,302	8,217	8,184	8,166	8,173

Residential Energy Sales

Number of Residential Customers

- Peak-to-Trough – 13,532 customers lost between February 2009 and August 2009.
- 55,000 (4.3%) customers added since August 2009.
- Total Customers = 2 * Bimonthly Bills + 1 * Monthly Bills
- The majority of residential customers are renters and live in multi-family units.

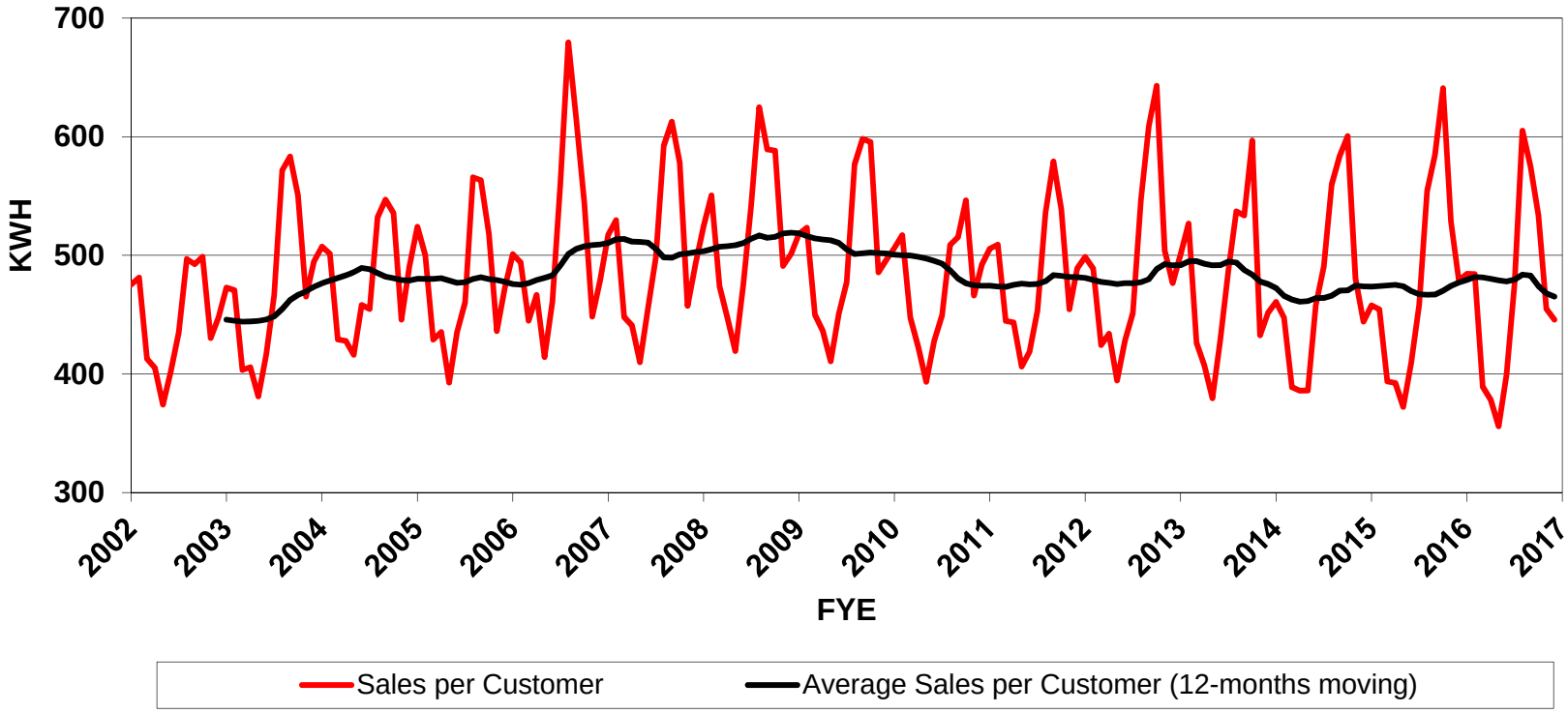


Residential Sales

Average Sales per Customer

Recent Evidence

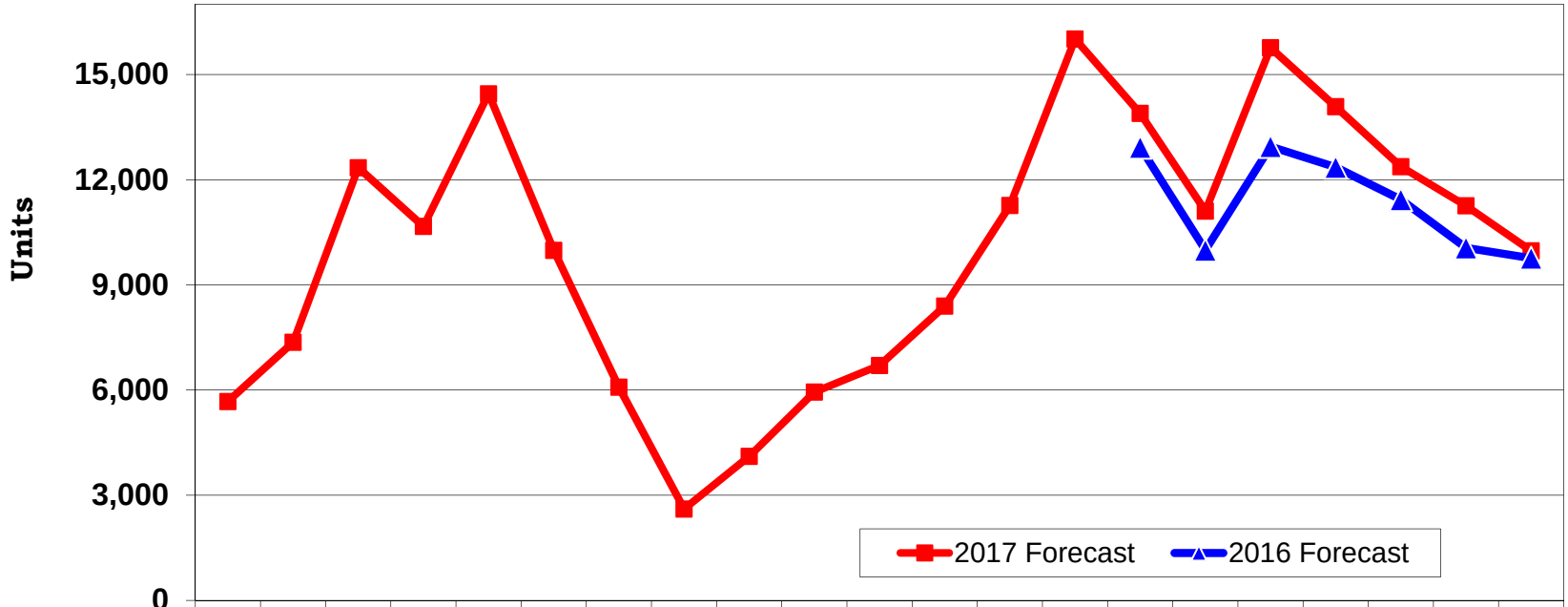
- Moving average monthly sales per customer reached an all-time high of 519 KWH per month in December 2008.
- The December 2016 moving average is 465 KWH per Month.



