



AFFORDABILITY THROUGH DEMAND MANAGEMENT

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&

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May 25, 2023

Informational Update

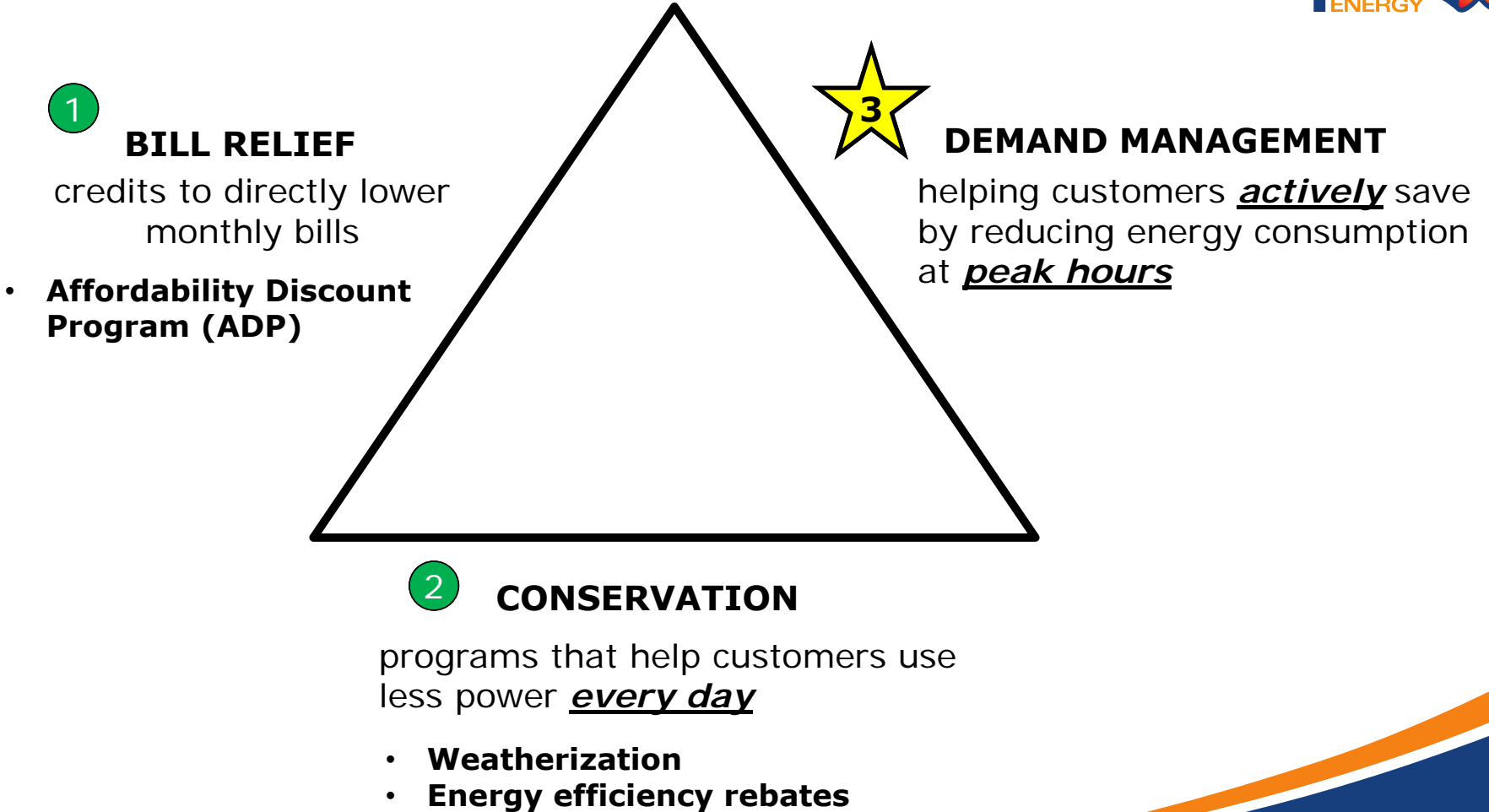
AGENDA



- **AFFORDABILITY TRIANGLE**
- **MAKING DEMAND MANAGEMENT EFFECTIVE**
 - **PRICE SIGNALS**
 - **TOOLS & TECHNOLOGY**
 - **AWARENESS & FEEDBACK**
- **TECHNOLOGY CONSTRAINTS RECAP**

Our purpose is to discuss demand management and how it enables lower energy use and lower bills for our customers, especially those with limited incomes.

AFFORDABILITY JOURNEY



LOWERING CONSUMPTION THROUGH DEMAND MANAGEMENT



Helping customers actively manage their energy consumption requires a multi-pronged approach...

- Time of use
- Seasonal pricing
- Inclining blocks
- Demand charges

- Smart thermostats
- Prepay



- Peak time usage alerts
- Social media
- Beat the Heat campaign
- Resources and communications in English & Spanish

WHERE WE ARE TODAY

EXISTING CPS ENERGY PRICE SIGNALS



Most prevalent



SEASONAL PRICING

Higher prices during the summer; used to help encourage customers to conserve during the summer when demand is higher and power is more costly.

