

CALIFORNIA
ENERGY
COMMISSION

California Municipal Utilities Retail Electricity Price Outlook 2003-2013

Prepared in Support of the Electricity and
Natural Gas Report under the Integrated
Energy Policy Report Proceeding
Docket 02-IEP-01

STAFF DRAFT REPORT

February 11, 2003
110-03-005SD



Gray Davis, *Governor*

CALIFORNIA ENERGY COMMISSION

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Introduction

This Energy Commission staff draft report presents retail rate estimates for five California municipal utilities. This is the first of a number of draft reports that the Energy Commission staff are preparing, under the direction of the Ad Hoc Integrated Energy Policy Report Committee, to support the development of the ***2003 Integrated Energy Policy Report***.

The Ad Hoc Integrated Energy Policy Report Committee will conduct a workshop on February 25-26, 2003, to receive public comments on this and several other staff draft reports. The public comments will be instrumental towards improving the Commission staff analysis for evaluating California's energy reliability concerns. A Committee Workshop Notice will soon be posted on the Energy Commission website at: www.energy.ca.gov.

This draft report presents the California Energy Commission staff outlook of average electricity retail rates for five California municipal utilities for the years 2003-2013. It serves as a useful baseline for electricity consumers, market participants, regulatory decision-makers, and government agencies and provides a basic understanding of the determinants of future electricity rates. In this outlook, the staff provides estimates of the retail electricity rates that typical consumers may pay, given projected energy prices, inflation, utility plans, and Commission staff assumptions. Based on this analysis, the staff concludes that:

1. Municipal utilities will most likely keep their rates constant during 2003.
2. LADWP, Glendale, and Burbank could decrease their rates by five percent or more in 2004, and Pasadena in 2005, as a consequence of current excess accumulation of funds and the desire of these utilities to maintain competitive rates in their area. However, a rate decrease could be altered once energy cost and inflation are taken into account. SMUD, on the other hand, will likely decrease rates by ¼ cent/kWh to offset past rate increases.
3. Future retail electricity rates for the five municipal utilities will depend on the cost of natural gas for their own generation, cost of energy purchased and, to some extent, on the need to balance rate stabilization funds.

This rate outlook is not an absolute prediction of what the future electricity rates will be as future regulatory actions by municipal boards, technology development, or market changes may alter key fundamental assumptions. The projection uses the best available information and a set of assumptions the author believes probable and realistic. However, many factors influence electricity rates.

Municipal utilities covered in this report include:

- Los Angeles Department of Water and Power (LADWP)
- Sacramento Municipal Utility District (SMUD)
- The City of Burbank Public Department (Burbank)
- The City of Glendale (Glendale)
- Pasadena Water and Power (Pasadena)

Retail electricity rates detailed in this draft report reflect the best available information to Energy Commission staff up to mid-November 2002.

Background on Municipal Utilities

Although the IOUs were obligated to comply with the electricity restructuring rules as determined by AB 1890 and other laws, municipal utilities were free to participate in all aspects of restructuring. For example, municipal utilities were not required to buy or sell power or ancillary services to the Power Exchange or the California Independent System Operator (CAISO) as were investor-owned utilities. Nevertheless, changes occurred before and during the restructuring period that affected municipal utility prices significantly.

Anticipating fierce competition from cheaper energy suppliers during restructuring, most municipal utilities imposed some kind of competition transition charge (CTC) or froze rates at a high level for their customers to recover their uneconomic assets. Municipal utilities owned old power plants that could not compete with new technology in an open market. In addition, many utilities held long-term contracts and obligations to purchase power that, at the time, was considered expensive. For such reason, SMUD imposed a CTC charge on its customers, Glendale mandated a 1.7 cents/kWh CTC charge on its tariffs, and LADWP froze its rates through 2001. Other municipal utilities increased their rates in 1996-1997 to accumulate funds in rate stabilization accounts that they could later be used to maintain rates. For the most part, those rates remained in effect during 1998-2000. When the energy crisis hit the State late 2000 and early 2001, municipal utilities used their rate stabilization fund accounts to buy expensive power to cover their needs. After the crisis, some utilities were again compelled to increase rates to replenish their accounts. Others with sufficient energy resources of their own kept their rates at the same level. Today most municipal utilities have adjusted their rates to compensate for the 2000 and 2001 energy cost. Ironically, some of the assets, which were considered uneconomic prior to restructuring, such as the contracts and power generation owned by LADWP, became profitable during the energy crisis. As a result, LADWP kept its rates stable and currently has some of the lowest rates in Southern California. LADWP could maintain this position among investor-owned and municipal utilities for the next ten years. Although SMUD used most of its rate stabilization fund during the crisis, the utility still has the lowest rates in Northern California.

Method of Estimating Rates

To develop a baseline for retail electricity price projections, Energy Commission staff:

- Developed a typical customer for each customer class.
- Chose a rate schedule to represent a customer class.
- Reviewed current retail rates and existing utility tariff schedules.
- Spoke to representatives of each municipal utility to verify current tariffs.
- Developed municipal utility average present rates for each customer class.