Residential Energy Sales

New Residential Building Units

- New units are 15% Single-Family and 85% Multi-family which lowers future average consumption per household.
- Absorption changed from positive to negative in 2015.
- Model sensitive to number of households.



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2017 Forecast	5,673	7,361	12,34	10,66	14,44	9,985	6,080	2,607	4,109	5,940	6,700	8,392	11,26	16,01	13,89	11,10	15,76	14,08	12,37	11,25	9,970
2016 Forecast															12,92	9,990	12,94	12,35	11,43	10,05	9,761

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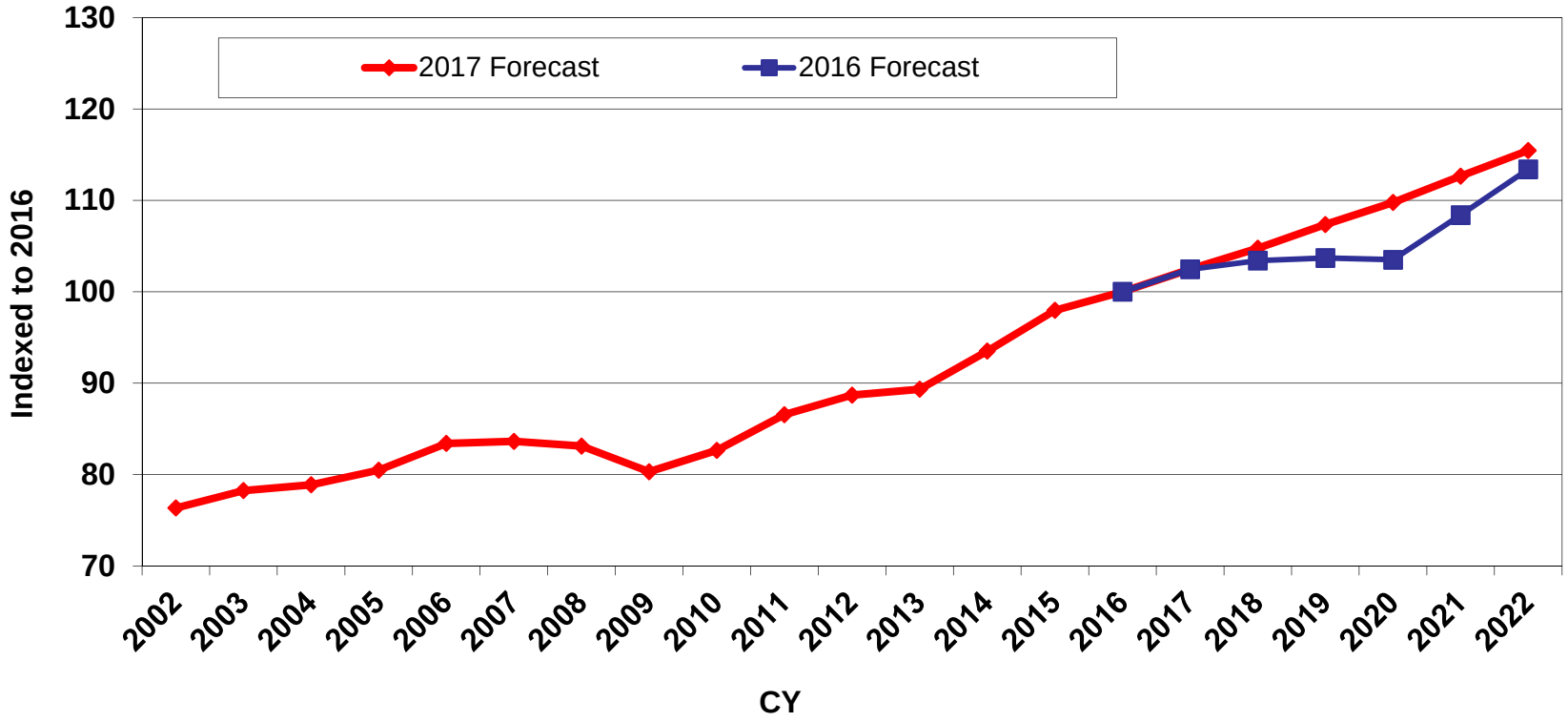
Residential Energy Sales
Recent Economic Impact

