Energy Blog

COMMUNITY ACTION PARTNERSHIP ORANGE COUNTY

The Complicated History of Electric Rates in California (P 1 of 4)

This week's blog is written by Briana Ancona, the Climate Corps Fellow for CAP OC's Energy and Environmental Services department. This blog breaks down the series of events that have influenced the high price of electricity today.

It's no lie, the price of electricity has gone up in California. Since its inception, the California power grid has been subject to innovation and manipulation, both good and bad. While researching for this blog, I fell down an electric rabbit hole, connecting dots and piecing together the story of how we have ended up in a rate crisis.

From Benjamin Franklin's kite experiment to the invention of the lightbulb, the world has come to be exceedingly reliant on electricity. Like right now, I am writing this blog on a computer that is plugged into an outlet that feeds electricity to the machine. Yet, many of us probably can't explain what electricity is or how our power system works (it's me, I'm many of us). That lack of understanding brought me to google, which led me to countless articles on California's power grid and its prior failures.

California relies on various sources of power generation to generate electricity and fulfill demand. As of 2022, nearly half of all of California's electricity needs are met by natural gas power plants. While this is a much cleaner form of power generation, natural gas is composed primarily of methane, releasing other harmful pollutants into the atmosphere when burnt.

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Hydroelectricity makes up about one fifth of all renewable energy production in California and other non-hydro renewable energy contributes to about 11% of overall energy production. Regardless of electric generation, California's power grid cannot meet consumer's demand for electricity alone. Electricity is imported across state lines to supplement California's power grid and meet demand.

With this background, we can take a better look at what happened down the line on the regulatory side that led to such high electric rates. Back in the 80s, many industries began to deregulate, including the energy industry. According to the Low Income Home Energy Assistance Program website:

"Under the Natural Gas Policy Act of 1978, Congress began a process that ended federal control over the price of gas at the wellhead. This process also set in motion a series of public policy changes by the Federal Energy Regulatory Commission and state regulators that has culminated in 'customer choice' programs for residential and small commercial natural gas users."

Households now have the freedom to choose their energy supplier. This market liberation and deregulation of labor and financial markets allowed the government to transfer power to private entities, allowing non-utility gas suppliers, called gas marketers, to purchase and transport gas to local gas utilities. Local gas utilities no longer purchase directly for consumers, but still deliver it to homes and businesses.

By 1985, the Federal Energy Regulatory Commission (FERC), established a voluntary program that encouraged natural gas pipelines to be "open access", allowing natural gas to be bought directly by users from producers. This marks the deregulation of natural gas pipelines and the birth of energy mogul Enron.

I could write a blog about Enron alone, but the most notable thing Enron did was create the idea of a 'gas bank'. Enron would buy gas from suppliers and sell it to consumers, becoming a middleman in the transaction and "hoarding" gas in the process. Enron also guaranteed the price and supply of gas, meaning they would provide gas to consumers at any cost for a fixed price. The corporation swiftly dominated the natural gas market, having a considerable number of contracts and supply of gas in comparison to its competitors. I

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n the late 90s, they attempted to apply the gas bank model to electric energy, lobbying for the deregulation of the electric utilities. Because Enron had such large control over the market, they were able to manipulate market prices, driving up the wholesale price of electricity across the board.

So, what does this have to do with California? Well, you may remember the rolling blackouts that happened in 2000. This was directly caused by unlawful market manipulation tactics that involved buying energy from California and then selling it back to California at a higher price. Thanks to the deregulation of the energy market (or the removing of restrictions regarding business), energy traders created false congestion on energy transmission lines, which led to a series of blackouts that affected Californians across the state. The National Geographic writes:

“By the time of the blackouts, California had not significantly invested in new power plants in a decade, and it had been forced to import a significant portion of its electricity from surrounding states. A drought in the Pacific Northwest significantly decreased the amount of electricity available for import from hydroelectric power plants in the region. This drove up the price for electricity in the market, making electric companies in other states reluctant to sell to California. In addition, a hotter than usual summer led to spikes in demand that California’s system could not handle.”

Importing electricity to meet our demands has significantly increased energy rates. As we lack sufficient infrastructure to support California’s energy demand, energy providers like PG&E, SoCal Edison, and San Diego Gas & Electric can increase electric rates based on consumer demand. The more energy required, the higher the rate they can charge. According to the Center for Energy Poverty and Climate, the average summer electric bill totaled $609 in 2023; That figure is expected to rise by over 12% to an estimated average bill totaling $693.