After developing present average rates, the staff then made projections:

- Using present rates as a baseline.
- Assuming that fundamental rate structures for the five municipal utilities will remain as they are today.
- Reviewing utility websites, news articles, annual reports, financial statements, publications, resource plans, and other documents to identify changes in utility financial status.
- Estimating future energy cost for each utility using the most recent Energy Commission electricity demand, natural gas, and electricity spot market price forecast
- Using inflation to increase operation and maintenance costs.
- Estimating revenue from electricity sales and tariffs and comparing it to historical expenses to derive excess revenues.
- Developing assumptions and inputs.

Table 1 illustrates Energy Commission staff’s assumptions for a typical utility customer in each class. The table provides monthly average electricity consumption and demand for each customer type. However, actual electricity use characteristics of specific customers depend on many factors such as climate and type of facility, type of energy using equipment, and others. Although these customer characteristics are similar to the investor-owned utilities’ characteristics of typical customers, they may not match municipal utility definition of typical customers.

Table 1
Monthly Electricity Used By a Typical Customer

	Residential	Small Commercial	Medium Commercial	Industrial	Agricultural
Usage kWh	500	1,241	21,862	735,305	5,093
Demand kW	NA	NA	60	1217	NA

NA: Not Applicable

Sources: Various municipal utility tariff schedules and websites.

Most utilities, including municipal, usually divide their customers into residential, commercial, industrial, agricultural, street lighting, and other customer classes. These customer classes contain several rate schedules. Utilities assign customers with similar consumption characteristics to a specified rate schedule. Some rate schedules have more customers than others. **Table 2** provides the rate schedules used by staff to represent five

customer classes. In staff’s judgment, these rate schedules represent the most common characteristics of each customer class.

**Table 2
Municipal Rate Schedules Representing Customer Classes**

Utility	Residential	Small Commercial	Medium Commercial	Industrial	Agricultural
LADWP	R-1	A-1	A-2	A-3	N/A
SMUD	R	GS-27	GS-47	GS-TOU	AS-63
Burbank	R	C	C	P	N/A
Glendale	L-1	L-2	LD-2	PC-1-B	N/A
Pasadena	D	G-1	P	P	N/A

Sources: Various municipal utilities tariff schedules and websites.

Electricity Rate Components

Municipal retail rates are the prices that consumers pay utilities for electricity used. Rates are designed to recover the cost of various expenses and services. Although most municipal utilities do not list the rate components in their bills to customers the way investor-owned utilities do, nevertheless their electricity rates include:

- Cost of electricity generation, including capital cost and operation and maintenance of power plants.
- Cost of energy purchased either through contracts or in the open market.
- Energy cost adjustment (ECA) to reflect periodic variation in fuel and energy purchased.
- Electric subsidy adjustment to reflect system costs incurred to support special customer programs.
- Expenses for transmission and distribution facilities.
- Other miscellaneous charges, such as contributions to city hall.

Electricity Rate Outlook

Energy Commission staff estimated current electricity expenses and revenues for the five municipal utilities using historical financial statements and other public documents. Based on those estimates, staff concluded that current rates for all municipal utilities are recovering more revenue than necessary to meet expenses. Given these results, staff conservatively assumed that rates could decline by five percent in 2004 for LADWP, Burbank, and Glendale, and in 2005 for Pasadena. However, once energy cost and inflation is taken into account, the actual rate decrease to customers reflected in our projections for LADWP, Glendale, Burbank, and Pasadena is less than two percent. Due to SMUD’s low rates and the fact that the utility implemented a small rate decrease in 2002 and plans to implement ¼

cent/kWh rate decrease in 2004, staff only reflected the costs of energy and inflation in its rates.

The staff also projected trends of revenues and expenses for the next ten years. Future revenue streams again exceeded estimated expenses. However, due to many uncertainties and lack of data to derive better results, staff only reflected inflation and energy costs from generation and contracts in the rates. As a result, staff projections show a gradual increase in rates for LADWP, Burbank, and Glendale utilities after 2004, and for Pasadena after 2005.

Results

Table 3 shows staff's estimates of average electricity rates for municipal utility residential customers. These rates currently range from approximately 9.0 cents/kWh for SMUD to 13.0 cents/kWh for Glendale. Rates in 2004 for LADWP, Burbank, Glendale, and 2005 for Pasadena, reflect the staff assumption of five percent decrease due to excess funds, which is partially offset by an increase in energy cost and inflation. The net decrease amounts to less than two percent for LADWP, Burbank, Pasadena, and Glendale. Since SMUD is only decreasing its rates by $\frac{1}{4}$ cent/kWh, an increase in energy cost and inflation more than offset the rate decrease in 2004. Thereafter, staff projects lower overall rates for SMUD and LADWP compared to Burbank, Pasadena, and Glendale.