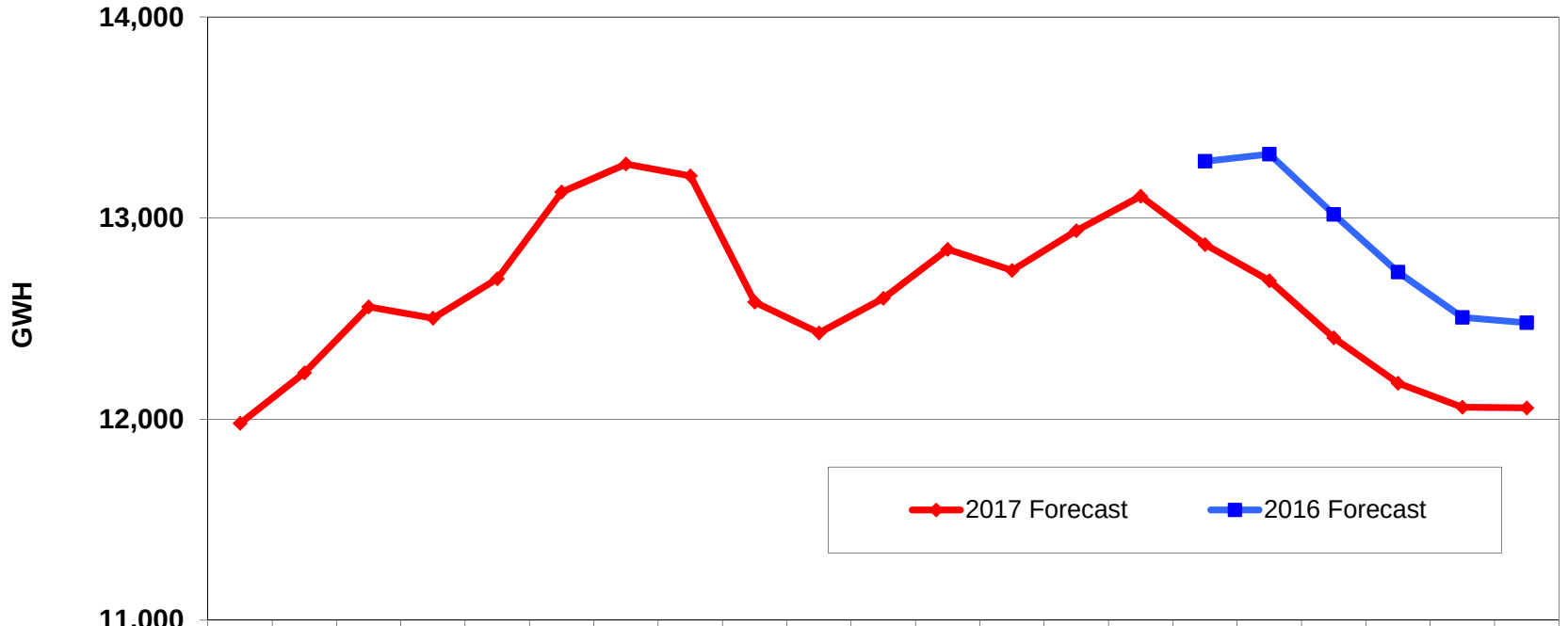
Real Personal Income:

- Change due to new fiscal policy proposed by the current Administration.
- Model sensitive to growth in Personal Income.



Commercial Sales

- Intradepartmental Sales included in Commercial due to CCB reclassification.
- Sectors experiencing positive growth: Education & Health, Professional Services, and Information.
- Open office trend means more employees per square foot.



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2017 Forecast	11,979	12,230	12,559	12,502	12,699	13,130	13,269	13,210	12,582	12,429	12,601	12,845	12,740	12,938	13,109	12,869	12,689	12,404	12,179	12,059	12,056
2016 Forecast																13,283	13,318	13,019	12,731	12,506	12,480

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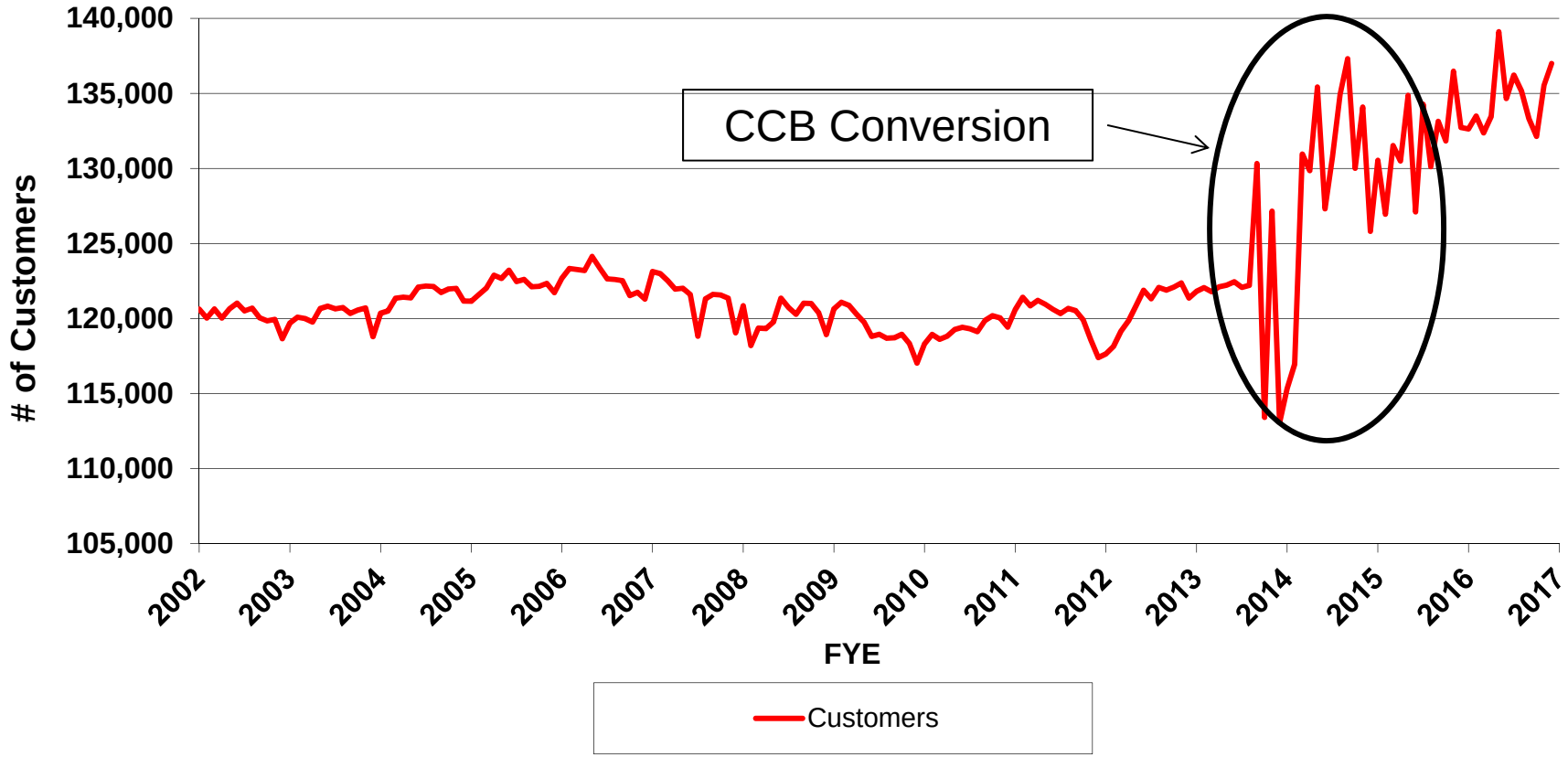
Commercial Energy Sales