INCLINING BLOCK RATES

Progressively increasing rates for incremental electricity consumption. Utilized to encourage lower consumption.

DEMAND RATES

Currently used for commercial customers. Encourages customers to lower their peak consumption and level out their load by charging a fee for their highest 15 minute period of demand.

TIME OF USE

Customers are charged a different price depending on the time of day. Higher prices typically occur in the afternoon and early evening & lower prices occur over night when demand is low.

Least prevalent

RESIDENTIAL BILL TODAY



SUMMER BILL

Electric Residential Electric

Service Availability Charge	\$9.10
Energy Charge 1,415 kWh x \$0.07188	\$101.71
Peak Capacity Charge 815 kWh x \$0.0206	\$16.79
Fuel Adjustment 1,415 kWh x \$0.04093	\$57.92
Regulatory Adj 1,415 kWh x \$0.01278	\$18.08
Total Electric Bill (Non-Taxable)	\$203.60

NON-SUMMER BILL

Electric Residential Electric

Service Availability Charge	\$9.10
Energy Charge 1,028 kWh x \$0.07188	\$73.89
Fuel Adjustment 1,028 kWh x \$0.03062	\$31.48
Regulatory Adj 1,028 kWh x \$0.01278	\$13.14
Total Electric Bill (Non-Taxable)	\$127.61

This Peak Capacity Charge is an incremental fee charged during the summer on every kWh over 600 kWhs to encourage customers to conserve power when demand is high.

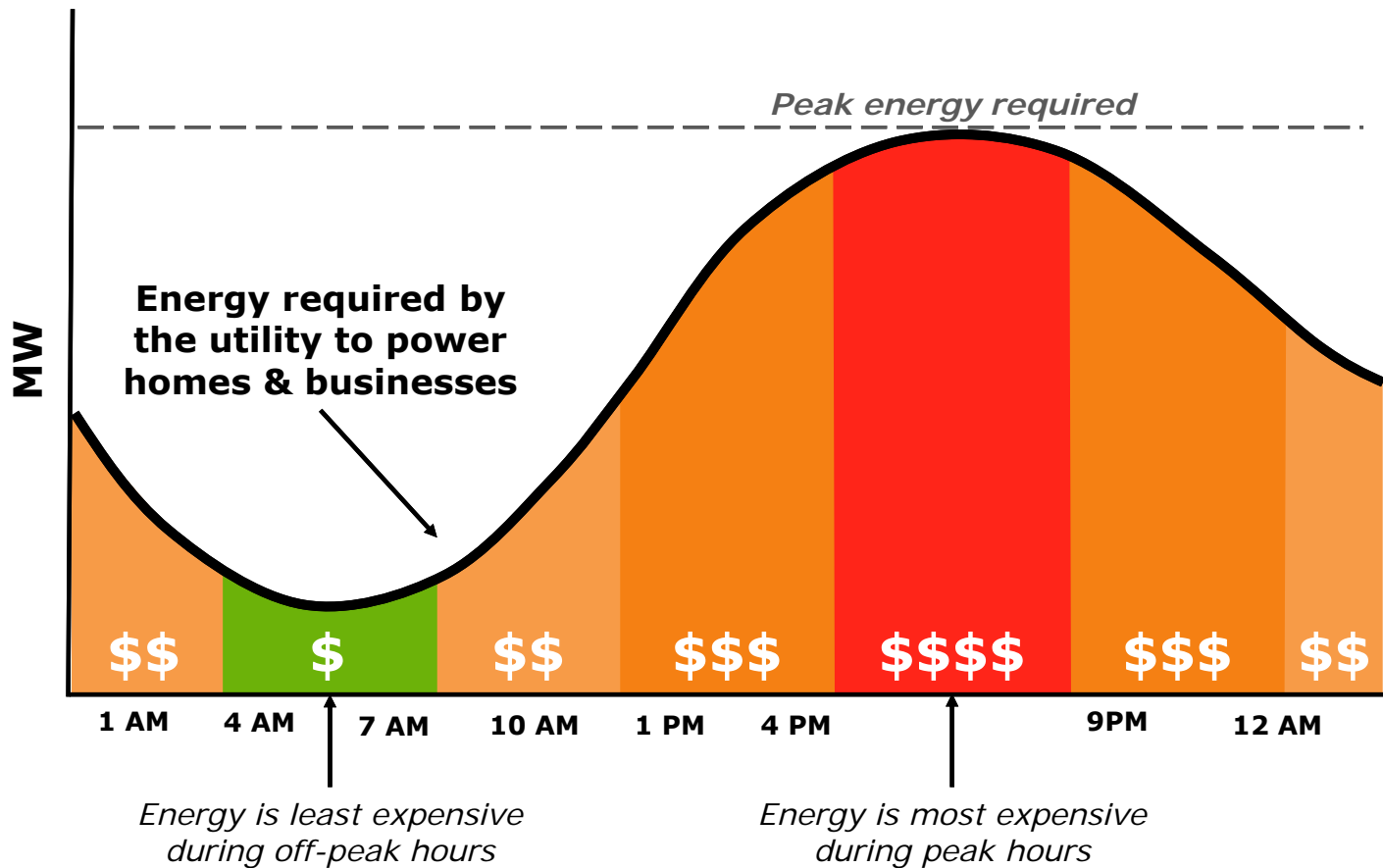
This charge serves the same purpose as an **inclining block** or **seasonal price signal**.

