

US EPA ARCHIVE DOCUMENT

# Understanding SDG&E's Electric Rates

## EPA Benchmarking Workshop

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# Topics

- ◆ **Electric Bill Components**
- ◆ **Key Definitions**
- ◆ **SDG&E's Electric Rates for Business Customers**
- ◆ **Q&A**

# Electric Bill Components

**SDG&E's Electric Bills are made up of several components:**

- Utility Distribution Company (UDC) Charges
- Electricity Commodity / Generation Charges
- Department of Water Resources Bond Charge
- Franchise Fees
- Taxes
- Surcharges

# Key Definitions

## UDC Charges:

- Basic Service Fee / Customer Charge:
  - Monthly Fixed Charge
    - Metering, Meter Reading, and Billing Services
- Fixed and variable costs associated with:
  - Transmission Services – Regulated by the Federal Energy Regulatory Commission
  - Distribution Services
  - Public Purpose Programs
  - Nuclear Decommissioning
  - Competition Transition Charge
  - Reliability Services

# Key Definitions

## Electricity Commodity / Generation Charges:

- Fixed and Variable Costs Associated with:
  - Utility Owned Generation
  - Utility Procurement
- Costs associated with:
  - California Department of Water Resources (DWR) Power Supplies
    - Last power supply contract expires in 2011
- Current split between Utility supplies and DWR supplies is approximately 80% and 20% respectively



# Key Definitions

## Department of Water Resources Bond Charge

- Charge for the recovery of costs for bonds issued by the DWR to repay its debt for purchasing power between 01/2001 and 11/2001. Expires in 2022.

## Franchise Fees

- A fee for the Utility's right to install and maintain equipment on public rights of way. Average fee embedded in rates is approximately 1.1% of revenues.
  - San Diego Franchise Fee Differential – An additional 5.78% applicable to all customers located within the City of San Diego
  - Franchise Fees on Electric Energy Supplied by Others – Applicable to DWR power supplies

## Taxes

- State Surcharge Tax – Provides funding for the California Energy Commission
- State Regulatory Fee – Provides funding for the California Public Utilities Commission



# Key Definitions

***Knowing the difference between demand and energy consumption is essential to understanding your energy bill and when considering measures to reduce your energy costs.***

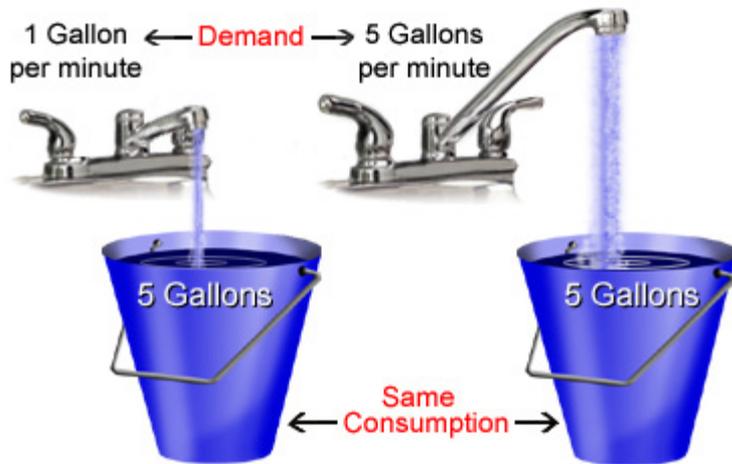
- **Kilowatt (kW)** – A unit of electrical power equal to 1,000 watts.
  - **Demand** – The average **rate** at which electricity is consumed during a 15-minute interval. ***Measured in kW.***
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- **Kilowatt-hour (KWh)** – 1 kW used for one hour.
  - **Energy** – The **amount** of electricity consumed over a period of time, i.e., a billing period. ***Measured in kWh.***