Commercial Customers Count

Recent Evidence

- Pre-CISCONN average ~124,000
- Last 12 months average is ~134,588

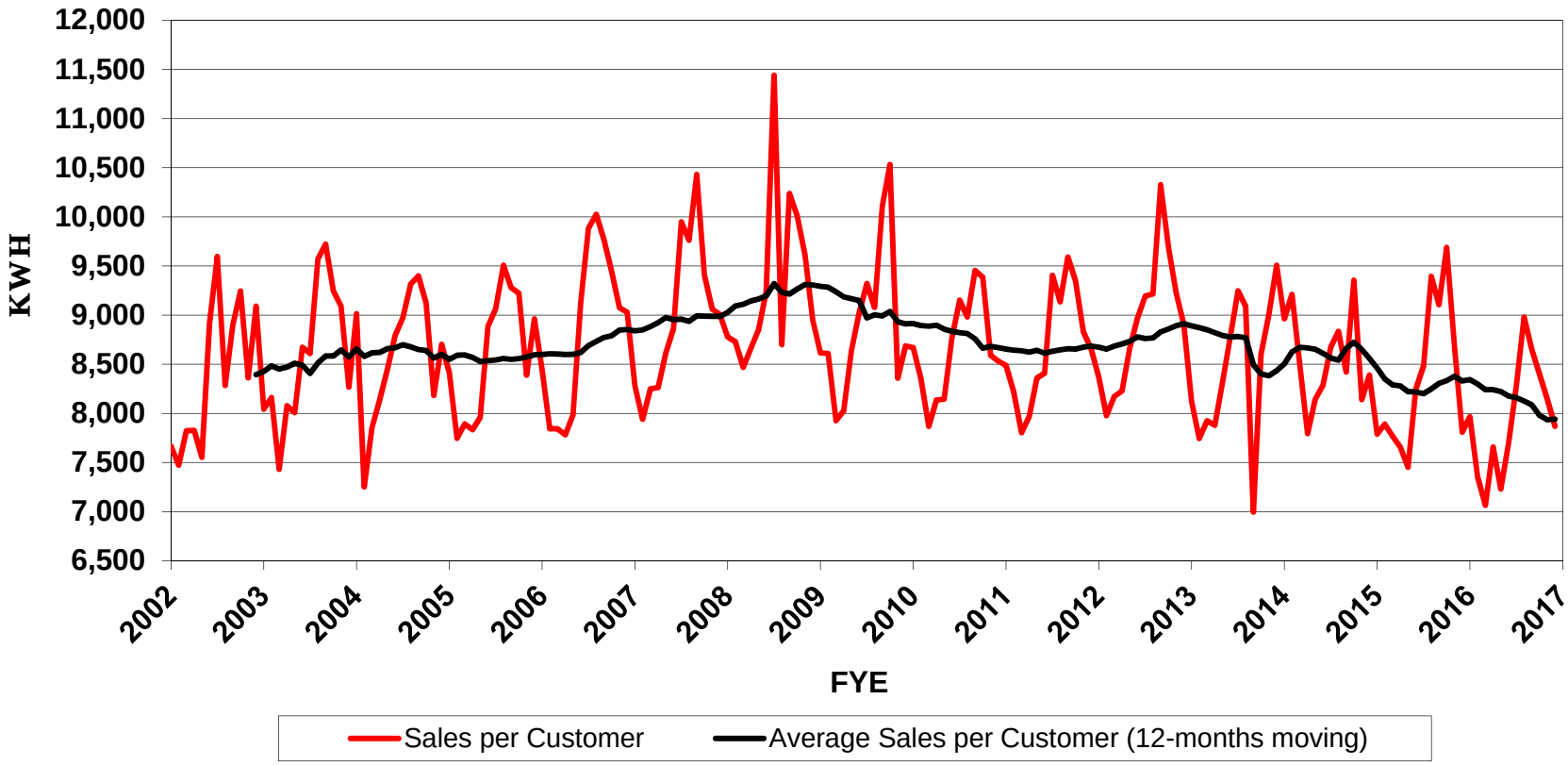


Commercial Energy Sales

Twelve-Month Moving Average Sales per Customer

Recent Evidence

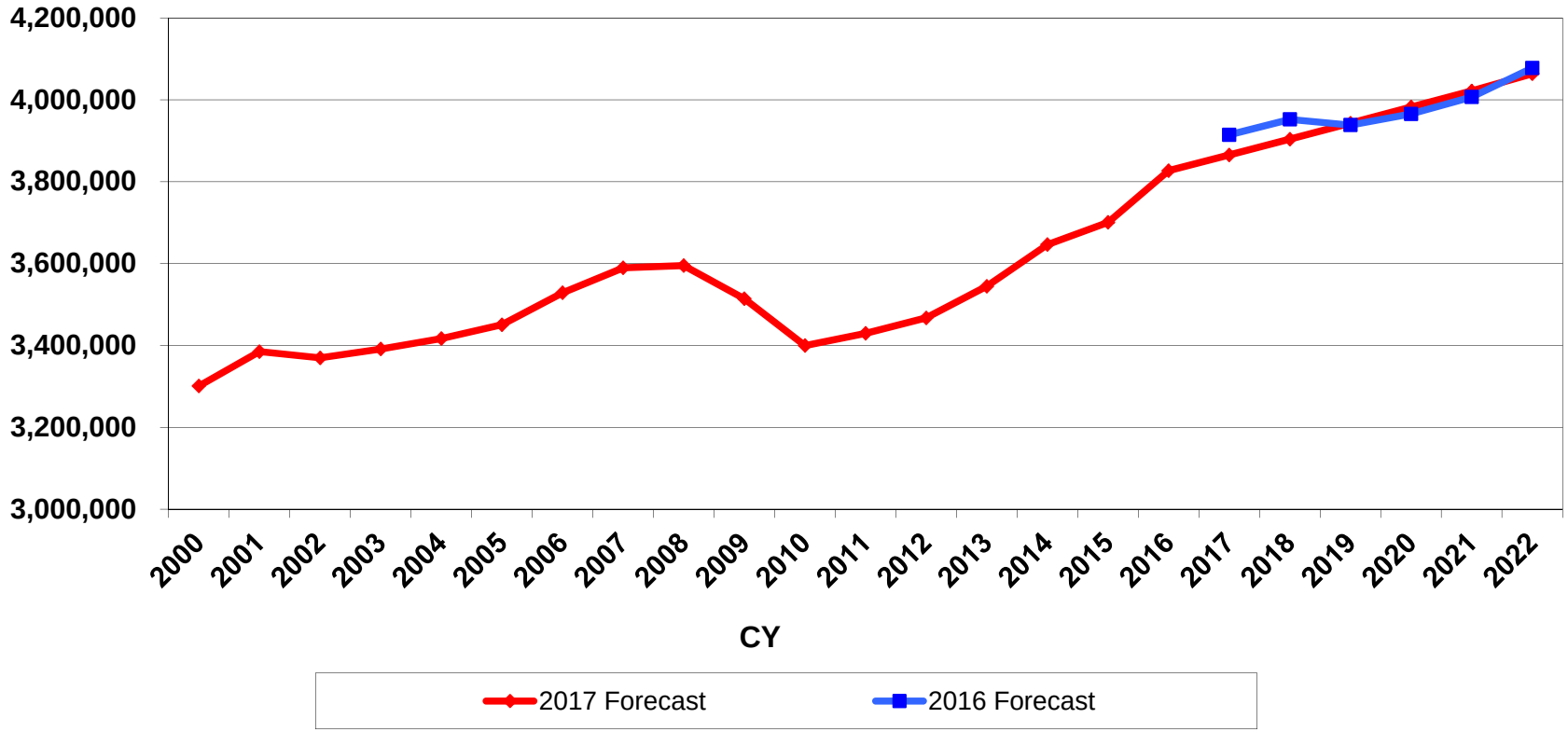
- Moving average of sales per customer per month peaked in July 2008 at 9320 KWH per month.
- Currently sales per customer per month are 7941 KWH.