Note: the bills above depict an example of our Residential Electric (RE) rate, commercial rates showing similar price signals are in the appendix

PRICE SIGNALS

TIME VARYING RATES

Summer
Illustration

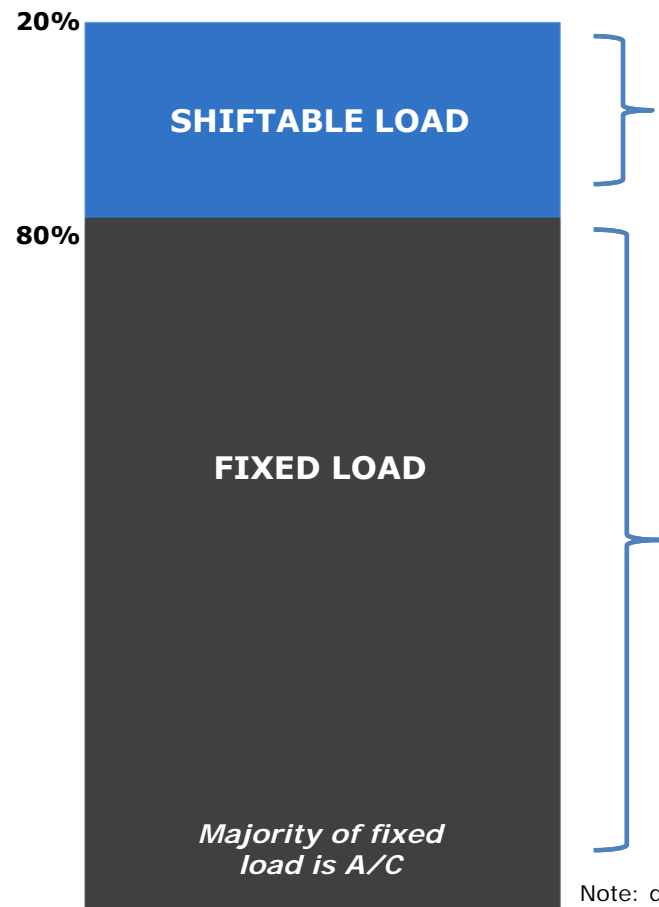


TOU rates signal to customers when it's more or less expensive to use energy.

SHIFTING ENERGY USE

TYPICAL RESIDENTIAL CUSTOMER

Energy Use On-peak



~80% Fixed Load

Only ~20% of A/C load can be moved to off-peak

Typically ~20% of on-peak usage can be moved to off-peak

~20% Shiftable Load

Note: data is based on an analysis of typical Residential behavior with no distributed energy resources & assumes on-peak hours are from 4-9pm

CRITERIA FOR A SUCCESSFUL TOU RATE



Effective Price Points & Time Buckets

- Price points should be designed such that customers are able to save money if they alter their behavior
- Reasonable time buckets need to be chosen so customers are able to achieve their off-peak goals



Smart Technology

- Programmable thermostats, dishwashers, washing machines, etc. so customers can "set & forget"
- TOU is more cost effective for customers with distributed energy resources (electric vehicles, solar, batteries, etc.)



Effective Communication & Feedback

- Utility sends communications to customers via email, text, etc. to alert them that prices are high
- Feedback is provided to customers so they can tweak their strategy

PRICE SIGNALS

TIME OF USE IN TEXAS

- In Texas, utilities offer optional or pilot TOU rates for residential customers.
- TOU rates can help give customers more control over cost savings each month **if they have the technology in place & the ability to alter their usage during peak hours.**
- They are typically marketed to customers with distributed energy resources (electric vehicles, solar panels, etc.).
- **We have not seen utilities adopt TOU specifically as a strategy for low income customers.**

While TOU for LMI is challenging, we have many other tools in place to help customers reduce their monthly bills.

WHAT IS PREPAY?



- Prepay is an **optional form of payment** available to customers for utility services
 - Customers can track daily energy costs against a pre-paid amount
 - Customers have an alternative to monthly payments & **can pay on their schedule**
- Customers are familiar with Prepay services
 - It is similar to the way customers pay for gasoline in a vehicle
 - 30% of cell phone customers utilize a pre-paid wireless plan
- Prepay appeals to diverse groups for different reasons
 - 40% of those on prepay are LMI customers¹
 - 60% of those on prepay include tech savvy residents, small businesses owners, owners of second homes, & customers that lack documentation²
- Customers receive insight on energy use which can lead to conservation; according to E Source, utilities have reported energy **savings of 5-14% or ~\$9-26 on monthly bills**³

**Prepay changes the way customers look at energy, from
"What you charged me" to "What I used."**

1. Salt River Project Prepay program data

2. Kubra January 2021 "The complete Guide to Pre-pay Energy Programs"

3. Based on an average monthly residential bill of \$183.27 (\$145.03 electric & \$38.24 gas) for FY2023

HOW DOES PREPAY WORK?



