



WEEKLY UPDATE SEPTEMBER 8 - 14, 2019

THIS WEEK

**SUPERVISORS TO ALLOCATE SURPLUS FROM
PRIOR FISCAL YEAR**

**UNDERSPENT BUDGETS PROVIDE CRITICAL FUNDING FOR NEW
FISCAL YEAR – A DANGEROUS PRACTICE USING ONE TIME FUNDS
TO FINANCE RECURRING EXPENDITURES**

MAJOR POLICY AT PLANNING COMMISSION

**PASO BASIN WATER OFFSETS
SECONDARY RESIDENTIAL UNITS
MORE CANNABIS IN NIPOMO**

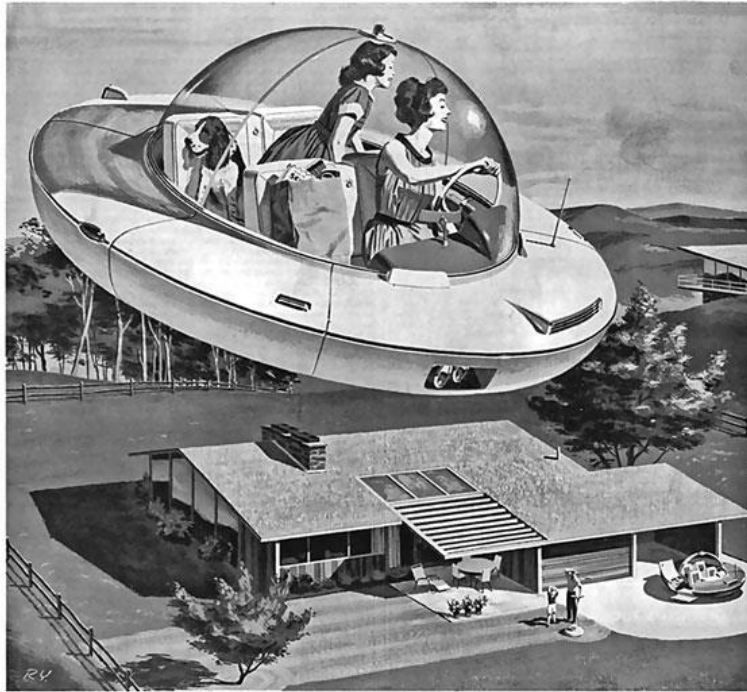
LAST WEEK

NO BOS MEETING

SLOCOG MEETS TO SET FUNDING PRIORITIES

ROUNDBOUTS EVERYWHERE

**SLO CITY COUNCIL ADOPTS 1ST PHASE OF
INTRUSIVE NATURAL GAS HEATING, HOT WATER,
& APPLIANCE BAN**



YOUR PERSONAL "FLYING CARPET" Step into it, press a button, and off you go to market, to a friend's home, or to your job. Take off and land anywhere; no parking problems. Plug in to any electric outlet for recharging. They're working on it!

MORE POWER TO YOU!

SLO MAYOR AND COUNCIL HARK BACK TO THE 1950'S FANTASY VISION BUT IN THE AGE OF RATIONING YOU WON'T BE ALLOWED TO HAVE THE LARGE LOT HOME AND YOUR FLYING CAR WILL BE AN AMAZON DRONE INSTEAD

**SLO COLAB IN DEPTH
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SLO CITY MOVES TOWARD ALL-ELECTRIC BUILDINGS — MAKING ELECTRICITY MORE EXPENSIVE

BY STEPHEN FRANK

DARK DAYS AHEAD IN THE SUNSHINE STATE

BY ANDY CALDWELL

CALIFORNIA'S SMART ENERGY FUTURE GLOWS ON THE HORIZON – BUT HOW TO GET THERE?

BY JULIE CART

THIS WEEK'S HIGHLIGHTS

Board of Supervisors Meeting of Tuesday, September 10, 2019 (Scheduled)

Item 13 - Final Actions Related to the FY 2019-20 Budget Adoption. The final results of the 2018-19 budget are slightly more positive than were projected in June. The purpose of this item is to inform the Board and to allocate the additional surplus to reserves. The term non-departmental refers to revenues which are not restricted as to purpose.

Non-Departmental Revenue

	Estimated	Actual	Difference
Property Taxes - Secured	\$118,832,714	\$119,082,798	\$250,084
Property Taxes - Unitary	7,890,355	7,901,274	10,919
Supplemental Current Secured	2,169,000	3,245,480	1,076,480
Other Current Property Tax	1,399,650	2,046,360	646,710
Sales and Use Tax	11,740,000	11,833,604	93,604
Property Transfer Tax	2,890,000	2,860,128	(29,872)
Transient Occupancy Tax	11,160,161	11,664,348	504,187
Property Taxes in lieu of Sales Tax and VLF	36,555,197	36,555,197	-
Other Taxes	2,288,902	1,701,495	(587,407)
Interest Revenue	2,781,000	4,268,990	1,487,990
Franchise Fees	3,151,100	3,233,952	82,852
Supplemental Roll 5% Admin	664,000	890,226	226,226
Federal Aid - In-Lieu BLM	1,200,000	1,199,860	(140)
Settlements	285,000	265,602	(19,398)
SB 1090 - Diablo Closure	-	400,000	400,000
Others	2,371,195	2,354,037	(17,158)
Total Non-Departmental Revenue	\$205,378,274	\$209,503,351	\$4,125,077

The items highlighted by the red arrows are indicators of positive property tax growth in the future.

Between general fund contingencies (\$26.9 million) and its unrestricted/undesignated general reserve (\$13.0 million) the County maintains an operating reserve that is sufficient in normal economic times.

Use of Fund Balance Available: The County uses savings from the prior fiscal year to help fund the new fiscal year. The Board letter states in part:

General Fund: Fund Balance Available (FBA)

General Fund Estimated Fund Balance Available (FBA) of \$30.6 million was used to provide funding for the 2019-2020 fiscal year budget. However, final actual General Fund FBA exceeded estimates by a total of \$2.0 million. The net increase included \$10.0 million from operations, adjusting receivables by (\$1.9) million, advances to other funds by (\$5.6) million, and internal financing receivables by (\$0.5) million.

The better practice is to use onetime savings to fund onetime costs, such as facility construction, building roads, paying down debt, and adding to reserves. In an operating budget of \$600 million, \$30 million is a significant portion. What would happen in a year following a year in which there was no savings?

What is the plan to pay back the \$10 million transferred from the solar farm mitigation fund to pay off a Los Osos Sewer Plant contractor suit? When do the decreases in the property tax from the Diablo Plant closure start hitting? Will the County be able to hold the line on labor costs? What if there is a large rate increase in the pension system?