Commercial Energy Sales
Local Employment in Services Sector

LA County Commercial Services Employment

- Indexed to the March 2016 benchmark.
- Model sensitive to slopes of these curves

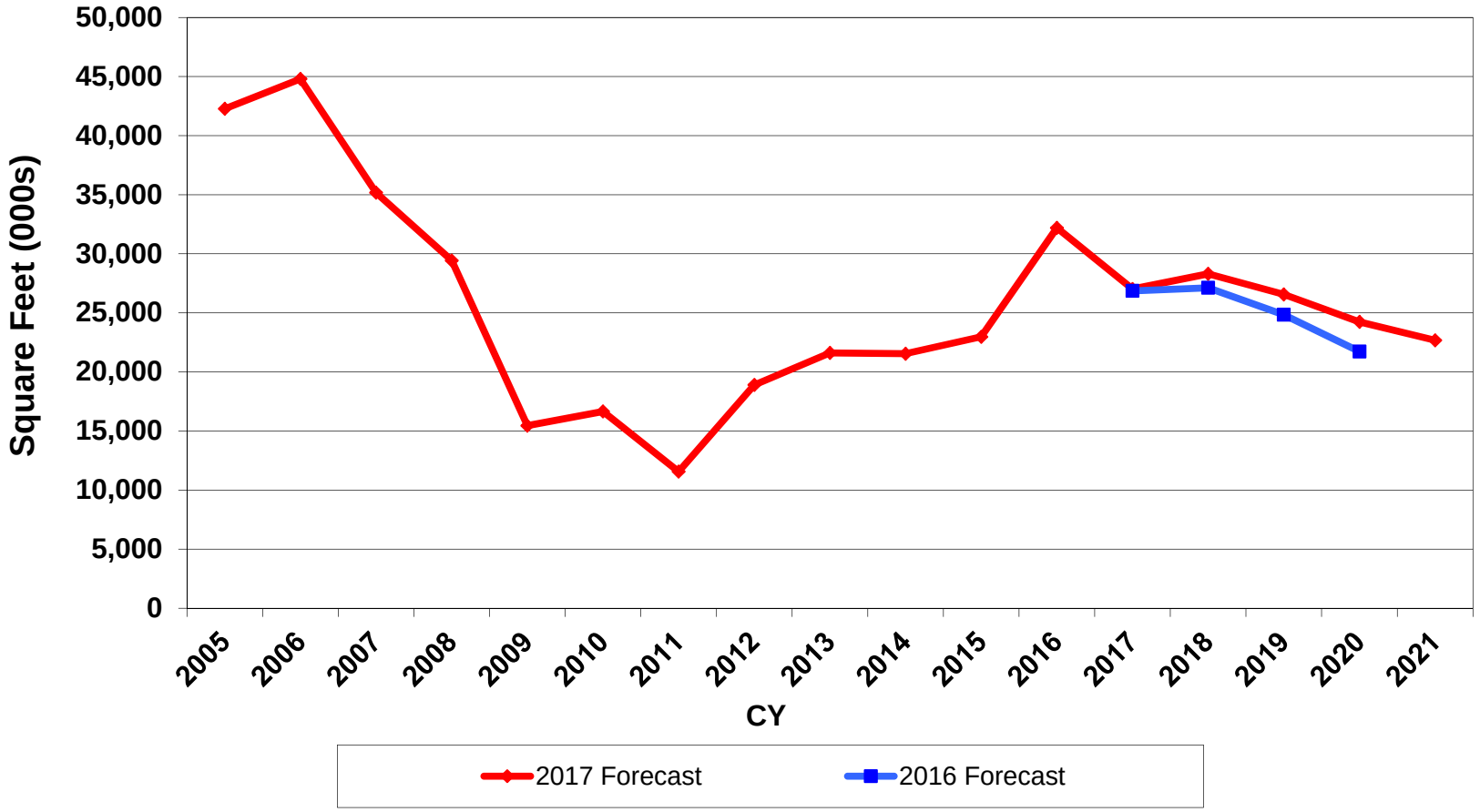


Commercial Energy Sales

Dodge Data & Analytics Forecast

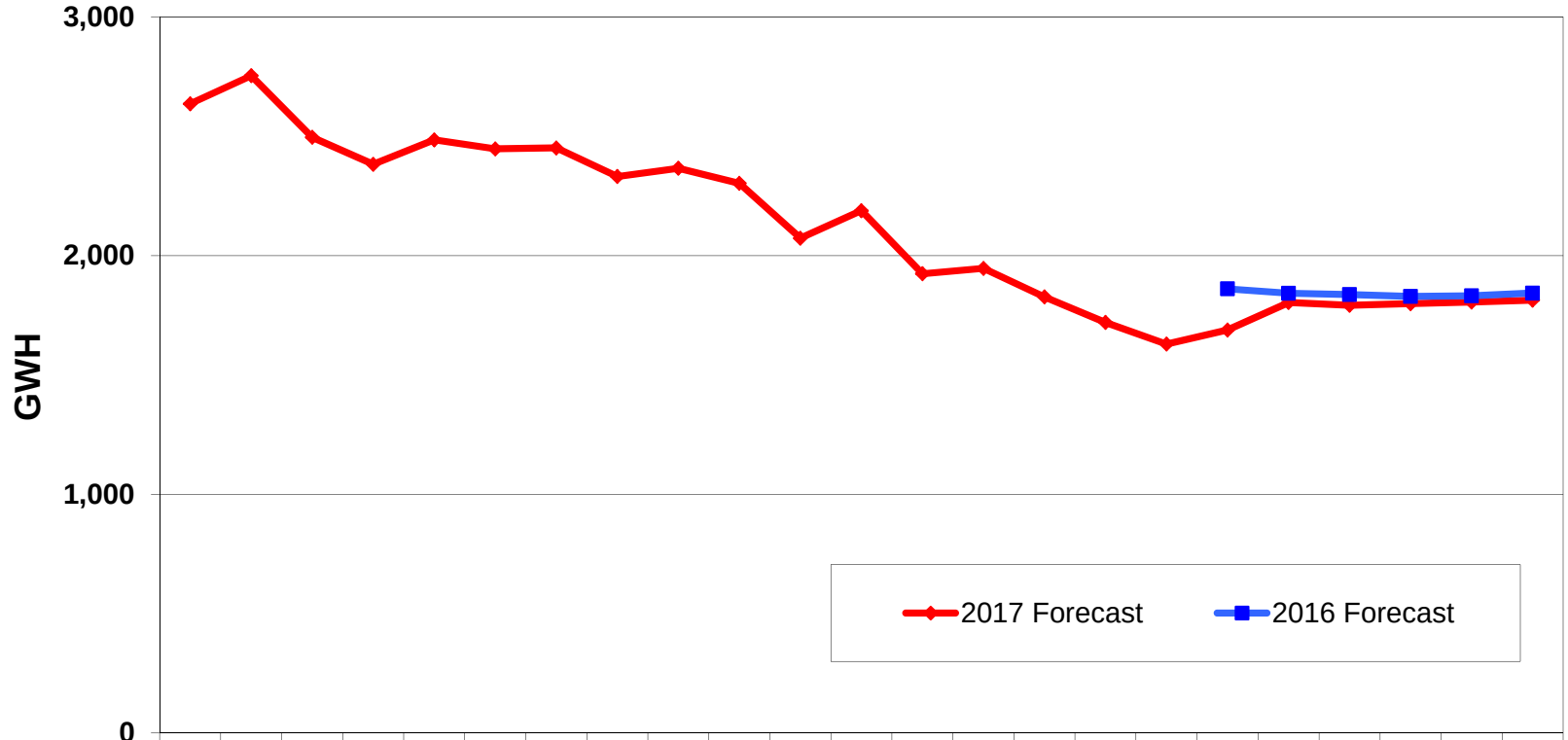
Commercial Floorspace Additions

- Model sensitive to floorspace square footage.



Industrial Sales