Prepay encourages customers to engage daily with their energy use...

- To start, customers pay a deposit to initiate their service and preload their energy account
 - No deposit is required if the customer provides a SSN
 - Without SSN, typically a deposit is required
- Customer accounts are trued-up every evening
 - Updates are sent to the customer about their remaining balance & the estimated number of days of remaining power
 - Warnings & low balance alerts are provided
- When the account is low, they are able to add funds through a number of payment methods

ADDITIONAL PAYMENT METHODS:

- **Web/Mobile**
- **Local Grocery/Convenience Stores**
- **Money Gram**
- **Western Union**
- **Phone**

Effective Prepay systems offer easy to use web & mobile services for engagement.

KEY CUSTOMER BENEFITS



- New & additional payment choice
- Payment flexibility, including the ability to make multiple smaller payments each month
- Prepay programs increase customer satisfaction
- Energy efficiency savings from monitoring energy
- Meaningful, actionable daily feedback offers better control & predictability
- No deposit or credit check is required for new customers
- Increased engagement with us
- The option to gradually catch-up on outstanding balances
- Customers are never forced to go on a Prepay plan



Prepay offers customers more flexibility, opportunities for energy savings, & more engagement with their utility.

KEY BENEFITS FOR US



- Increased customer satisfaction
- Energy efficiency impacts (5-14%) towards Sustainable Tomorrow Energy Plan (STEP)
- Supports Energy Advisor role
- Helps deliver on promised Advance Metering Infrastructure (AMI) benefits
- Decreases outstanding debt
- New customer engagement opportunities
- Reduces call center volume through mobile push



Prepay allows the utility to improve customer satisfaction, reduces the need for another power plant, & stabilizes revenue.

PUBLIC AWARENESS



**CONSERVACIÓN DIARIA
UTILICE ABANICOS
PARA SENTIRSE 4° A 6°
MÁS FRESCO**

cpsenergy.com

**EVERYDAY CONSERVATION
AIR DRY &
CONSERVE**

cpsenergy.com



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August 31, 2020 · 🌐

facebook

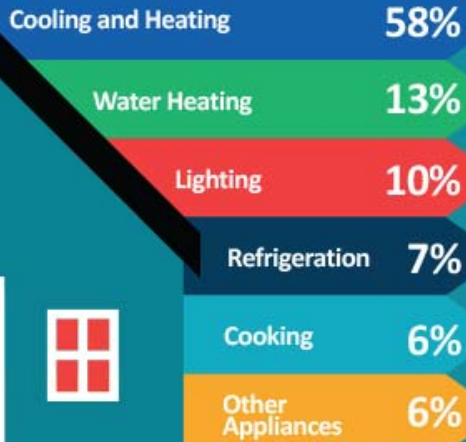
PEAK ENERGY DEMAND DAYS: We are anticipating high demand for electricity TODAY (08/31) and TOMORROW (09/01).

Lower your energy use between 3-7 PM by:

- ◆ Minimizing large appliance use 🚿
- ◆ Enjoying unplugged activities 📱
- ◆ Charging electronic devices before 3 PM 📱

👉 cpsenergy.com/savings

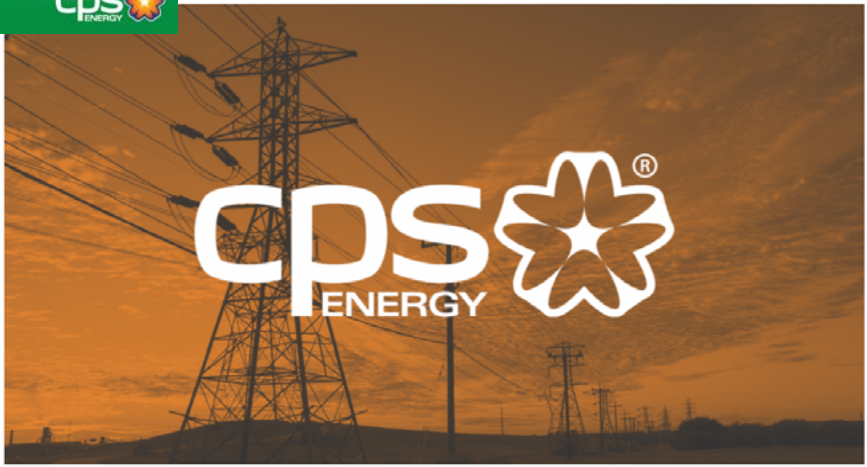
WHERE YOUR ENERGY GOES



**PEAK ENERGY DEMAND
CONSERVE
ENERGY 2-7PM**

cpsenergy.com

**CHESTER'S
OLD FASHIONED
HAMBURGERS**



News Releases

CPS ENERGY ENCOURAGES CUSTOMERS TO CONSERVE ENERGY (AS OF 3 P.M.)