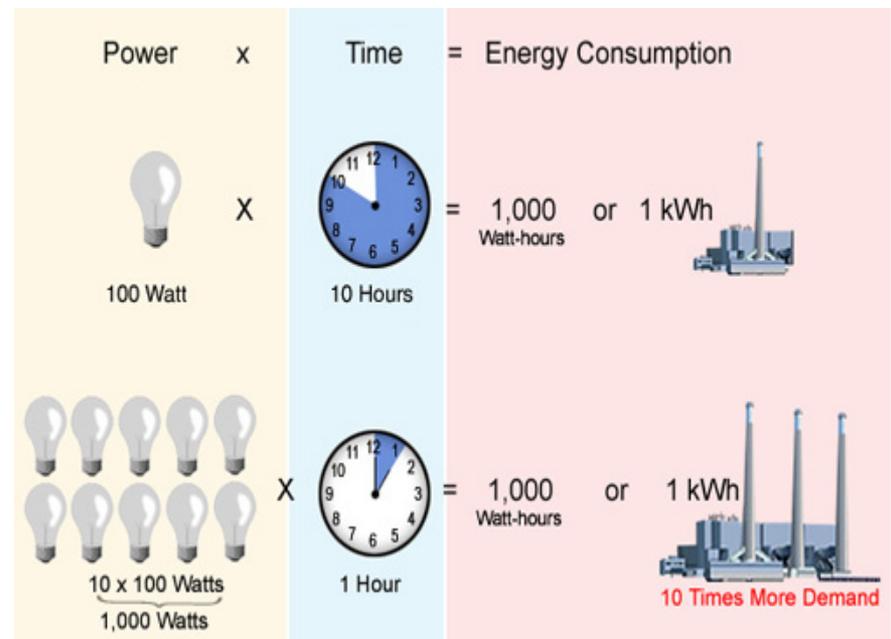
# Demand vs. Energy

Suppose you want to fill a 5 gallon bucket with water. You can use an inexpensive, small faucet that provides 1 gallon per minute and it will take 5 minutes to fill the bucket. Or, you can use a more expensive, large faucet that provides 5 gallons per minute, it will fill the bucket in just one minute.

The flow rate is the equivalent to **demand**, and the 5 gallons of water are equivalent to the amount of **energy** consumed. In this example, filling both buckets has the same "consumption" but very different "demands."



**The same is true of electricity.** One 100-watt light bulb burning for 10 hours consumes 1 kWh. The entire time it is on, it requires or "demands" 0.1 kW. That means SDG&E must have that 0.1 kW ready whenever the lamp is turned on. Ten 100-watt light bulbs burning for 1 hour also consume 1 kWh. SDG&E must now be prepared to provide **ten times** as much 'capacity' in response to the "demand" of the 10 light bulbs operating all at once.



# Customer Classes

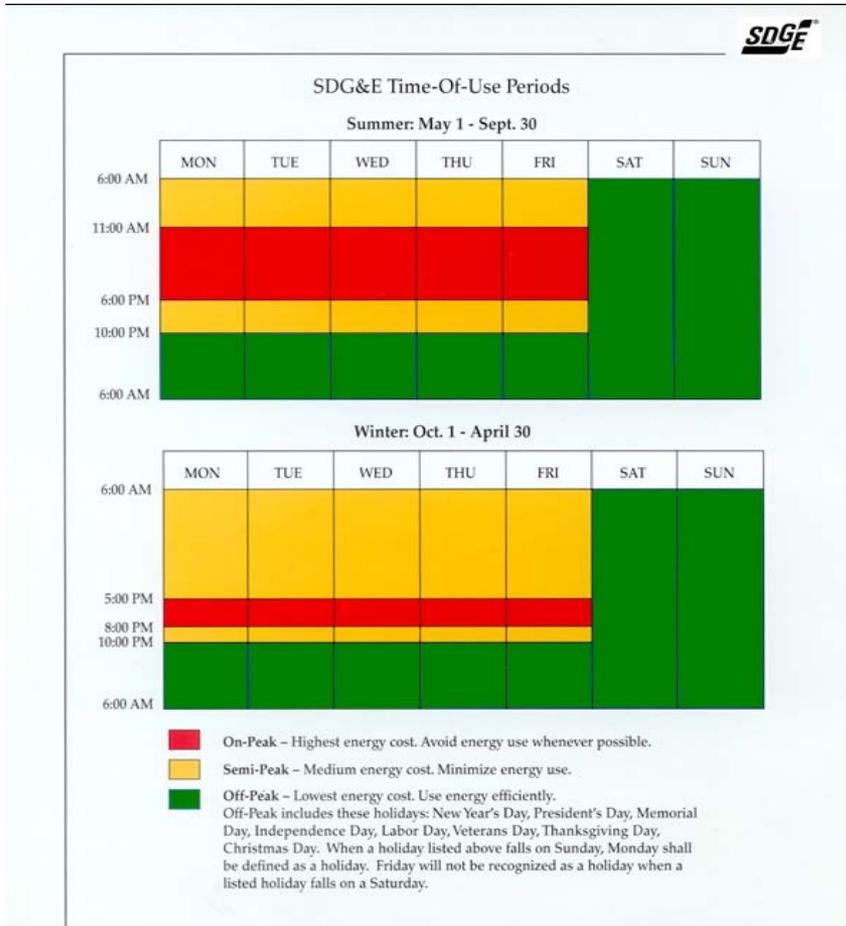
SDG&E's business customers are divided into two classes:

- **Small Commercial:**  
Business customers whose demands are less than 20 kW
- **Medium and Large Commercial:**  
Business customers whose demands are equal to or greater than 20 kW



# Time-of-Use Rates

- Energy and Demand charges vary by time-of-day and seasonally



## Typical Time-of-Use Rate Structure

- Basic Service Fee
- Energy Charges
  - Summer
    - On-Peak
    - Semi-Peak
    - Off-Peak
  - Winter
    - On-Peak
    - Semi-Peak
    - Off-Peak
- Non-coincident Demand Charge
- On-Peak Demand Charge
  - Summer
  - Winter



# SDG&E's Electric UDC Rates

## SDG&E's Current & Effective Commercial UDC Rates

- **Schedule A – General Service**
- **Schedule AL-TOU – General Service – Time Metered**
- **Schedule PA-T-1 – Agricultural & Water Pumping – Time Metered - Optional**
- **Schedule DG-R – Distributed Generation Renewable – Time Metered – Optional**



# UDC Rates

## Schedule A – General Service

- Applicable to customers with maximum monthly demand less than 20 kW.
- Monthly Basic Service Fee
- Flat energy-only based rate that varies seasonally

## Schedule AL-TOU – General Service – Time Metered

- Default UDC rate applicable to customers with maximum monthly demand that is equal to or greater than 20 kW for 12 consecutive months. Optionally available for small customers
- Monthly Basic Service Fee – Based on customer size
- Energy rates that vary by time-of-day and seasonally
- On-Peak demand charge that varies seasonally
- Non-Coincident demand charge based on monthly maximum demand or 50% of annual maximum demand, a.k.a., Ratchet



# UDC Rates

## Schedule PA-T-1 – Agricultural & Water Pumping – Time Metered

- Optionally available to agricultural and water pumping customers with maximum monthly demand greater than 500kW.
- Monthly Basic Service Fee
- Energy rates that vary by time-of-day and seasonally
- No Non-Coincident demand charge
- On-Peak demand charge that varies seasonally
  - Several options for selecting Summer On-Peak demand period:

Option C	12 p.m. – 4 p.m.	Weekdays
Option D	1 p.m. – 3 p.m.	Weekdays
Option E	1 p.m. – 4 p.m.	Weekdays
Option F	11 a.m. – 6 p.m.	Weekdays

- Semi-Peak demand charge that varies seasonally

# UDC Rates

## Schedule DG-R – Distributed Generation Renewable – Time Metered

- Optionally available to all business customers who have installed certain types of operational electric generation with a capacity equal to or greater than 10% of the customer's peak annual load and whose peak annual load is 2 megawatts or less
- Eligible Generation Technologies:
  - Solar Photovoltaic, Wind, Biomass, Digester or Landfill gas & Fuel Cells
- Monthly Basic Service Fee – Based on customer size
- Energy rates that vary by time-of-day and seasonally
- No Non-Coincident demand charge
- Monthly maximum demand charge is set at 50% of the AL-TOU Non-Coincident demand charge
- No On-Peak demand charge