In 2019, the CPUC approved a monthly charge on utility customers to support the state's new $21-billion wildfire insurance fund. This charge went into effect in 2020 to collect $10.5 billion in ratepayer contributions to support the wildfire fund. The CPUC adopted a $902.4-million annual revenue requirement for the charge, broken down into $404.6 million, $408.2 million, and $89.6 million for Pacific Gas & Electric, Southern California Edison and San Diego Gas & Electric, respectively.

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This means that utility companies can raise electric rates if their operations increase in cost (which they have). The three investor-owned utility (IOU) companies, PG&E, SoCal Edison, and SDEG, have untaken projects to underground power lines to reduce wildfire risks. While this is an incredibly progressive action taken by IOUs in wildfire mitigation, it is also the costliest option. The CPUCs Ratepayer Office stated insulating lines is more cost-effective than burying them and does not increase rates as dramatically as under-grounding lines does.

As you can see, it is a very complicated story as to why electric rates seem to never stop going up, especially in California. Another challenge we face is upgrading our infrastructure system while maintaining power. Innovation in renewable energy systems have seen exponential growth over the last decade; Implementation of those innovations has been much like “trying to repair a car while driving”. As California has ambitious goals to be carbon neutral by 2045, it must take swift action to ensure renewable energy systems are in place to support the energy transition. At the same time, the state of California must also ensure that energy rates and prices are at a reasonable cost, ensuring price equity amongst utility payers.

Sources:
(1) An Overview and History of Gas Deregulation
(2) Neoliberalism as a class ideology; or, the political causes of the growth of inequalities
(3) The legacy of Enron in California’s power challenges today
(4) Case Study: California Blackouts
(5) The Rise and Fall of Enron
(6) This utility’s undergrounding plan is causing sticker shock
(7) Electric Costs
(8) DECISION APPROVING IMPOSITION OF A NON-BYPASSABLE CHARGE TO SUPPORT CALIFORNIA’S WILDFIRE FUND AND ADOPTING RATE AGREEMENT BETWEEN THE CALIFORNIA DEPARTMENT OF WATER RESOURCES AND THE CALIFORNIA PUBLIC UTILITIES COMMISSION
(9) How hard is it to develop California’s electric grid of the future? Like repairing a car while driving

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CAP OC Challenges YOU to Participate in the Zero Waste Week Challenge! (P 1 of 3)

This week's blog is written by Briana Ancona, the Climate Corps Fellow for CAP OC's Energy and Environmental Services department. They are an avid zero waste enthusiast and challenged the Energy and Environmental Services Department to participate in a Zero Waste Challenge.

Have you ever gone for a walk and taken in your surroundings, noticing the environment as you walk? Have you ever seen trash on the ground during your walk? Maybe it was a plastic candy wrapper, or maybe it was a broken plastic fork or even some plastic foil confetti. The reality is that there is much waste present in our environment, polluting our waterways, leeching chemicals and heavy metals into the ground, and leaving an impact that will outlive our lifetime. There have been many times I have felt great despair and existential dread when thinking about trash and waste. I think we all have. While it may feel impossible to do anything to avoid creating waste, there are many ways you can start reducing the amount of waste in your life.

I want to share a short story about my efforts to be less wasteful before challenging you to participate in your own Zero Waste Week Challenge.

It seems almost scripted the way my morning played out. About a month ago, I woke up to the smell of breakfast being cooked and the sound of cars searching for parking. It was Sunday, and every Sunday morning, the local high school hosts a

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swapmeet in its parking lot. Neighbors take advantage of the extra traffic to have their own yard sales. Our neighbor across the street was moving and had done so that Sunday morning. Being bored after having a large breakfast, my father and I walked over to my neighbor's driveway to see what treasures were hidden amongst small porcelain figures and odd knickknacks.

In my search, I found a pack of napkins with a floral pattern on them. They were very thin napkins and brown, which happens to be a color I like. I ended up with eight napkins by the end of my visit and five dollars less than I originally had.

I first started by placing four napkins in my glove box, so I could have some napkins for impromptu situations and could avoid using napkins when going out. I kept 3 on my person and would use them to hold my lunch. Day by day, I would make a conscious effort to always have a napkin on me because it was useful and less wasteful. This began to shift into me carrying cutlery as well to avoid using plastic cutlery at work.