Planning Commission Meeting of Thursday, September 12, 2019 (Scheduled)

Summary: The Commission has a heavy-duty agenda with several important items. A problem occurred with the County's Boards and Commissions website, which made it impossible to review and analyze the items.

Attempts to open the various items were met with the message:

Server Error 502 - Web server received an invalid response while acting as a gateway or proxy server.

There is a problem with the page you are looking for, and it cannot be displayed. When the Web server (while acting as a gateway or proxy) contacted the upstream content server, it received an invalid response from the content server.

As far as we can tell with limited information, key items include:

Item 8 - A continued hearing (from July 25, 2019) to consider a request by Nipomo AG LLC for a Conditional Use Permit (DRC2019-00087) to establish 22,000 square feet of

indoor mixed-light cannabis cultivation, 78,122 square feet of commercial and ancillary nursery, as well as 35,328 square feet of other ancillary processing activities to include drying, trimming and curing. Cannabis cultivation, nursery and processing activities will be conducted within two existing 70,000 square foot greenhouse buildings; the packing and storage of cannabis products will occur inside an existing 11,040 square foot metal building. A parking modification is requested as set forth in Land Use Ordinance Section 22.18.050 to reduce the required number of spaces from 256 to 30. The project site consists of 28.82 acres located at 662 Eucalyptus Road.

Item 9 - Hearing to consider a request by the County of San Luis Obispo for amendments to Title 22 and Title 19 to extend the Water Neutral New Development programs in the Paso Robles Groundwater Basin to January 1, 2025, formalize procedures for managing the Agricultural Offset Ordinance regarding application review and establishment of water duty factors, and remove Off-site Agricultural Offset Clearances. Also to be considered is the environmental determination. The Environmental Coordinator, after review of the previously certified Supplemental Environmental Impact Report finds that: there are no substantial changes proposed for the project which would require substantial revisions of the previous Supplemental Environmental Impact Report; no substantial changes have occurred with respect to the circumstance under which the project is undertaken; and, no new information of substantial importance has been identified which was not known at the time that the previous Supplemental Environmental Impact Report was adopted. Therefore, use of the previously prepared Supplemental Environmental Impact Report (pursuant to Public Resources Code Section 21000 et seq., and CA Code of Regulations Section 15000 et seq.) is proposed.

Item 10 - Hearing to consider a request by the County of San Luis Obispo to approve amendments to the Land Use Ordinance, Title 22 of the County Code, the Coastal Zone Land Use Ordinance, Title 23 of the County Code, and the Coastal Framework for Planning Table "O" (LRP2017-00001) to amend and replace the Secondary Dwelling Ordinance with a new ordinance on Accessory Dwelling Units. The requested amendments include: 1) amendments of Title 22 to Section 22.30.470, Residential – Secondary Dwelling, Section 22.06.030, Allowable Land Uses and Permit Requirements, and various sections throughout Title 22 to update Planning Area Standards, terms, and definitions, 2) amendments of Title 23 to Section 23.08.169 - Secondary Dwelling Units, and various sections throughout Title 23 to update terms and definitions 3) amendments to Coastal Framework for Planning Table "O" to add Accessory Dwelling Units as an allowed use. Also to be considered is the environmental determination that the project is statutorily exempt under CEQA, pursuant to CEQA Guidelines Section 15282(h). A Notice of Exemption has been prepared pursuant to CEQA Guidelines Section 15062. County File Number: LRP2017-00001 Assessor Parcel Number: County Wide.

Item 8 is of great interest in Nipomo and has implications for the future of the cannabis industry countywide.

Item 9 would appear to contain some changes in the groundwater management programs in the Paso Basin. Since the file would not open, we are not sure what is intended. This is an especially important matter.

Item 10 contains amendments to the Land Use Code to permit an accessory dwelling unit in certain zones under certain circumstances. This is also a very important policy matter.

Technical Issues:



It's too bad that the County doesn't provide a number for an on duty data squirrel for weekends and nights to tackle breakdowns such as the server error message above.

Come to think of it, it wouldn't be a bad idea to have a public directory of the cell phone numbers for all the electeds, executives, and managers. Once one takes the veil of higher

level public service, they should be available. The job should not be "eight to four and out the door."

LAST WEEK'S HIGHLIGHTS

City of San Luis Obispo City Council Meeting of Tuesday, September 3, 2019 (Completed)

Item 18 - Clean Energy "Choice Policy" – SLO City Mayor and Council Tell You How to Live Your Life – Effectively Ban Natural Gas In Homes.

In a classic case of Orwellian double speak ("Choice Policy") and after 4.5 hours of pro and con public commentary during a meeting that lasted until midnight, the City Council voted 4/1 to implement the ban. The ordinance had the overwhelming support of the staff. The lengthy report and accompanying back up material contained absolutely no counter policy arguments or analysis. While the Council item contained feigned choices such as *No Action* or *Action With*

Limitation, it presented no backup data for alternatives. Worse yet, the entire underlying public policy assumes that the City must become “carbon neutral by 3035” in order to save the world from catastrophic global warming due to human generated CO₂ and Methane gases.

In the face of business opposition, the staff had already backed off and exempted multi-story buildings, commercial buildings, and industrial buildings. Since Cal Poly is not within the City boundaries and is a State agency, it escaped any consideration, even though it is the largest user of natural gas for heating. In addition to using PG&E gas service, it even operates several gas cogeneration plants on its campus to generate electricity.

Instead of facing reality and exploring practicality, a provincial, petty, and inept ideological City Council, which can't even control its public spaces and commercial core, adopted a policy which intrudes into people's private homes. What's next? Perhaps, and as pension and labor costs continue to escalate and public services are diminished because the police officers, firefighters, and road workers cannot afford live in the city or surrounding area, the City Council will pass an quartering act requiring that the residents must house crucial personnel in their homes. Why not? It's a public safety matter. “Hey - we will approve a gas free additional dwelling unit (ADU) on your property, but you must rent it at a city stipulated discount to a City Planner I who is working on more ways to interfere in your life and raise your taxes. In the meantime, the County will reassess your property by adding the ADU so you can pay a higher property tax.”



If they can tell you how and when to heat your home, cook your food, and heat your bath water, why not? The British Quartering Act was one of the causes of the American Revolution. It is now prohibited by the 3rd Amendment to the US Constitution.

THE UNTOLD OTHER SIDE OF THE STORY:

Gas vs. Electric Stoves: Which is really more efficient?

The Winner in Efficiency: By Stephanie Watson

The clear winner in the energy efficiency battle between gas and electric is gas. It takes about three times as much energy to produce and deliver electricity to your stove. According to the California Energy Commission,



a gas stove will cost you less than half as much to operate (provided that you have an electronic ignition--not a pilot light).