📅 July 10, 2022 👤 Milady Nazir 👁️ 9459 Views 💬 0 Comments 🏷️ community, conservation, CPS Energy, energy efficiency, ERCOT, grid, San Antonio ⏱️ 3 min read



BEAT THE HEAT CAMPAIGN

We developed easy to understand messaging & visuals to help customers know when to use less power...

	<p>GREEN DAY Everyday Conservation</p>	<ul style="list-style-type: none"> ▶ Set thermostat to 78° in summer, 68° in winter ▶ Use fans to feel 4-6 degrees cooler ▶ Run ceiling fans counterclockwise in summer & clockwise in winter 	<ul style="list-style-type: none"> ▶ Close shades & blinds; turn off unnecessary lights ▶ Unplug electronics when not in use ▶ Try cooking on a grill & line-drying clothes when possible
	<p>YELLOW DAY Peak Energy Demand</p>	<ul style="list-style-type: none"> ▶ Continue everyday conservation measures ▶ Check our website & social media for times between 2-10PM when increased conservation is needed ▶ Adjust thermostats further to minimize A/C & heater use, if health permits 	<ul style="list-style-type: none"> ▶ Avoid using large appliances like your oven, washer, dryer, & dishwasher ▶ Charge Electric Vehicles (EV) at night, after 10PM
	<p>ORANGE ALERT Energy Grid Reliability Risk</p>	<ul style="list-style-type: none"> ▶ Limit power usage ▶ Prepare for possible loss of power ▶ Prepare to implement your household plan for power emergencies 	<ul style="list-style-type: none"> ▶ Be ready to initiate plan for alternative operation of medical devices, if needed ▶ Turn off pool pumps ▶ Avoid charging EV, or charge overnight
	<p>RED ALERT Controlled Outages in Progress</p>	<ul style="list-style-type: none"> ▶ Implement emergency preparedness measures ▶ Turn off all appliances & lights during power outages ▶ Turn A/C & heater off until after power is restored ▶ Monitor news sources for updates 	<ul style="list-style-type: none"> ▶ Implement plan for alternative operation of medical devices ▶ Keep refrigerator closed to extend the life of perishable food

We're utilizing all methods of communication to reach all customers (billboards, resources in English & Spanish, etc.)