And then, I began to keep Tupperware in my car in case there was ever a need to take leftovers home. These small changes have significantly reduced the number of take-out containers I use, the number of napkins I use both at home and when I am out, and the amount of plastic cutlery I use when I eat out.

Now I won’t sit here and write that this process was easy and seamless. I definitely have used paper napkins because it was closer, and I was too lazy to grab my napkins. What mattered though was the effort made and the understanding that mistakes happen, and habits take time to form.

So now I challenge you to take on a Zero Waste Week challenge. What does this look like? The National Ocean Services writes out a few examples, such as replacing single-use plastic items (such as drink bottles, sandwich baggies, snack bags, spork packs, etc.) with reusable alternatives, using cloth napkins instead of paper ones, recycling and composting, replace plastic straws with paper straws or consider not using straw, or to power down your computers and other electronic devices when not in use.

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There are a million ways to reduce your waste, so take some time to sit back and think about what easy swaps you can make to avoid using more new items and inevitably, creating more waste. Being intentional and thoughtful with your actions may yield in some surprising results.

Sources:
(1) Students for Zero Waste Week

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World Environmental Health Day (Page 1 of 2)

This week's blog is written by Briana Ancona, the Climate Corps Fellow for CAP OC's Energy and Environmental Services department

September 26th marks World Environmental Health Day, a day dedicated to raising awareness about the critical connection between human health and the environment. This year's theme is Creating Resilient Communities through Disaster Risk Reduction and Climate Change Mitigation and Adaptation. According to the International Federation of Environmental Health, "Climate Change and disaster risks are fundamental threats to sustainable development, the living and health conditions for all humans on the globe and the reduction of poverty," underscoring the need for resilience in communities. Community Action Partnership of Orange County is committed to supporting the development of resilient communities through its Healthy Home programs.

What is Environmental Health?

Environmental Health is a discipline born out of the public health and environmental science field. This discipline considers the relationship between humans and their environment, analyzing the health impacts they have on one another.

"Environmental health refers to aspects of human health (including quality of life) that are determined by physical, chemical, biological, social and psychosocial factors in the environment."

— Environmental Health Intelligence New Zealand

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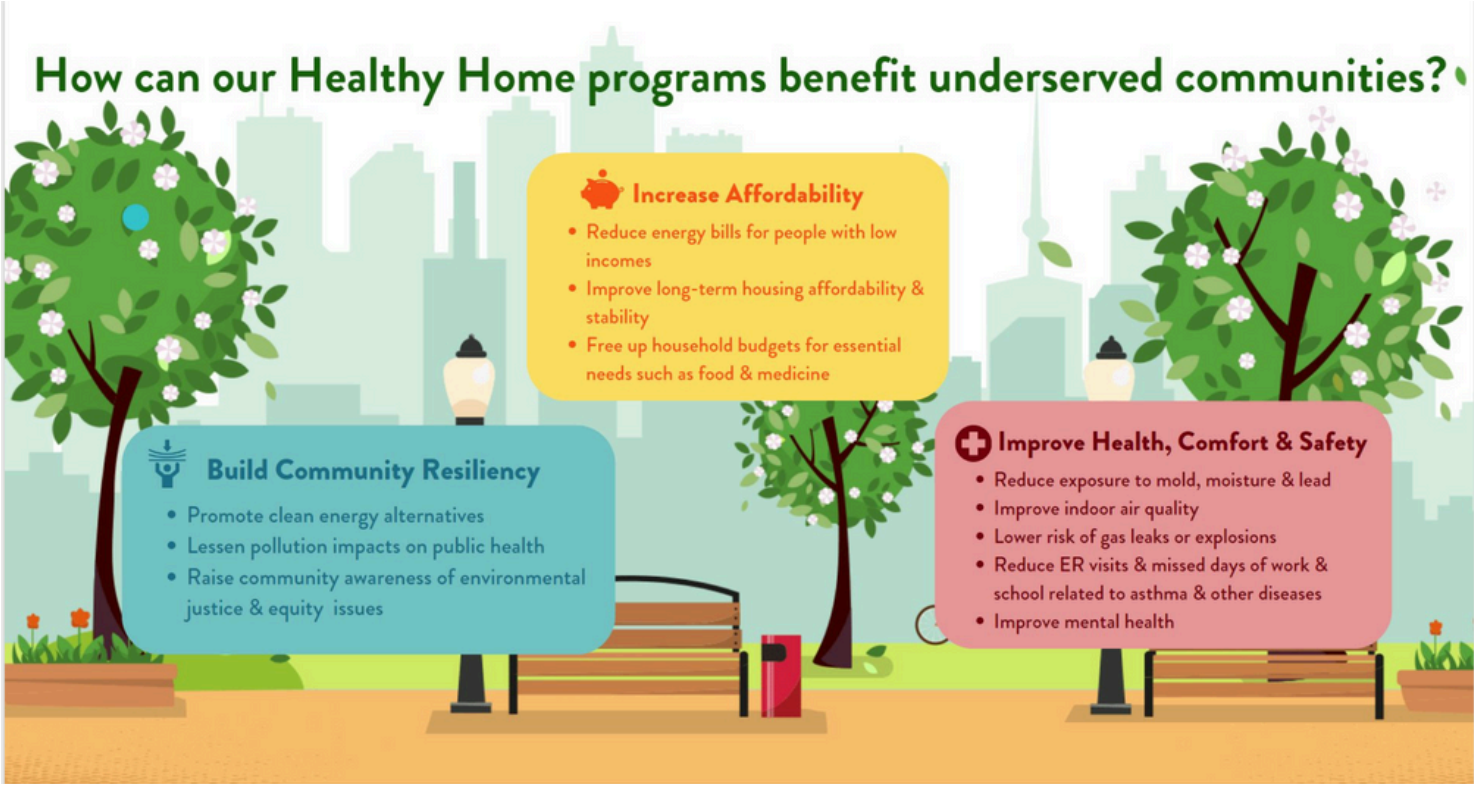
Why is the Energy and Environmental Services Department celebrating?