Although the government's Energy Star program, which rates home appliances for energy efficiency, doesn't rate ranges, buying a gas stove and then following our energy-saving tips (see sidebar) can help you spend less each year. The final figure on your annual energy bill will depend on how much time you spend cooking on your stove, but energy company MGE asserts that you can expect to pay an average of \$2.34 per month to run a gas range without a pilot light (based on a gas rate of \$1 per therm, or 100,000 BTU), compared to \$5.94 per month to run an electric range (based on an electric rate of \$.14 per kilowatt hour).

Stephanie Watson "Gas vs. Electric Stoves: Which is really more efficient?" 29 August 2012. HowStuffWorks.com. <<https://home.howstuffworks.com/gas-vs-electric-stoves.htm>> 7 September 2019

Heating Homes

Calculating Heating Costs by Emily Beach

The average residential customer in the U.S. spent 11.7 cents per kilowatt hour of electricity according to the U.S. Energy Information Administration. The EIA also reports that each kilowatt hour of electricity provides about 3,412 BTUs of heat. According to the U.S. Department of Energy, electric furnaces offer annual fuel utilization efficiency – or AFUE – ratings of 95 to 100 percent. Electric space heaters all have AFUE ratings of 100 percent. Assuming an electric heater with 100 percent efficiency, homeowners should expect to pay roughly \$34.32 per million BTUs of heat.¹

Natural gas is generally sold in therms, where one therm is equal to 100,000 BTUs. The EIA reports that one therm costs about 80 cents per hour. Gas furnaces in the U.S. must have a minimum AFUE of 78 percent, though this number can go much higher. Assuming a furnace with a 78 percent efficiency, consumers should expect to pay roughly \$14.02 per million BTUs of heat.

While prices for gas and electricity vary over time and by region, gas furnaces typically cost much less to operate than electric furnaces or heaters.

Emily Beach works in the commercial construction industry in Maryland. She received her LEED accreditation from the U.S. Green Building Council in 2008 and is in the process of

¹ Note that PG&E's off peak base rate in July 2019 was 22 cents per kilowatt hour per its Residential Inclu TOU (JUL 1, 2019– Present)

working towards an Architectural Hardware Consultant certification from the Door and Hardware Institute. She received a bachelor's degree in economics and management from Goucher College in Towson, Maryland.

Environmental Costs

While the cost of buying and operating a new furnace often tops the list of concerns for shoppers, it's also important to consider the environmental costs of each of these heating fuel options. Despite the relatively high efficiency of most electric heaters, electric heating is inherently inefficient. According to the U.S. Environmental Protection Agency, most electricity is produced using techniques that are only 30 percent efficient. In addition, coal represents one of the primary fuels used to produce electricity. While natural gas production does release greenhouse gas emissions and other pollutants, this fuel burns much cleaner than coal and poses much less damage to the environment, according to the EPA.

Financial Costs

The City relies on a study entitled 2019 Cost-effectiveness Study: Low-Rise Residential Construction to justify its conclusions that the ban is cost effective. The 117-page document is highly technical and relies on many tables to reach its conclusion that building mixed fuel homes which are plumbed for conversion to all electric are cost effective. Perhaps the Mayor could walk everyone through the dense academic document. The study includes elaborate net present value calculations based on projected 30-year energy costs.

Background: While the City states that gas is not banned, the net effect of the new ordinance will be to ban natural gas for heating, hot water, clothes dryers, cooking, swimming pool heaters, and gas fireplaces. All new homes must be “prewired and retrofit ready.” They must also meet higher window requirements and insulation standards, and builders must pay an in lieu fee (really a special tax) to “mitigate” higher carbon generation. The write-up indicates that this could be in the range of \$6,000 to \$7,000 but is still a work in progress. The staff report makes a weak attempt to portray the actual costs of installing the higher level electrical service but cloaks the other costs in references to the study cited above as well as various California Energy Commission documents. There is no clear table adding up all the different costs.

The Study was prepared at ratepayer expense for PG&E by 2 consulting firms, Frontier Energy, Inc. and Misti Bruceri & Associates, LLC. Frontier characterizes itself as:

"Frontier Energy is a new company with a long history. In 2016 and 2017, five companies came together to leverage strengths, relationships, and data to help reduce energy use, increase alternative transportation, and bring new ideas to life. We are fuel agnostic and work on projects involving electricity, hydrogen, biogas, and conventional fuels. We believe in a diverse energy future that includes conservation, efficiency, and new technologies."

Its website does not divulge any real any information about its ownership, principles, or management. It has offices in Oakland, Davis, San Ramon, Sacramento, and Austin, TX.

Misti Bruceri & Associates, LLC:

Our experience spans energy efficiency program design, analysis, management and technical support; California building code compliance analyses, training design and coordination; Supporting California building code development, contract evaluation, negotiation and writing; and compliance software development and support.

Our clients include utilities and other energy efficiency consulting firms with contacts in federal, state and local government and large industrial and commercial entities.

The Study contains a disclaimer page which states:

LEGAL NOTICE

This report was prepared by Pacific Gas and Electric Company and funded by the California utility customers under the auspices of the California Public Utilities Commission. Copyright 2019, Pacific Gas and Electric Company. All rights reserved, except that this document may be used, copied, and distributed without modification. Neither PG&E nor any of its employees makes any warranty, express or implied; or assumes any legal liability or responsibility for the accuracy, completeness or usefulness of any data, information, method, product, policy or process disclosed in this document; or represents that its use will not infringe any privately-owned rights including, but not limited to, patents, trademarks or copyrights.

Nevertheless, the City is basing far reaching and intrusive public policy on the Study which is an attachment and reference to this agenda item.

Although the City verbiage attempts to sugar coat the costs of receiving a permit for a home that uses both electricity and gas, a review of the ordinance proves otherwise.

The New Homes That Elect Gas Will Have to Convert in the Future in Any Case: Since the requirement is “retrofit ready,” it is likely that the homes would be required to go all electric at some future time. For example, in a few years the City could amend the ordinance to require all the “retrofit ready” homes to be converted when they sell. The seller and buyer would have to figure out how they would pay for the replacement of all the appliances and the furnace to get out of escrow. It is not clear where gas barbeques fit into the scheme. Perhaps the City will ban red meat and smoke at some point soon, thereby rendering the question irrelevant.

What about existing homes? There are many more existing homes with gas furnaces and appliances in the City than there will be new homes over the decades. Staff indicates that “there have been comments suggesting that the applicability **increases over time**, which we may present to Council as an alternative.” Accordingly, it is probable that everyone with a single-family home will be subject to the requirement sooner or later.

Homes that opt for gas furnaces and appliances will be penalized: Staff indicates:

If a mixed-fuel option is selected, then the project would be required to meet stronger energy performance standards to reduce the emissions impact. In addition, Council will be considering an in-lieu fee proposal wherein natural gas use in new buildings would be offset in an existing building so that there is no net increase in greenhouse gas emissions as a result of the project.