MANAGE MY ACCOUNT

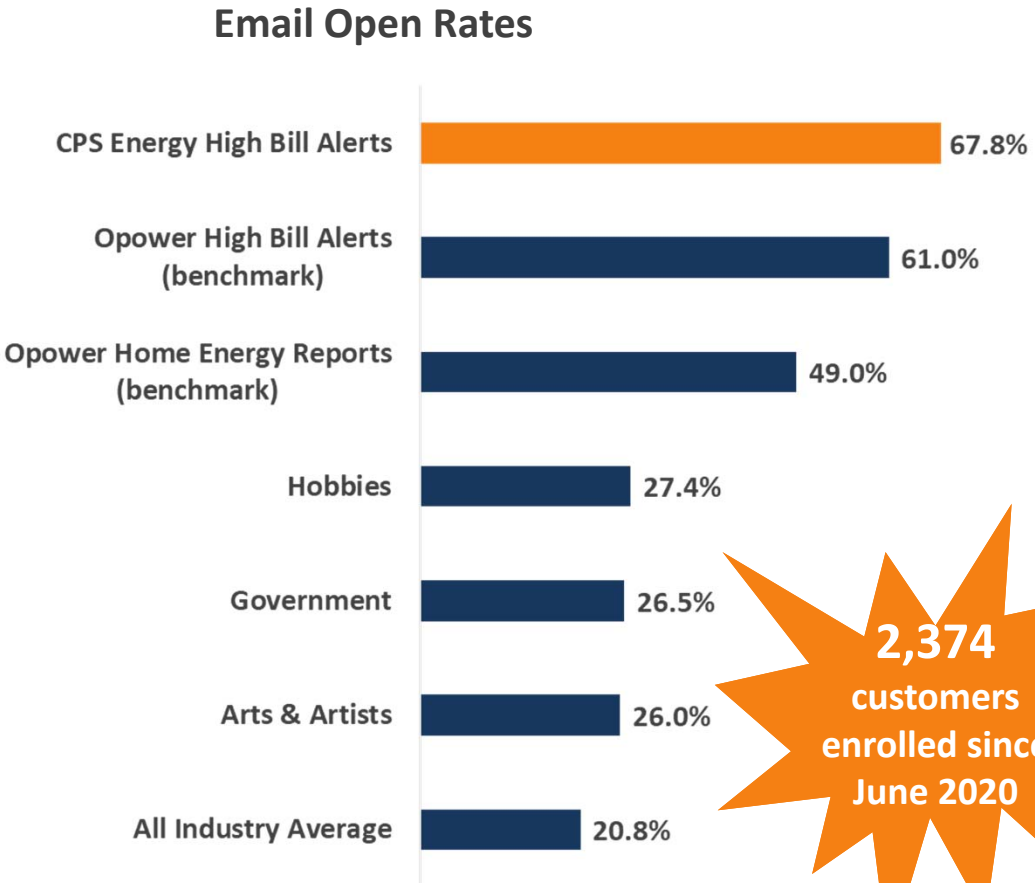
ONLINE TOOLS IN PLACE TODAY

- 1. Energy Costs:** provides customers with a 13-month view of energy costs related to their usage.
- 2. Energy Use:** gives customers options to view Electricity Usage (kWh) as it relates to monthly or daily average temperatures. Customers can also see their 15-minute usage data.
- 3. Neighbors:** provides customers with a usage comparison to neighbors & highlights the usage of energy-efficient neighbors.
- 4. Home Energy Analysis:** allows customers to access & complete a Home Energy Analysis survey. Using the results, customers can set up a customized energy savings plan.
- 5. Neighbor Comparison:** gives customers an in-depth view of energy efficiency compared to similar neighbors.
- 6. Ways to Save:** provides customers with a selection of energy-saving tips.





HIGH BILL ALERT PROGRAM



20,419 total alerts sent since June 2020

6,584 total alerts sent last year

1,394 total alerts sent so far this year

2,374 customers enrolled since June 2020

Your electricity usage is projected to be 43% higher this billing period.
Compared to the same time last year

You use the most electricity in the evening.
Between August 17 and August 27

Morning 6am - 12pm	17%
Afternoon 12pm - 6pm	32%
Evening 6pm - 12am	33%
Night 12am - 6am	18%

Log in to learn more about your energy use
[Analyze your use](#)

Your natural gas usage is projected to be 131% higher this billing period.
Compared to the same time last year

You use the most natural gas in the evening.
Between November 21 and November 30

Morning 6am - 12pm	23%
Afternoon 12pm - 6pm	15%
Evening 6pm - 12am	31%
Night 12am - 6am	31%

Log in to learn more about your energy use
[Analyze your use](#)

Note: Enrollment remains relatively low due to the nature of the opt-in program (customers are not automatically enrolled)

PEAK TIME ALERTS

STEP POWER PLAYERS PROGRAM

68%
Like post-event
feedback

6th 0.839 kWh
7th You 0.902 kWh
8th 0.992 kWh

15 likes

@cps_energy wanted to make this a competition and I came to play. 7 out of 100 WHO'S THE ENERGY SAVER OF MAHNCKE PARK?! ME!
56 minutes ago

cps_energy 1s Reply

73%
Felt motivated
to reduce use
on peak days

55%
Reduced AC Use

50%
Took other
actions



74%
Continued to
use less on
non-peak days

You win this time JB! Watch out though, I'm gonna catch up to you next cycle 🙌

Hide Conversation

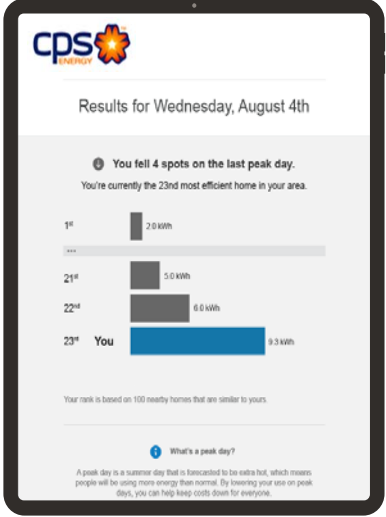
I'm coming for ya 3d

#1. Thanks @cpsenergy for encouraging energy efficiency in SA and fueling my competitive side.

where do you rank?

3rd

Results for Thursday, June 20.



The program reduced 22 MW last summer & we are expanding to 400K customers this summer.

TECHNOLOGY SCENARIOS

ILLUSTRATIVE



3-12 Months to Deliver	12+ Months to Deliver	Post Technology Transformation
<ul style="list-style-type: none">• Rate Increase• Variable vs. Fixed Rates• Affordability Discount Programs• Minor bill format changes	<ul style="list-style-type: none">• Residential Time of Use Billing• Enhanced Customer Usage Visibility• Prepaid Billing	<ul style="list-style-type: none">• Tiered Rates• Detailed Bill Presentment• Commercial Time of Use Billing

Considering our current technology environment and enterprise transformation efforts, we are limited to smaller changes in the near-term as we transition to enhanced billing & information systems.