- No EE or rooftop solar in the Industrial Forecast. All EE and solar assigned to Residential, Commercial and Streetlight sectors.



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2017 Forecast	2,637	2,754	2,496	2,383	2,485	2,447	2,451	2,332	2,366	2,303	2,073	2,189	1,924	1,947	1,827	1,720	1,630	1,689	1,804	1,792	1,799	1,806	1,813
2016 Forecast																		1,861	1,843	1,837	1,829	1,832	1,843

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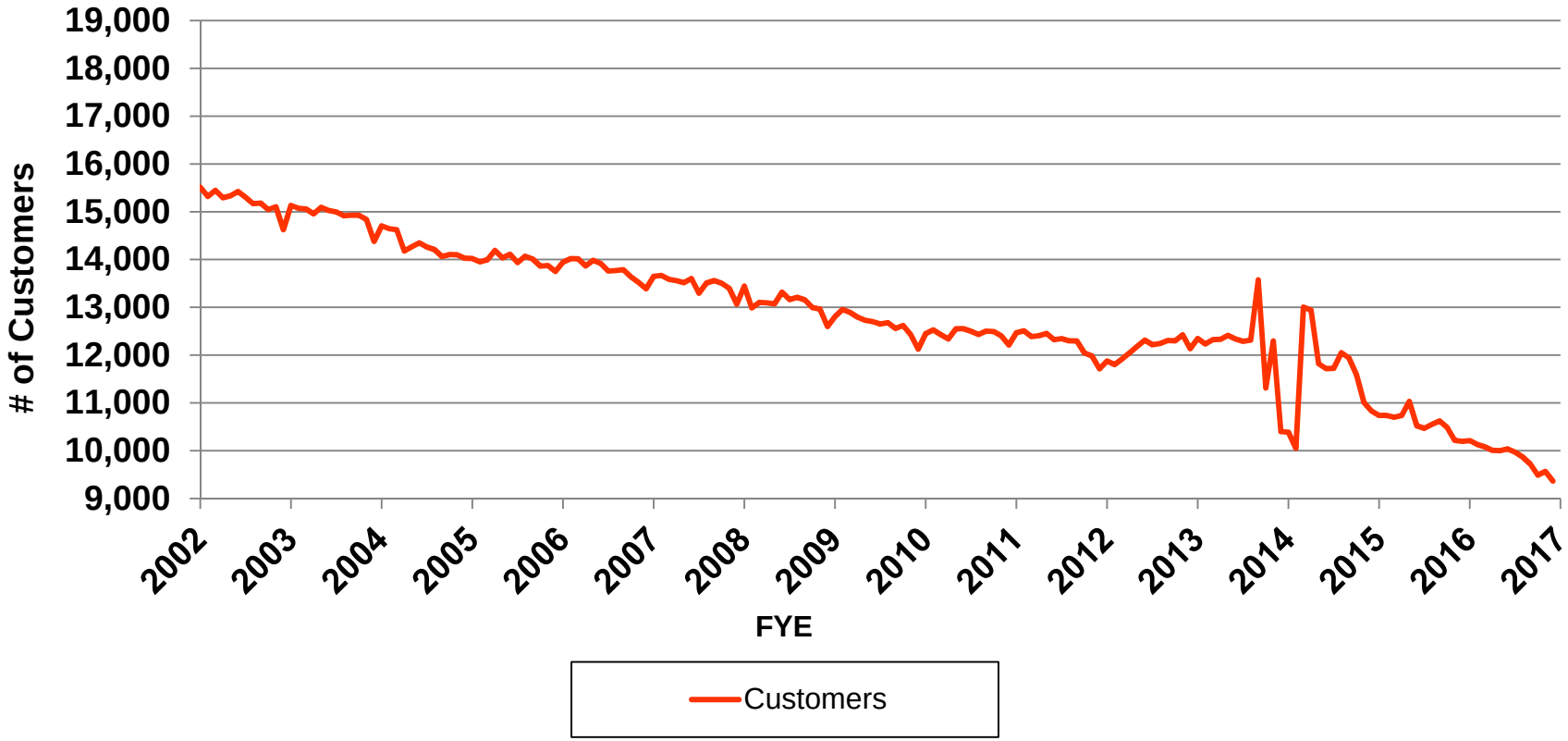
Industrial Energy Sales