Staff will be developing a long-term retrofit program for Council consideration as part of its 2020/21 work plan. Initially, the City would work to support other agencies/organizations that are already implementing energy efficiency retrofit programs.

In Lieu Tax: In this case higher levels of insulation, window thickness, and other measures would be required of those homes which include gas. Worse yet, there would be an in-lieu fee (an illegal tax), which would have to be paid on the homes which would use gas. Does this mean the funds extracted from the homeowners would be used to assist other building owners to convert to all electric service? This will probably become a wealth transfer program under which politically favored building owners will receive grants passed out by the City Council to switch to all electrical service.

The State has passed a statute that allows cities and counties to establish an in lieu tax for affordable housing. It is not known if a city (even a Charter City like SLO) can impose an in lieu tax for the converting homes to all-electric absent a specific State enabling statute.

It is also not clear if there are financial cost benefits or simply more costs. Staff opaquely reported in this regard:

For our climate zone (Climate Zone 5), The City is referring to the statewide cost effectiveness studies as the primary source of analysis. The studies were written by California Investor-Owned Utilities with support from the California Energy Commission, include analysis and use as a prototype, a 2,700 sq.ft single family home and an 8 unit multi-family building totaling 6,960 sq.ft. of conditioned floor area.

New Window Requirements: The ordinance also adds requirements for the window insulating capabilities. The proposed ordinance itself contains mathematical standards for engineers and builders. The staff translates these as:

The fenestration measures are included as part of the “prescriptive path”. The prescriptive path is a list of measures, including the fenestration items, that were collectively modeled to achieve the same energy consumption as identified in the performance path while remaining cost effective per California Energy Commission requirements. The vast majority of applicants will use the “performance path”, meaning they will illustrate code compliance based on modelled building performance (this approach gives designers more flexibility). We are discussing with California Energy Commission staff to see if a prescriptive path is required or if we can remove.

Again, it would be helpful to understand what the cost issues are and what this means in terms of the price of homes of varying sizes.

Crippling costs and government interference with no real benefit: From a public policy standpoint there was no legitimate reason to impose this new regulation. Moreover the agenda was published with less than 1 week before the Council meeting on September 3. There was not enough time for the public to study and react, even if all the questions are answered. The issue should have been postponed.

In 2016 the City updated its 2005 Greenhouse Gas Inventory prefatory to updating its 2012 Climate Action Plan, which is currently under preparation. The table below displays the current status:

Table 1.3. 2016 GHG emissions.

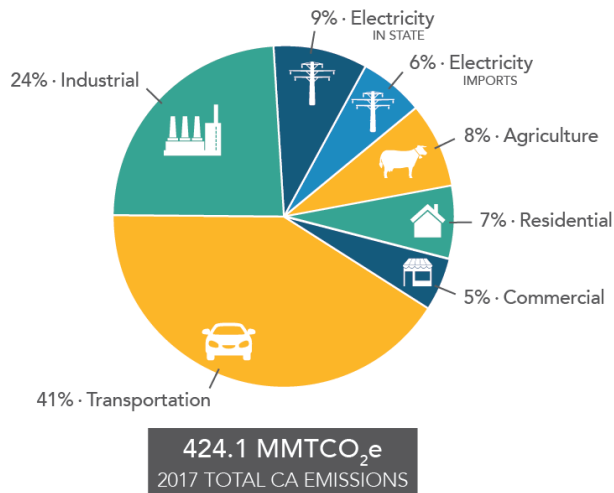
Sector	Subsector	Subsector MTCO ₂ e	Sector MTCO ₂ e	Sector Percent of Total
Transportation	On-Road Transportation	221,750	221,750	65%
Nonresidential Energy	Commercial/Industrial electricity	31,310	53,410	16%
	Commercial/Industrial natural gas	22,100		
Residential Energy	Residential electricity	14,650	43,580	13%
	Residential natural gas	28,930		
Solid Waste	Community-wide municipal solid waste disposal tons	13,880	13,880	4%
Off-Road	Lawn and Garden Equipment	1,270	8,230	2%
	Construction Equipment	6,960		
Total			340,850	100%

Note that residential gas produces 28,930 metric tonnes per year of CO₂ (MTCO₂e) and related greenhouse gases out of 340,000. Staff indicated that the ultimate goal of the gas ban is to reduce the 28,930 (MTCO₂e) by 7,800 (MTCO₂e). To reach the goal will take years, as the new homes which will be subject to the ordinance will be built gradually depending on the market absorption rate, the economy, and costs. In the beginning this could be a few hundred (MTCO₂e) and growing to a few thousand over the years.

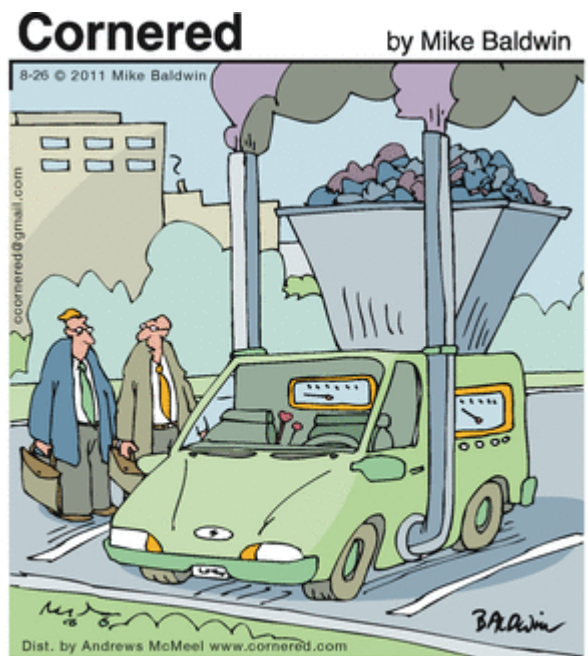
Meanwhile and per the table above, most of the CO₂ is generated by cars and trucks, and much of that in SLO is on State highways, over which the City has no control. Thus the limited reduction claimed for this program has no real benefit of scale, yet is highly intrusive and ultimately costly to homeowners.

Worse Yet: The statewide CO₂ generation totals 424.1 MTCO₂e per the pie chart below:²

² Source: California Air Resources Board, August 2019.