We recognize the importance of environmental health and the valuable work our Weatherization Assessment Crew does. They identify hazards present in the home environment to be removed and improve quality of life. We work on improving the home environment to adhere to healthy home standards while being affordable. A healthy home is dry, clean, safe, ventilated, free of pests and contaminants, well maintained, thermally comfortable, accessible, and affordable. Our mission is to lift people out of poverty through comprehensive interventions. Check out how our healthy home programs promote community resilience and address environmental health issues.



Sources:
(1) World Environmental Health Day
(2) UC Merced World Environmental Health Day
(3) The Principles of a Healthy Home

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What is a Scheduled Power Outage? (Page 1 of 3)

This week's blog is written by Briana Ancona, CAP OC's Climate Corps Fellow.

Californians have most likely heard the phrase scheduled maintenance power outage, but probably have never given much thought to it other than an eye roll. During the summer heat, power demands increase as more people turn on the air conditioning to maintain a comfortable space. This increase in power demands puts strain on the power grid and could cause outages if infrastructure is not maintained.

First Street is a climate and financial analysis nonprofit organization working to bridge the gap between the climate crisis and financial risks, publishes "risk factor" models used to demonstrate various environmental issues that affect an area and the severity of those issues. A hot day is defined by them as "any day above a 'feels like' temperature of 95°F[ahrenhite]". They also state that as average temperatures continue to increase, hot days and heatwaves may occur more often; Temperatures over 90°F can be physically hazardous for high-risk individuals while temperatures over 100°F can be dangerous for everyone.

Pictured is the number of hot days estimated for this year and the associated risks with high temperatures in the area where CAP OC's Monarch Offices are located. This image also provides the projected number of hot days that said offices are expected to experience in 30 years.

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This tool also forecasts energy consumption during heat waves. It projects the number of days homes and buildings will need to use air conditioning (AC) to maintain a cool, healthy living and working environment. They project that “the use of air conditioning would cause an increase in energy consumption on 255 days annually,” and is predicted to increase by 19.00% in 30 years.

This is why energy providers like SoCal Edison stick to a strict maintenance schedule despite the summer heat. Scheduled power outages allow the line crew to perform necessary repairs on the equipment, keeping it from failing, especially during the heat.

Edison shares with customers that “Delaying these outages could cause aging equipment to fail, especially during long periods of high heat,” which is why they work as efficiently as possible to ensure customers are not with out power for long periods of time.

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For desert areas, they cap scheduled maintenance power outages to 5 hours on days over 100 degrees and cancel scheduled maintenance when temperatures exceed 113 degrees to protect their workers from excessive heat. While scheduled power outages during the summer may seem unnecessary and pointless, they are crucial for maintaining power during heat waves. It is a necessary inconvenience.

Sources:
(1) Risk Factor
(2) Why Maintenance Outages Happen When It's Hot