# Commodity Rates for Business Customers

## Schedule CPP-D – Critical Peak Pricing Electric Energy Commodity Cost

- Default commodity rate for customers that have an electric meter remotely read by SDG&E that measures and records usage data in 15-minute intervals, and whose demand equals or exceeds 20kW. Optionally available for all other business customers.
- Energy rates vary by time-of-day, seasonally, and CPP events
  - CPP events can occur Monday through Saturday, 11a.m.-6:p.m., during the summer months – Normal TOU periods outside of CPP events
- Energy rates during non-CPP events are lower than the energy rates under the otherwise applicable rate
- No demand charges
- Customers can elect to reserve a level of capacity that will protect a certain amount of load from the high critical peak price. Customers are charged a fixed Capacity Reservation Charge each month during the year
- Bill protection for the first year
- Customers can opt-out of CPP-D and receive service under the otherwise applicable commodity rate



# Commodity Rates for Business Customers

## Schedule EECC – Electric Energy Commodity Cost

Commodity rate for business customers that are not subject to CPP-D and customers that opt-out of CPP, a.k.a. Otherwise Applicable Rate

- For small business customers on the UDC Schedule A, the commodity rate is a flat energy-only rate that varies seasonally
  - For customers with demands greater than 20 kW that are not subject to CPP-D or who opted out of CPP-D, the commodity rates are listed in the schedule under the UDC rate a customer is billed on.
  - Generally, the commodity rate structures are identical to the UDC rate structure.
  - For example, the commodity rate applicable to a customer billing on AL-TOU has:
    - Energy charges that vary by time-of-day and seasonally
- AND
- An On-Peak demand charge that varies seasonally



# Sample Commodity Rate Comparison

## Illustrative Secondary Service Voltage Level Rates

Charge Description	DEFAULT Critical Peak Pricing	OPT-OUT Commodity Pricing
<b>New</b> Summer Energy Rates (\$ per kWh)		
CPP Event Period — Above Capacity Reservation	\$1.06781	NA
On-Peak	\$0.10360	\$0.10821
Semi-Peak	\$0.08307	\$0.08768
Off-Peak	\$0.06139	\$0.06600
Winter Energy Rates (\$ per kWh)		
On-Peak	\$0.10170	\$0.10631
Semi-Peak	\$0.09313	\$0.09774
Off-Peak	\$0.06822	\$0.07283
<b>New/ Optional</b> Capacity Reservation Charge (\$ per kW/Month — Year Round)	\$ 6.20	NA
Self-Selected kW		
<b>New</b> On-Peak Demand Charge (\$ per kW)	NA	\$ 6.43
Maximum Summer On-Peak Demand		
On-Peak Demand (\$ per kW)	NA	\$ .21
Maximum Winter On-Peak Demand		



# Illustrative Electric Bill

UDC Rate: Schedule AL-TOU  
Commodity Rate: Schedule EECC

	Peak	Usage	Rate	Amount
Winter	On	10348 @	.00973	\$100.69
Energy Usage	Semi	37798 @	.00781	\$295.20
	Off	51405 @	.00691	\$355.21
	Winter On-Peak Demand:	190.8 kW x	\$3.59	\$684.97
	Non-Coincident Demand:	192.6 kW x	\$11.18	\$2,153.27
		TOU Customer Charge		\$58.22

UDC Charges

DWR Bond Charge	99,551 kWh @	\$.00477		\$474.86
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DWR Bond

Electric Energy Charge				
Generation Demand:	190.8 kW x	\$.21		\$40.07
On Peak	10,348 kWh x	\$.07684		\$795.14
Semi Peak	37,798 kWh x	\$.05336		\$2,016.90
Off Peak	51,405 kWh x	\$.03866		\$1,987.32

Commodity Charges

Total Electric Charges \$8,961.85

Total Electric Charges shown above include the following components.

Electric Energy.....	\$4,839.43
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DWR Bond Charge.....	\$474.86
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Transmission.....	\$725.12
Distribution.....	\$2,352.62
Public Purpose Programs.....	\$570.43
Nuclear Decommissioning.....	\$45.79
Competition Transition Charge.....	\$33.85
Reliability Services.....	-\$80.25

Total Electric Costs.....\$8,961.85

San Diego Franchise Fee Differential 5.78% Electric.....	\$490.55
Franchise Fees on Electric Energy Supplied by Others.....	\$32.67
State Surcharge Tax \$.00022/kWh.....	\$21.90
State Regulatory Fee \$.00024/kWh.....	\$23.89

Franchise Fees & Taxes

Total Amount Due.....\$9,530.86



# Questions?