San Luis Obispo’s total 340,000 MMTCO₂e is only .001% of the State total. If San Luis Obispo City eliminated all of its CO₂ totally, it would have no meaningful impact. In turn the amount of natural gas to be reduced (7,800 MMTCO₂) is only .00002%. Why would the City subject its homeowners, builders, and everyone else to the costly, intrusive, and wasteful ordinance? It cannot be justified as public policy on the numbers. Is it simply symbolic virtue signaling of the worst kind. Oh and by the way, the Diablo Power Plant forestalls the production of 8 million Metric tonnes of CO₂ every year. This will largely be replaced by natural gas to provide the base loads at night. Remember, most of the Monterey Bay Power Authority electricity is not flowing from British Columbia hydro or some other CO₂ free source, but is simply a trading scheme of clean energy certificates. The actual electrons will come from PG&E and other gas sources, especially after the Diablo plant closes.



“It runs on pure electricity – generated by a tiny coal-burning power plant.”

What did the SLO City Council ever do to help keep Diablo open?

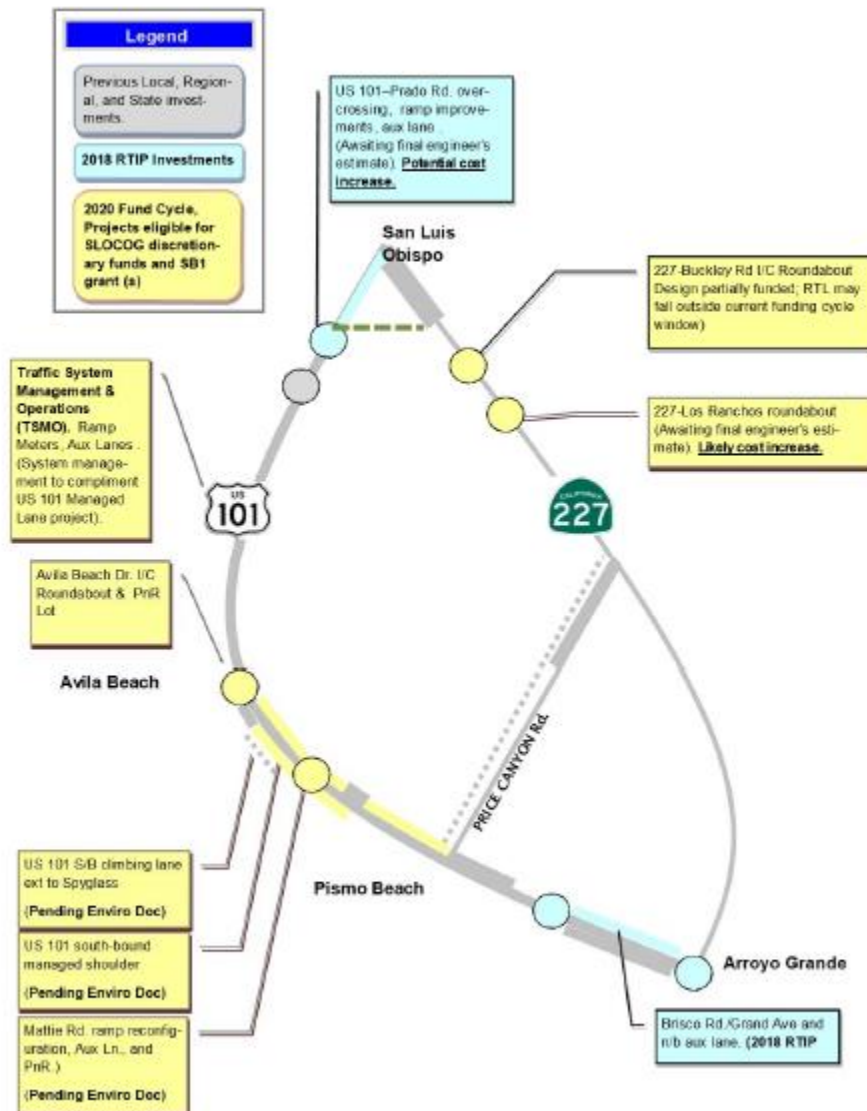
San Luis Obispo County Council of Governments (SLOCOG) Meeting of Wednesday, September 4, 2019 (Completed)

Originally the meeting of SLOCOG had not been scheduled, but there was a meeting of the Transit Authority (same Board as SLOCOG) so they added a one item SLOCOG meeting.

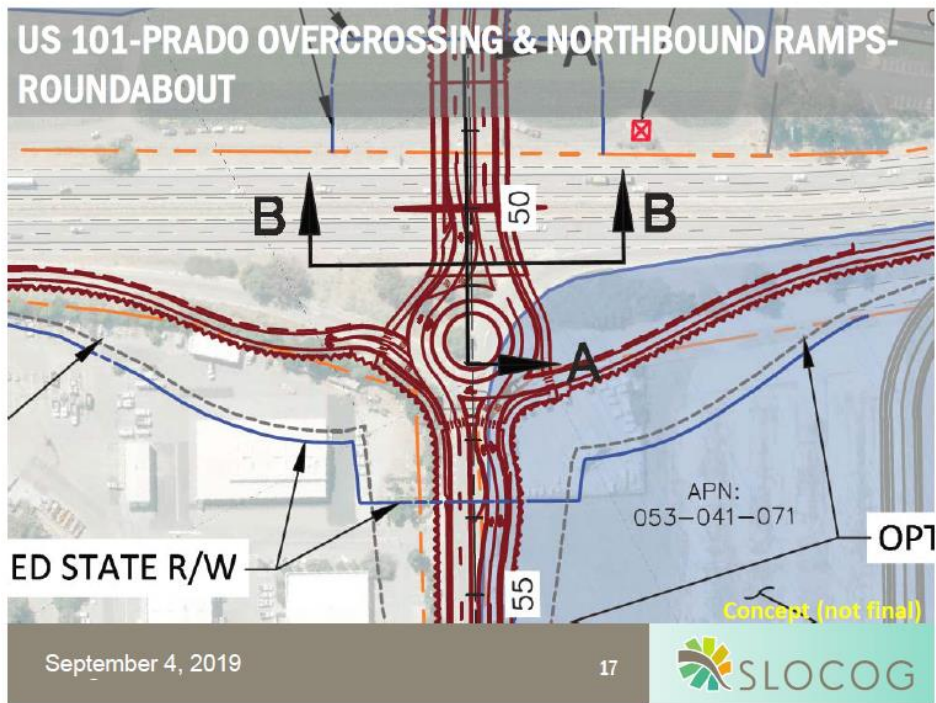
Item A-1: 2020 Program Cycle Study Session on Project Priorities. There was a minimal write-up. Most of the information is contained in the extensive PowerPoint, which recapitulates all the state highway projects and major local projects that have been in prior lists. It then recommends which ones should be funded in the next cycle given the projected amount of funding available from various Federal, State, and local sources. The PowerPoint is a quick way to see what is being proposed:

https://www.dropbox.com/s/5kb4jt5091ltovk/StudySessionMaterials_Ver2.pdf?dl=0

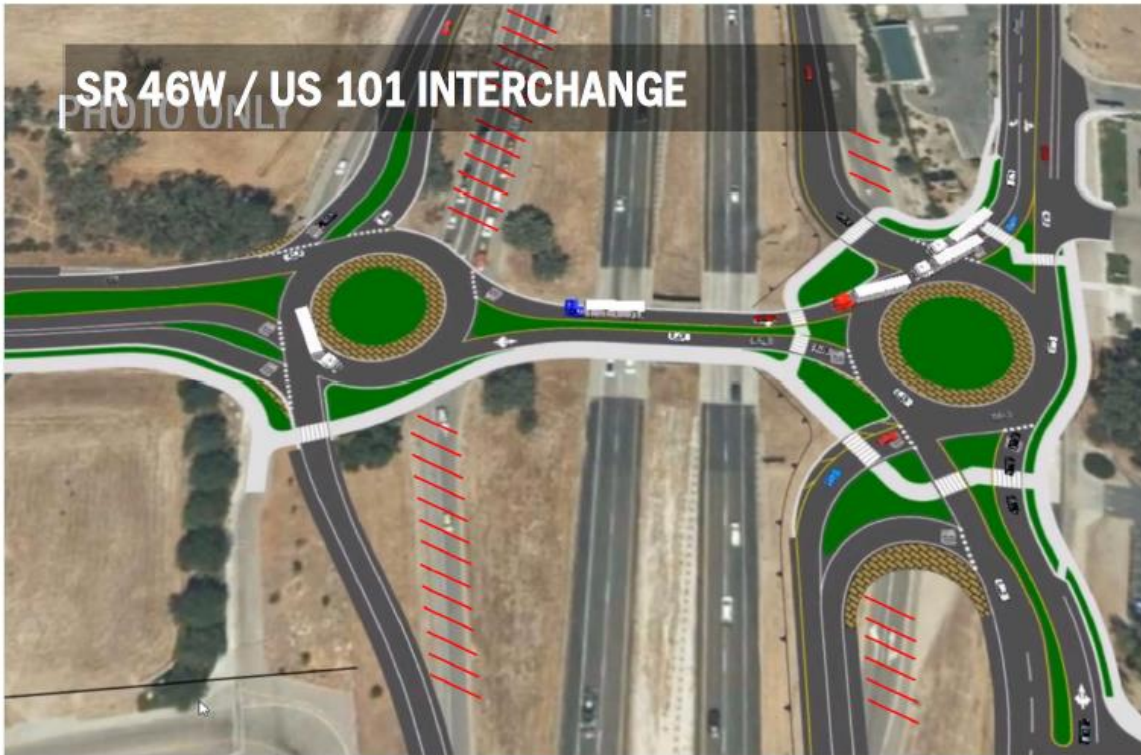
The program is heavy on roundabouts. Some samples are provided on the pages below.



If you are opposed, you had better call your County Supervisors and city council members. This one is coming down the track hard.



Wonder what the right of way acquisitions will cost for this one?



These are big space eaters and look expensive. Will the one to the west (left) require a million dollar oak tree mitigation plan like the Willow Road/101 interchange in Nipomo?

All this was sprung on the day after the day after the Labor Day holiday and the end of summer vacations.

COLAB IN DEPTH

IN FIGHTING THE TROUBLESOME, LOCAL DAY-TO-DAY ASSAULTS ON OUR FREEDOM AND PROPERTY, IT IS ALSO IMPORTANT TO KEEP IN MIND THE LARGER UNDERLYING IDEOLOGICAL, POLITICAL, AND ECONOMIC CAUSES AND FORCES

SLO CITY MOVES TOWARD ALL-ELECTRIC BUILDINGS — MAKING ELECTRICITY MORE EXPENSIVE

BY STEPHEN FRANK

The city council of SLO voted to raise the cost of living on the people of the city. They voted to end cheap energy source natural gas. Safe and clean. Instead they are forcing people to spend energy money on expensive alternative and unreliable energy—wind turbines, solar panels, etc. Why is California so expensive? We kill energy jobs and force the poor and middle class out of the State.

- **“ELECTRIC VS. GAS At a Sept. 3 meeting that lasted until close to midnight, the San Luis Obispo City Council adopted a local building code that strongly disincentives natural gas in new development.**

The local code amendments—collectively called the Clean Energy Choice Program—follow a statewide push among progressive cities to electrify buildings. SLO’s code, which goes into effect on Jan. 1, 2020, doesn’t outright ban new buildings with natural gas, as a recent Berkeley policy does. It uses disincentives, like fees, to discourage natural gas use.

The council voted 4-1 on the changes, with Erica Stewart dissenting.

This is another sign of a totalitarian government—by raising the cost of energy, it takes away freedom from the residents. At what point will the stream of people fleeing California becomes a flood? My guess is we are almost at the tipping point.



Stephen Frank is the publisher and editor of California Political News and Views. He speaks all over California and appears as a guest on several radio shows each week. He has also served as a guest host on radio talk shows. He is a fulltime political consultant. This article first appeared in the September 6, 2019 edition of California Political Review.

DARK DAYS AHEAD IN THE SUNSHINE STATE

BY ANDY CALDWELL

Our state is going to be in big trouble, thanks to California politicians and activists quadrupling down on stupid.

The first thing Sacramento did is set up Diablo Canyon Nuclear Power Plant for closure by way of insisting that PG&E cool the water that cools the reactor down before releasing it back to the ocean. This mandate constitutes a nearly impossible task and it would have cost billions of dollars.

The second attack involved blowing apart the franchise model of the utility sector which allowed the utilities to spread costs and risk among tens of millions of residents and businesses. At the same time, they demolished the vertical integration of the utilities serving to strand their assets. That is, the state allowed local communities to form their own energy coop and the coops refuse to buy energy that had been developed to serve these very same communities. This will result in the balkanization of our energy supplies, something the Public Utilities Commission has described as energy disintegration.

The third attack has to do with holding the utilities accountable for all the costs associated with the devastating fires and related catastrophes throughout the state irrespective of the role of the state and federal governments, and environmental advocacy groups, who did nothing to manage, let alone, serve to reduce fuel loads.

The final blow? The plan to decarbonize California. Specifically, the powers that be are waging war on the oil and gas industry as it pertains to both production and consumption. That is, the state and local governments are doing everything within their power to prevent oil and gas operations from producing and transporting the energy we need and rely on each and every day, including for the production of electricity. At the same time, there are two moves afoot to prevent the use of natural gas as a fuel source for both residences and businesses. The first move is to prohibit natural gas hookups in new construction. The second is to require all homes and businesses to eliminate the use of natural gas while requiring all appliances to be replaced with electric appliances.