Thank You

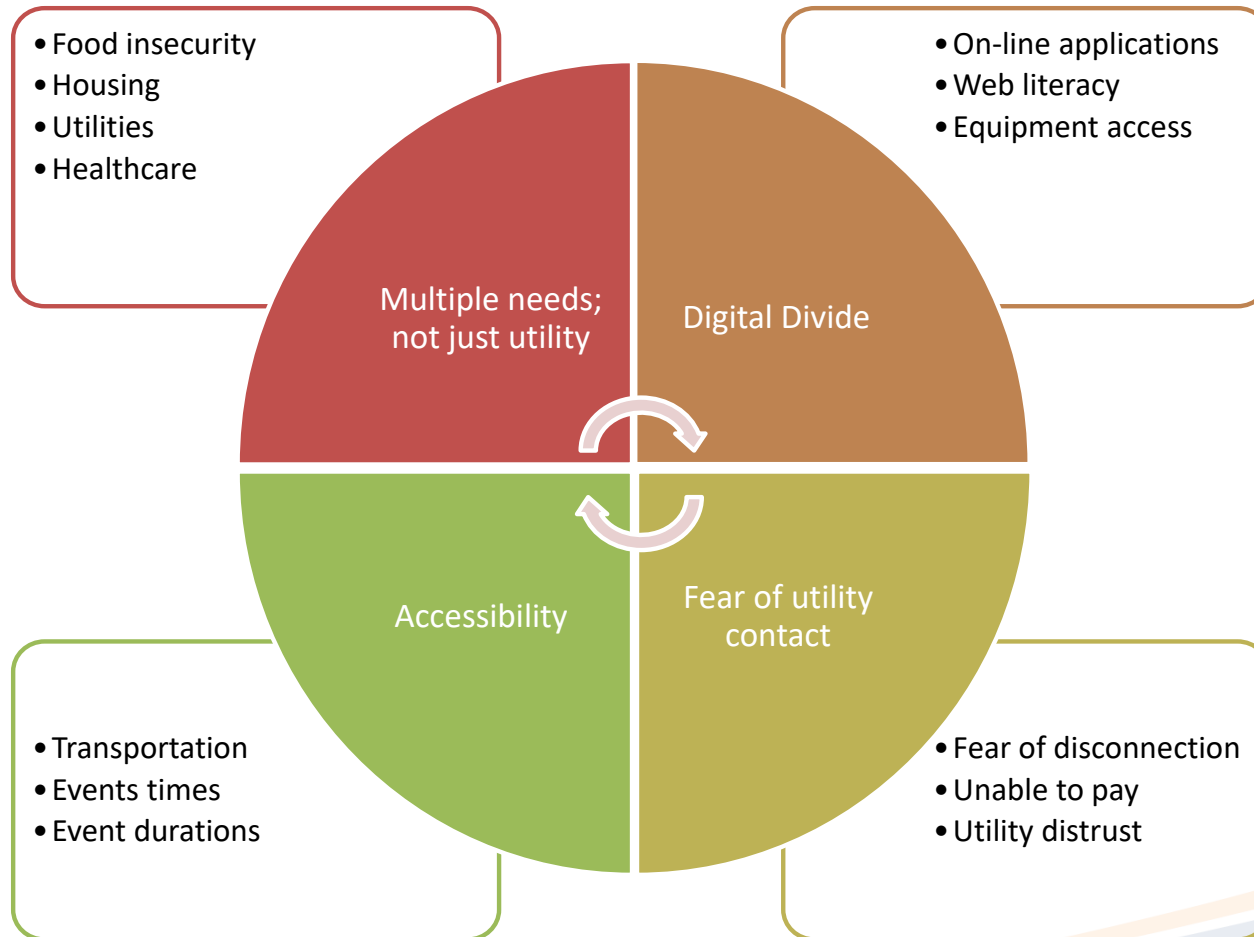




Appendix



AFFORDABILITY CONSTRAINTS



BUNDLED CUSTOMER CARE



With over 100 agency partners, we take a holistic approach to bringing support to our customers with the highest energy burden. Most of our events are conveniently located in neighborhoods with the greatest needs.



This bundled approach helps customers with energy bill affordability through a combination of multi-program participation.

STANDARD COMMERCIAL BILL TODAY



SUMMER BILL

NON-SUMMER BILL

**Electric
Extra Large Power**

Service Availability Charge	\$1,041.45
① Demand Charge 1,943 KW x \$11.87 ②	\$23,063.41
Energy Charge 485,750 kWh x \$0.03958	\$19,225.99
Energy Charge 595,106 kWh x \$0.03531	\$21,013.19
Fuel Adjustment 1,080,856 kWh x \$0.04093	\$44,239.44
Regulatory Adj 1,080,856 kWh x \$0.0068	<u>\$7,349.82</u>
Total Electric Bill (Taxable)	\$115,933.30

**Electric
Extra Large Power**

Service Availability Charge	\$1,041.45
① Demand Charge 2,060 KW x \$9.11 ②	\$18,766.60
Energy Charge 515,000 kWh x \$0.03958	\$20,383.70
Energy Charge 508,298 kWh x \$0.03531	\$17,948.00
Fuel Adjustment 1,023,298 kWh x \$0.03062	\$31,333.38
Regulatory Adj 1,023,298 kWh x \$0.0068	<u>\$6,958.43</u>
Total Electric Bill (Taxable)	\$96,431.56