Number of Customers

Recent Evidence

- The forecast is for the heavy process industries (refineries and breweries) to remain but no new heavy industry will emerge. Assembly industry customers and jobs are disappearing.

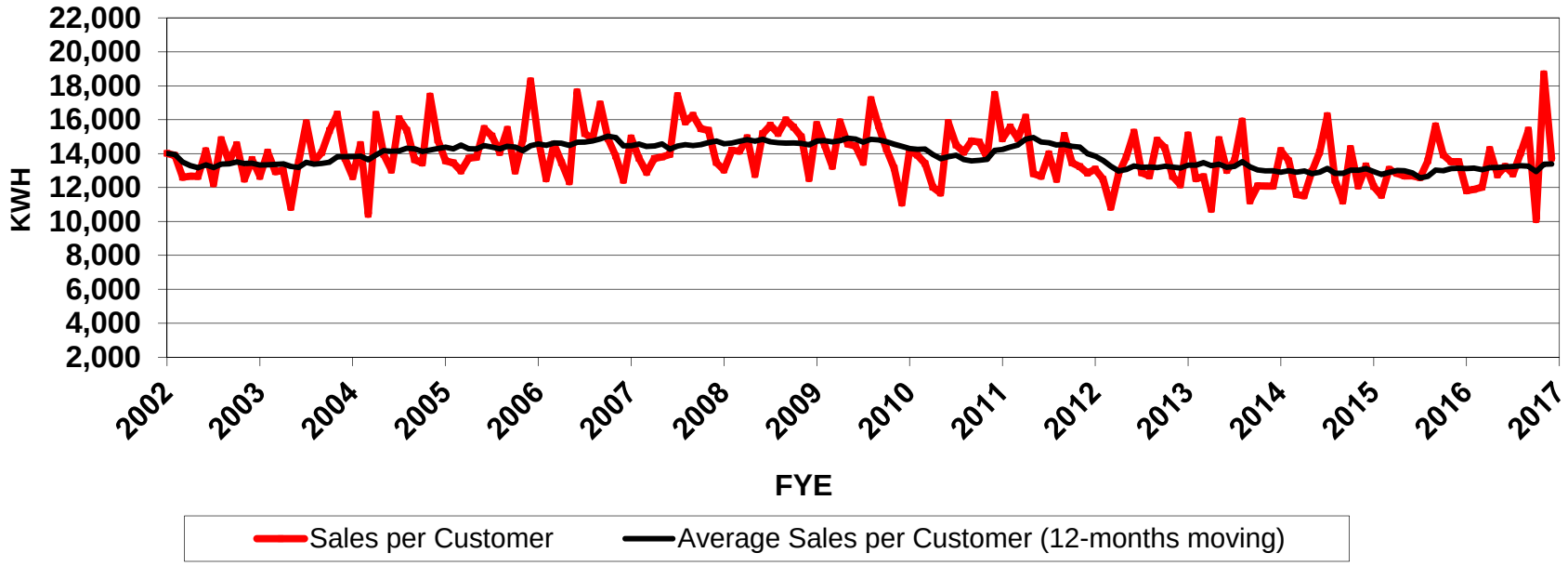


Industrial Sales

Twelve-Month Moving Average Sales per Customer

Recent Evidence

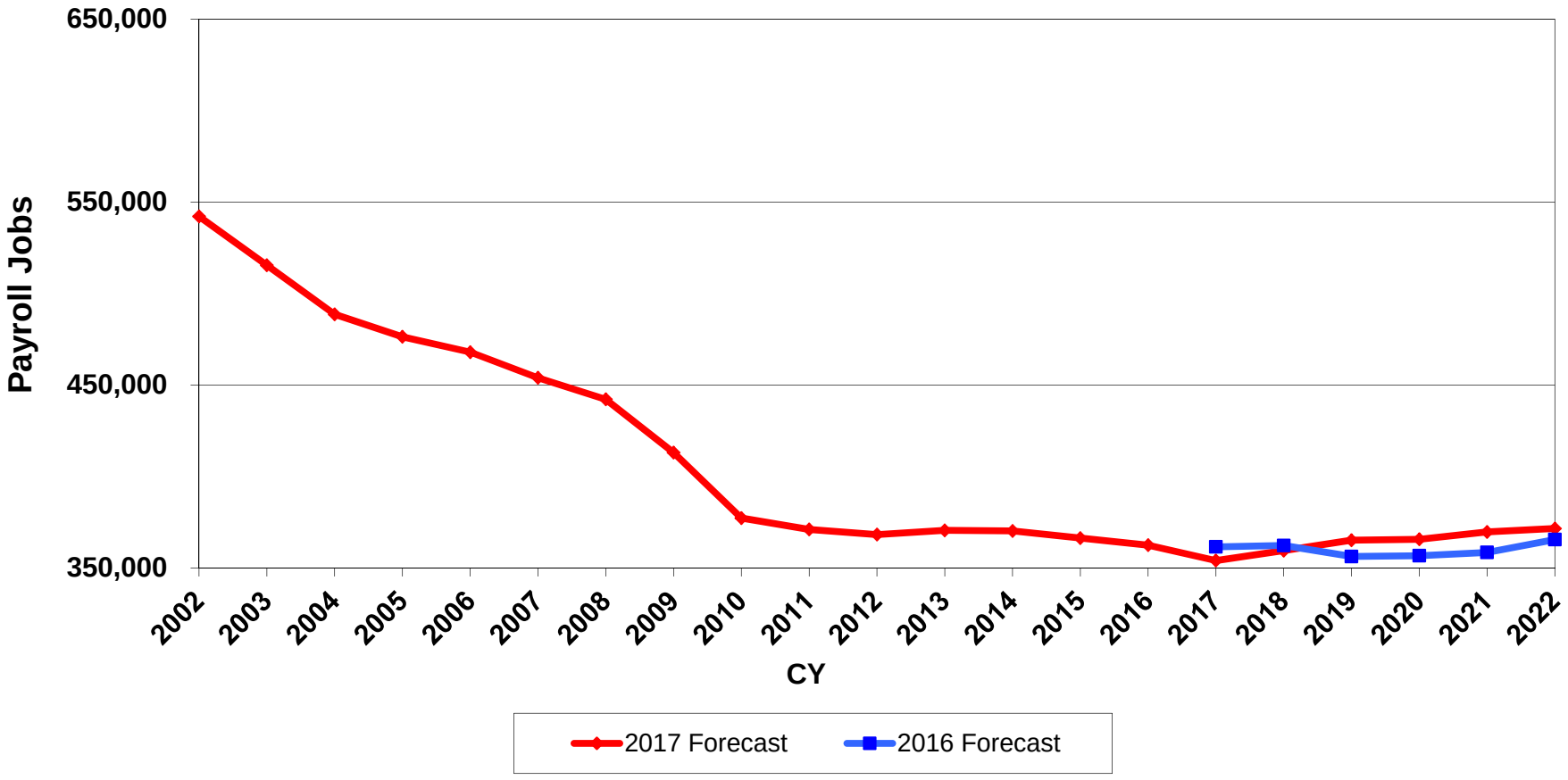
- Sales per customer per month peaked in October 2006 at 15,026 KWH per month. High consumption partially attributed to a large self-generation unit being off-line at a refinery.
- Currently sales per customer per month are 13,390 KWH.