Complicating matters further, while the state is in the process of mandating that electricity should be the only power source available for all intents and purposes, the utilities are planning to shut off our power during red flag warning episodes because they can't afford footing 100% of the liability for future wildfires. Moreover, the utilities are facing bankruptcy because their shareholders can't afford the liability exposure of these recent catastrophes.

All of these things taken together means that taxpayers and ratepayers, who are one and the same, mind you, will be left holding the bag. Lost in all this? Any sort of plan to deal with

the consequences of all of the above. Even the state's Public Utility Commission has admitted there is no plan going forward!

With respect to the goal to decarbonize California, this is nothing more than virtue-signaling in a sensory deprivation booth that doubles as an echo chamber. California does not and never will produce all the energy it consumes. It relies not only on imported oil and gas, but electricity that is produced and shared among 11 Western states and Canada. All these watts go into the same pool and some of them are still being produced by coal and natural gas. Furthermore, the one thing the greens won't produce is a map that will detail how much farmland that will need to be sacrificed on the altar of wind and energy farms. Neither will they do the math to demonstrate where we can build 3.5 million new homes, via state mandate, and still have land left over for wind and solar.

CALIFORNIA'S SMART ENERGY FUTURE GROWS ON THE HORIZON – BUT HOW TO GET THERE?

BY JULIE CART

An unusual experiment began a few years ago on four blocks of stuccoed ubiquity in suburban Irvine. The rows of nondescript subdivision homes, inhabited by UC Irvine faculty and staff, afforded a high-tech peephole from which to observe how humans interact with electricity.

The houses were outfitted with tools for use with the advanced electricity system glowing on California's horizon, prepping residents for a near future when things worth having will carry the prefix "smart"—as in smart appliances installed in smart homes attached to the smart power grid.

California is in the midst of a similar, and hugely transformative, experiment: an effort to redesign the future of electricity generation, distribution and use to meet a surging demand.

The complex system that powers the world's fifth-largest economy is at a [turning point](#). Utility executives, policymakers and regulators are peering into a future where California has shed fossil fuels and is fully buzzing with electricity. Before the state completes its shift to a modern, safe, sustainable energy grid, it has to decide precisely how that should be accomplished.

Among the key issues:

- *The grid is aging, large pieces of it having been installed to serve a state with a few million people, not today's 40 million. Its hundreds of thousands of miles of high-voltage transmission lines throughout the state, serving virtually every home and business, are at full capacity, operating well past their designed limits. Some of the system's vulnerabilities—even its lethality—have been laid bare by wildfires, when*

power was interrupted by flying tree limbs and communities were devastated by blazes sparked by broken equipment.

- *The 100-year-old system in which power flows one way, from mega-utilities to their millions of customers, is coming apart. Power now runs into and out of the grid from multiple sources, all the time. Millions of customers have turned their backs on utilities in the past decade. Many homeowners already run their lives with power generated on their own roofs. Scores of small towns and counties have cut the cord and now operate their own [mini-utilities](#), buying power directly from wholesalers. More than 100 “micro-grids” have sprouted across the state, producing and sharing their own energy. And these trends could grow as utility companies blamed for wildfires face increasing hostility from consumers.*
- *Storage is the Holy Grail. By law, the state must obtain all of its power by 2045 from clean sources, including sun and wind, which are cheaper than ever but unpredictable and difficult to fully harness. For example, more solar power may be generated in the middle of the day than the grid demands, and California often pays neighboring states to siphon off the unneeded bounty. That abundance presents a technology problem: how to store excess energy until needed.*
- *The grid could become Big Brother. The “internet of things”—devices large and small that connect us to each other and the grid—offer convenience and ease of control over our lives but also require the user to relinquish some degree of privacy. Consumers are monitored, analyzed and observed—even spied on—by smart devices attached to the walls of our homes like barnacles: thermostats, doorbells, nanny-cams, even speakers that can eavesdrop on conversations long after the devices were switched off.*

“Things are changing so fast, this is the time to be intellectually flexible and adaptive,” said Arun Majumdar, co-director of the Precourt Institute for Energy at Stanford University. “We are still in the paradigm and the architecture of ... the grid we have had for 120 years. Now we have to modernize.”

That requires a better understanding of what humans need from the grid, and what the grid requires from us. Enter demonstration [projects](#) like the five-year experiment at UC Irvine, sort of a real-time [Truman Show](#) in which the homeowners were the subjects. Their households received smart appliances, LED lighting, water heaters, insulation, air conditioning, solar panels and batteries, even electric cars and charging stations.

The trade-off for residents was their every decision noted from a remote monitoring station: which lights were flicked on, and when; which families used air conditioning or hot water more than others; which wall sockets residents used. The university, Southern California Edison and the federal Department of Energy sponsored the project, whose goal was to better understand, a street level, how a new generation of appliances and a fleet of electric cars could affect the grid.



UC Irvine Prof. Gene Tsudik. Photo by Julie Cart/CALmatters

Gene Tsudik, a UC Irvine professor and one of the participants, is a computer scientist specializing in privacy and security. His

professional antennae were fired up when teams of installers left behind clicking, ticking, blinking monitors that provided his family's interface with the grid.

"I was very well aware that even simple devices that transmit wirelessly can triangulate the movement of people in the house," Tsudik said. "We are surrounded by smart devices all over the place. Of course, they violate your privacy."

Ultimately, Tsudik said, the experiment did nothing to change his family's energy consumption. But it left him with the certainty that when his home is connected to the grid, the smart devices had better be [secure](#) from cyber-hackers as well as eavesdroppers.

"It's a question of when, rather than if, they can be hacked," he said. "What you can do well, hackers can do better."

The hive mind of those blocks in Irvine spent years sending out data, ending in [2015](#). One takeaway for Scott Samuelsen, director of UCI's Advanced Power and Energy Program, which ran the project, is that while the adoption of smart home devices is growing fast, regulation and consumer protections that should accompany them are not keeping pace.

"The market is out of control with respect to regulation (of devices)," Samuelsen said. "We are in a free-for-all."

Some aspects of grid modernization—consumer technology and utility upgrades, for example—are indeed under way. But other elements—policies, regulations, new business models—could require another decade to resolve. And who will pay for the upgrades? The cost of wholesale retrofitting is unclear but could run into the trillions of dollars, borne largely by utility companies—who may well pass some of that expense to their customers.

And what will a modernized grid look like? Some policymakers envision a centrally managed [Western grid](#) serving everyone from the Rocky Mountains to the Pacific, not ruled over by California alone. Others say simply that the grid of the future will be a good listener, a more responsive partner and a rapid problem solver.

More and more micro-grids will form, ranging from a family with solar panels to hospitals, malls and small counties taking care of their own electricity needs. The state has been encouraging this: A new [law](#) begins the process of setting rates and rules, and the California Energy Commission [awarded](#) more than \$50 million in grants to accelerate the creation of smaller, more resilient power grids.