Most of our commercial rates have demand charges (small commercial is the exception) & all have seasonal charges

- ① **Demand charges** signal customers to lower their peak demand
- ② **Seasonal prices** signal customers to lower their usage during the summer when demand is high & power is more expensive

Note: the bills above depict an example of our Extra Large Commercial (ELP) rate

COMMERCIAL TOU BILL TODAY



SUMMER BILL

Electric

Large Power Time of Use

Service Availability Charge	\$1,041.45
① Demand Charge 1,282 KW x \$17.45 ②	\$22,370.90
Excess Demand Charge 45 KW x \$4.95	\$222.75
③ Off Peak Energy Charge 567,583 kWh x \$0.02395	\$13,593.61
On Peak Energy Charge 189,564 kWh x \$0.0476	\$9,023.25
Shoulder Energy Charge 96,192 kWh x \$0.0401	\$3,857.30
Fuel Adjustment 853,339 kWh x \$0.03902	\$33,297.29
Regulatory Adj 853,339 kWh x \$0.0068	\$5,802.71
Total Electric Bill (Taxable)	\$89,209.26

② Effective Price: ~10.5¢/kWh

NON-SUMMER BILL

Electric

Large Power Time of Use

Service Availability Charge	\$1,041.45
① Demand Charge 1,279 KW x \$10.31 ②	\$13,186.49
Off Peak Energy Charge 444,663 kWh x \$0.02395	\$10,649.68
③ On Peak Energy Charge 219,441 kWh x \$0.0401	\$8,799.58
Fuel Adjustment 664,104 kWh x \$0.02372	\$15,752.55
Regulatory Adj 664,104 kWh x \$0.0068	\$4,515.91
Total Electric Bill (Taxable)	\$53,945.66

② Effective Price: ~8.1¢/kWh

- ① **Demand charges** signal customers to lower their peak demand
- ② **Seasonal prices** signal customers to lower their usage during the summer when demand is high & power is more expensive
- ③ **TOU (On Peak/Off Peak) charges** signal customers to lower their usage when power is more expensive

③ TOU Windows

	Summer	Non-Summer
On-Peak*	1-9pm	10am-10pm
Shoulder*	10am-1pm & 9pm-10pm	N/A
Off-Peak	all other hrs	all other hrs

*On-peak & Shoulder only occur during non-holiday weekdays

Note: the bills above depict an example of our large commercial time of use rate (LPT)

TOU IN TEXAS



RESIDENTIAL

- TOU rates are not very common in Texas; those that do, offer **optional** rates to residential customers
- Typically marketed to customers with **distributed energy resources** (electric vehicles, solar panels, etc.)
- We have not found any utilities that mandate TOU for Residential customers in Texas
- We did not find any utilities that utilize TOU to help low income customers reduce their bills

COMMERCIAL

- Pedernales Electric Cooperative & El Paso Electric mandate TOU rates for commercial customers
- Other utilities offer optional TOU rates for commercial customers

Base Power Cost Rates			
Season	Rate Schedule	Hours	Current Base Power Cost Rate (\$/kWh)
Non-Summer (January – May and October – December)	Super Economy	2:01 am – 4:00 am	\$0.030616
	Economy	11:01 pm – 2:00 am 4:01 am – 5:00 am	\$0.037529
	Normal	8:01 am – 4:00 pm 7:01 pm – 11:00 pm	\$0.042449
	Peak	5:01 am – 8:00 am 4:01 pm – 7:00 pm	\$0.045680
Summer (June – September)	Super Economy	3:01 am – 5:00 am	\$0.030398
	Economy	11:01 pm – 3:00 am 5:01 am – 7:00 am	\$0.031940
	Normal	7:01 am – 12:00 pm 8:01 pm – 11:00 pm	\$0.035883
	Peak	12:01 pm – 2:00 pm 6:01 pm – 8:00 pm	\$0.046863
	Super Peak	2:01 pm – 6:00 pm	\$0.088620

**Please note that regular monthly charges apply (service availability charge, delivery charge, etc.)*

CUSTOMER CHARGE (PER METER PER MONTH)	\$9.25	
ENERGY CHARGE PER kWh	SUMMER (JUNE THROUGH SEPTEMBER)	WINTER (OCTOBER THROUGH MAY)
ON-PEAK PERIOD	\$0.23975	-----
OFF-PEAK PERIOD	\$0.07001	\$0.09171



TOU MANDATES IN CALIFORNIA



- The three large IOUs (PG&E, SCE, and SDG&E) in California have required their customers to default to TOU plans.
- Most started with pilot programs before the mandate to help introduce the idea of TOU rates & educate their customers.
- Most utilities offered a “money back guarantee” for the first year if the TOU rate was more expensive than the standard rate.
- Multiple plans are offered depending on the customer’s lifestyle (whether or not they work from home, own an electric vehicle, etc.)