**Table 3
Municipal Residential Electricity Rates
(Nominal cents/kWh)**

Year	LADWP	SMUD	Burbank	Pasadena	Glendale	2001 GDP Deflator
2003	10.44	8.87	12.69	12.50	12.95	102.78
2004	10.28	8.96	12.49	12.96	12.75	106.60
2005	10.65	9.19	12.93	12.75	13.17	110.43
2006	11.28	9.65	13.37	13.19	14.09	114.25
2007	11.84	10.05	13.67	13.51	14.89	116.87
2008	12.35	10.37	13.94	13.81	15.59	119.18
2009	12.77	10.67	14.20	14.11	16.10	121.39
2010	13.29	10.99	14.46	14.41	16.76	123.65
2011	13.75	11.30	14.74	14.73	17.29	126.04
2012	14.27	11.67	15.03	15.07	17.94	128.62
2013	14.93	12.10	15.34	15.42	18.84	131.25

Source: Energy Commission Staff

Table 4 shows average rates for small commercial customers. In general, these customers pay higher rates than any other customer class. Rates for these customers currently range from approximately 10.0 cents/kWh for SMUD to 15.0 cents/kWh for Glendale. Staff projections show lower rates for SMUD compared to LADWP, Burbank, Pasadena, and Glendale.

**Table 4
Municipal Small Commercial Electricity Rates
(Nominal cents/kWh)**

Year	LADWP	SMUD	Burbank	Pasadena	Glendale	2001 GDP Deflator
2003	10.84	10.19	12.56	11.37	14.87	102.78
2004	10.68	10.33	12.36	11.79	14.64	106.60
2005	11.06	10.60	12.80	11.60	15.12	110.43
2006	11.72	11.12	13.23	12.00	16.17	114.25
2007	12.30	11.59	13.53	12.30	17.09	116.87
2008	12.84	11.96	13.79	12.57	17.90	119.18
2009	13.27	12.30	14.05	12.84	18.47	121.39
2010	13.81	12.68	14.31	13.11	19.24	123.65
2011	14.28	13.03	14.58	13.40	19.85	126.04
2012	14.83	13.46	14.88	13.72	20.59	128.62
2013	15.52	13.96	15.18	14.03	21.62	131.25

Source: Energy Commission Staff

In **Table 5** staff shows average rates for medium commercial customers. Currently electricity rates for these customers range from approximately 9.0 cents/kWh for SMUD to 13.0 cents/kWh for Glendale. Taking into account staff assumptions of future energy costs and inflation, rates for Burbank, Pasadena, and Glendale customers would increase significantly over the entire outlook period compared to SMUD and LADWP rates.

Table 5
Municipal Medium Commercial Electricity Rates
(Nominal cents/kWh)

Year	LADWP	SMUD	Burbank	Pasadena	Glendale	2001 GDP Deflator
2003	9.55	9.25	13.17	10.14	12.72	102.78
2004	9.41	9.36	12.96	10.51	12.53	106.60
2005	9.74	9.60	13.42	10.34	12.94	110.43
2006	10.32	10.08	13.87	10.70	13.84	114.25
2007	10.84	10.49	14.19	10.96	14.63	116.87
2008	11.31	10.83	14.46	11.21	15.32	119.18
2009	11.69	11.14	14.73	11.44	15.81	121.39
2010	12.16	11.48	15.00	11.69	16.47	123.65
2011	12.58	11.81	15.29	11.95	16.99	126.04
2012	13.06	12.19	15.60	12.23	17.62	128.62
2013	13.67	12.64	15.92	12.51	18.51	131.25

Source: Energy Commission Staff

Table 6 shows average rates for industrial customers. Electricity rates for these customers currently range between 7.0 cents/kWh for Glendale to 12.0 cents/kWh for Burbank. If Glendale maintains its current rate structure, the utility could offer lower rates for these customers than the other four municipal utilities considered in this report.

Table 6
Municipal Industrial Electricity Rates
(Nominal cents/kWh)

Year	LADWP	SMUD	Burbank	Pasadena	Glendale	2001 GDP Deflator
2003	7.41	7.87	11.53	8.64	7.06	102.78
2004	7.30	7.92	11.35	8.96	6.95	106.60
2005	7.56	8.12	11.75	8.82	7.18	110.43
2006	8.01	8.53	12.15	9.12	7.68	114.25
2007	8.40	8.88	12.43	9.35	8.12	116.87
2008	8.77	9.16	12.67	9.55	8.50	119.18
2009	9.07	9.43	12.90	9.76	8.77	121.39
2010	9.43	9.71	13.14	9.97	9.14	123.65
2011	9.76	9.99	13.39	10.19	9.42	126.04
2012	10.13	10.32	13.66	10.42	9.78	128.62
2013	10.60	10.70	13.94	10.67	10.27	131.25

Source: Energy Commission Staff

Table 7 shows average rates for SMUD agricultural customers over the outlook period. SMUD is the only municipal utility of the five considered in this report that offers rates for agricultural customers.

Table 7
Municipal Agricultural Electricity Rates
(Nominal cents/kWh)

Year	SMUD	2001 GDP Deflator
2003	9.30	102.78
2004	9.41	106.60
2005	9.65	110.43
2006	10.13	114.25
2007	10.55	116.87
2008	10.89	119.18
2009	11.20	121.39
2010	11.54	123.65
2011	11.87	126.04
2012	12.26	128.62
2013	12.71	131.25

Source: Energy Commission Staff