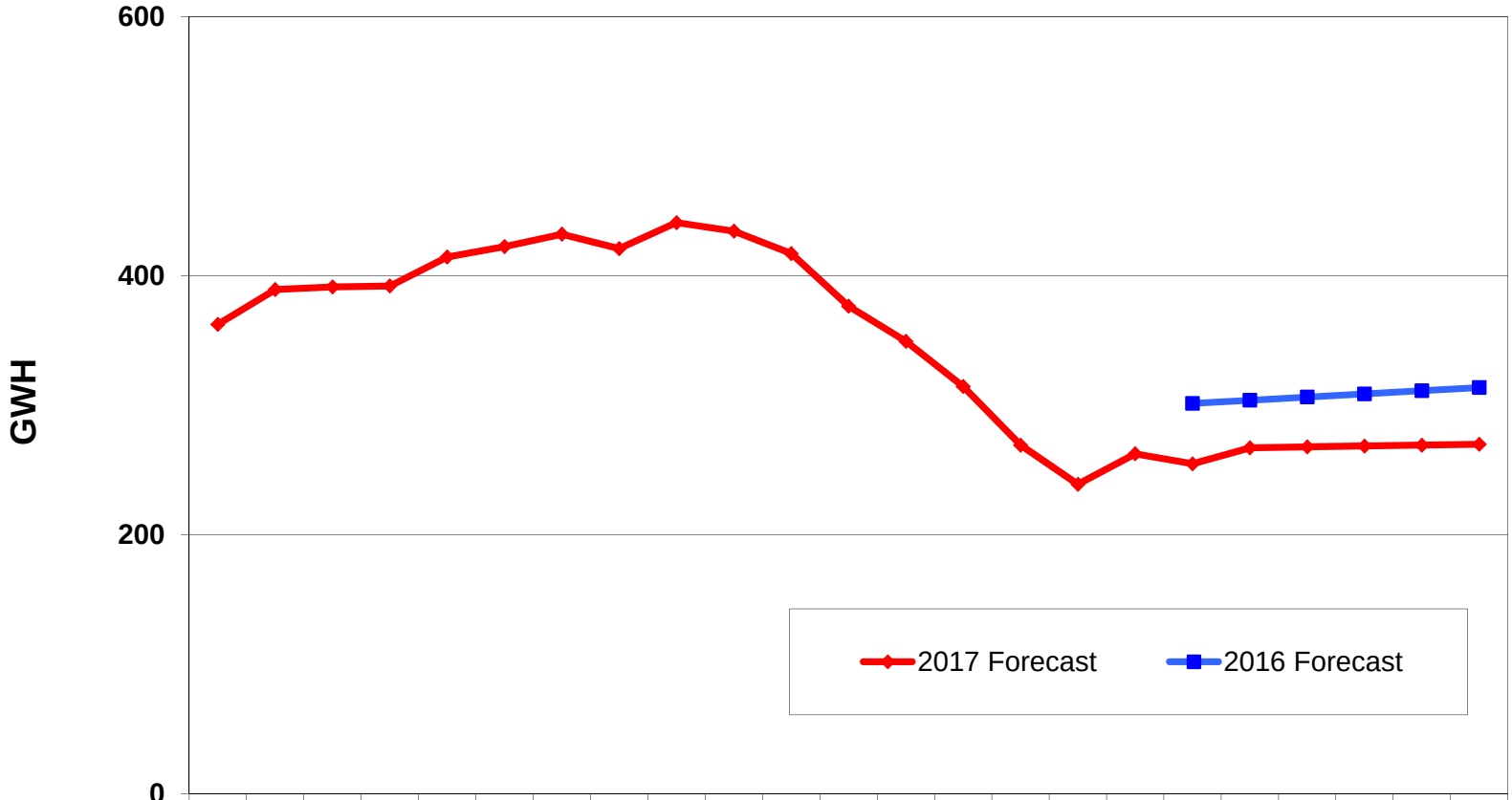
Industrial Sales
Employment Outlook

LA County Manufacturing Employment

- Model sensitive to absolute number of jobs.



Miscellaneous Sales



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2017 Forecast	362	389	391	392	414	423	432	421	441	434	417	376	349	314	269	239	262	255	267	268	268	269	270
2016 Forecast																		301	304	306	309	311	314

FYE

Electric Vehicles
Load Growth

- Using 2016 IRP EV forecast.
- Historical LADWP sales embedded in sector sales.
- Estimated Coincident Load Factor is 93%.