Regulators have [ordered](#) power companies to make their equipment safer, particularly to withstand—and not to cause—wildfires. Much of the equipment we can now see will either be buried safely underground or armored heavily to protect it from the elements.

Wind and solar power plants will rely on energy storage to make clean energy available when it's needed, not just when it's produced. One intriguing notion is called "vehicle-to-grid," or V2G: electric cars storing excess power, which their owners sell back to the grid when the

vehicles sit idle. Those same owners could also use the cars' untapped energy to replenish energy storage they may have at their homes.

The state is encouraging the quest for storage solutions with an incentive plan extended last year to 2025. It added \$800 million to a program that aids homeowners in adding batteries to their solar setups. And concerns about the environmental hazards of disposing of conventional, chemical batteries at the end of their lifespan have prompted development of non-chemical storage.

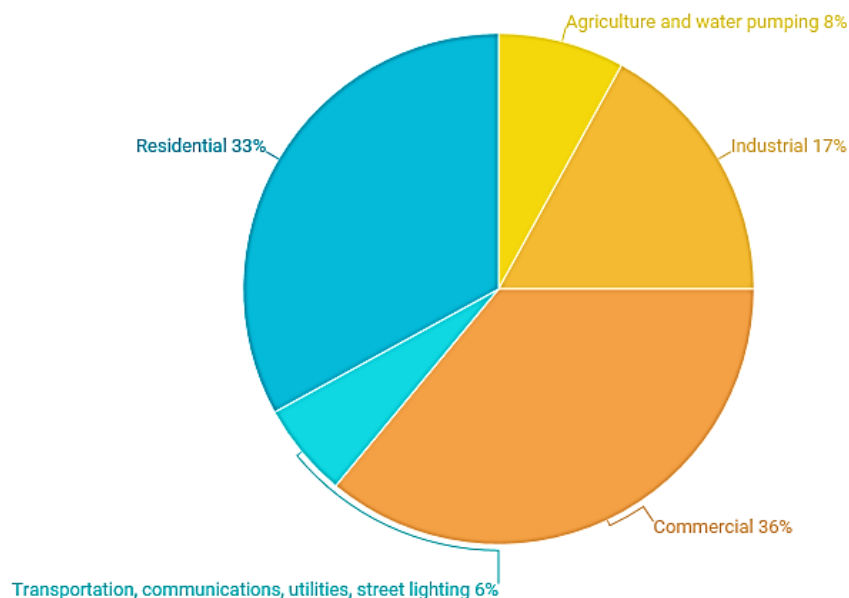
The new grid will also be populated with devices attentive to the nuances of electricity. Microprocessors will snap open and closed instantly, correcting imbalances in the ebb and flow of power. To that end, California utilities are already employing artificial intelligence in their operations.

Supervisors at San Diego Gas & Electric, for example, are able to monitor and shut off circuits to as few as 20 customers at a time when trouble looms, closely pinpointing the threat of weather damage or fire while also averting widespread outages. This makes power cuts ahead of dangerous winds or fire more palatable to residents.

A smart grid, with all of its in-the-moment information about supply and demand, will allow utilities to better understand when consumers want power and even charge them accordingly.

Utility customers in California have begun to shift to a time-of-use system in which they pay more at times of high demand, typically in the evening or during extreme weather. Those rate adjustments are possible with interactive devices letting both utilities and customers know what power costs at any moment.

But full adoption of smart meters has run head-on into resistance, and not the electrical kind. While nearly half of American households are tethered to them, the devices are not uniformly welcomed.



California's largest utility, Pacific Gas and Electric, was rolling out the first wave of its multibillion-dollar smart-meter program when customers in Bakersfield bridled. Homeowners

claimed the devices were an intrusive tool of the state and the low-energy radiation they emitted posed a health hazard, among other grievances.

As complaints began to spread, PG&E began an [opt-out program](#) allowing homeowners to remove the new wireless meters and reinstall the old analog ones. That [customer revolt](#) has been called the “Bakersfield Effect.”

The state’s mandate for clean power has generated its own backlash, with renewable energy cast as a grid destroyer, given its feast-or-famine power delivery. To Anne Hoskins, chief policy officer at Sunrun, a San Francisco-based residential solar panel and storage installer, that’s an out-of-date argument.

“We have batteries now,” she said. “There are incentives for building storage. We are not a problem; we really are an opportunity.”

The rise of smaller, local alternatives to the big utilities is a trend known as [community choice aggregation](#). The framework for these groups was [established](#) in 2002, motivated partly by locals’ wish to decide for themselves where they would purchase power and what they were willing to pay for it, as well as a desire for more clean energy.

The community choice movement was sparked along the Northern California coast and in counties in the Bay Area and has spread across the state. Small aggregators reported 2.5 million customer accounts at the end of 2018.

These local power hubs must report their activities to the state Energy Commission and the Public Utilities Commission, in much the way legacy utilities do. The aggregators are not currently subject to all of the same rules that govern the big utilities across a web of complex issues, including compliance with some of California’s clean-energy programs. But the state is in the [process](#) of formalizing additional regulations.

Barbara Hale, assistant general manager at San Francisco’s municipal power utility, is also on the board of directors of the California Community Choice Association. She said the groups are good grid citizens. But she understands that disrupting a century-old model can be unsettling.

“Part of the regulators’ role is to be cautious and thoughtful,” she said. “It’s difficult to be in that role and manage change, particularly technological change.”

Ed Randolph, deputy executive director for energy and climate at the Public Utilities Commission, agreed that the state must pivot. But he says policies must be carefully considered, and not adopted at breakneck speed.

“There are people who want to just completely change the paradigm of how the grid is operated. . . . I’m not sure that can happen,” Randolph said. “Our approach is, ‘Let’s do something on a smaller scale and understand how it impacts the grid.’ . . . The legislative and regulatory process is set up in a way that makes sure we don’t get too far ahead.”

California’s grid operator and its cadre of electrical engineers share the concern that runaway innovation could outstrip oversight and create precisely what the grid, even the modern grid, can’t abide: imbalance.

“Changes are happening rapidly and we’re trying to keep up with that,” said Mark Rothleder, a vice president at the California Independent System Operator, which manages the state’s grid.

“There will be new players, new resources, and new opportunities. We have to be open to innovation and we have to ensure our technology that manages the grid can enable those resources. We have to pay attention.”

Julie Cart joined CalMatters as a projects and environment reporter in 2016 after a long career at the Los Angeles Times, where she held many positions: sportswriter, national correspondent and environment reporter. In 2009 she and colleague Bettina Boxall won the Pulitzer Prize for Explanatory Reporting for their series on wildfires in the West.

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