Public Comment

RCEA Board of Directors Meeting
January 23,2020

From:	Ken Miller
To:	rbohn@co.humboldt.ca.us; efennell@co.humboldt.ca.us; vbass@co.humboldt.ca.us; mike.wilson@co.humboldt.ca.us; smadrone@co.humboldt.ca.us; Lori Taketa
Subject:	Tesla offers homeowners affordable rooftop solar
Date:	Thursday, January 2, 2020 3:27:57 PM

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https://www.tesla.com/support/energy/solar-panels/learn/subscription-solar

And solar generators are affordable too.

Just some ideas as we navigate our climate goals

Regards, and Happy New Year/Decade,

Ken

From:	Ken Miller
To:	rbohn@co.humboldt.ca.us; efennell@co.humboldt.ca.us; vbass@co.humboldt.ca.us; mike.wilson@co.humboldt.ca.us; smadrone@co.humboldt.ca.us; Lori Taketa
Subject:	Solar Conferences to attend
Date:	Friday, January 3, 2020 11:01:30 AM

The April Oregon Solar Conference in Portland,

The Energy Fair in Custer, Co in June, and

Solar Power International in September in Anaheim,

Are just a few of the Conventions our policymakers and energy gurus could attend if we are serious about solarizing Humboldt.

Humboldt could host one for distributed onsite solar arrays, including microgrids with Vehicle to Grid (V2G) capability.

These are where the experts and innovative enterprising are to be found and solicited, who understand entrepreneurial opportunities and financing.

These folks are the ones who define “feasibility.”

Yet RCEA has no budget for these?

Time for a change?

Regards,

Ken

From:	Ken Miller
To:	Lori Taketa
Cc:	cmcguigan1@co.humboldt.ca.us; mike.wilson@co.humboldt.ca.us; smadrone@co.humboldt.ca.us
Subject:	One more for the Board
Date:	Tuesday, January 7, 2020 11:46:58 AM

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https://www.pv-magazine.com/2019/12/31/solar-plus-storage-will-start-to-make-big-inroads-in-the-year-ahead/

In the U.S. particularly, solar-plus-storage projects may even shoulder aside gas peaking plants as the method of choice for backing up security of electricity supply. As Steve Fludder, CEO of the NEC Energy Solutions business of Japanese conglomerate NEC told **pv magazine**: "Lithium-ion batteries can pull megawatt hours onto the grid in milliseconds, matching supply to demand in real time." And it will continue to be lithium-ion based storage which dominates, despite concerns associated with the environmental and social damage associated with sourcing lithium.

https://www.pv-magazine.com/2020/01/07/new-lithium-sulfur-battery-unveiled-by-aussie-scientists/
https://www.pv-magazine.com/2020/01/07/kyocera-to-launch-world-first-semisolid-lithium-ion-battery/

From:	Ken Miller
To:	Lori Taketa; serc@humboldt.edu; cmcguigan1@co.humboldt.ca.us; rgannon@ci.eureka.ca.gov
Cc:	mike.wilson@co.humboldt.ca.us; smadrone@co.humboldt.ca.us; efennell@co.humboldt.ca.us; Rex Bohn; Virginia Bass
Subject:	Wallbox Quasar bidirectional home DC charger will turn EVs into a huge Tesla Powerwall - Electrek
Date:	Tuesday, January 7, 2020 11:11:53 AM

https://electrek.co/2020/01/06/wallbox-quasar-tesla-nissan/

https://www.sunrun.com/grid-services

Essential pieces of the microgrid puzzle

Please share with Board and CAC

Time to avail the County of the many assets awaiting an invitation, much like the one extended to TerraGen, only now to solar afficianados

All they need is the data that RCEA, Schatz and County Planning can provide, let the jobs emerge!

But policy direction is essential, as is attending conferences such as these if we are serious about solarizing Humboldt.
These are where the innovative enterprising experts are to be found and solicited, who understand entrepreneurial opportunities and financing. These folks are the ones who define “feasibility.”

The April Oregon Solar Conference in Portland,

The Energy Fair in Custer, Co in June, and

Solar Power International in September in Anaheim,

Humboldt could host one for distributed onsite solar arrays, including microgrids with Vehicle to Grid (V2G) capability.

Thank you, Ken

Dana Boudreau <DBoudreau@redwoodenergy.org>
Subject: RE: Please include this letter in next board packet

Cc'ing Lori, Dana and Richard – please pass along to anyone else you see fit.

Nancy Stephenson
Community Strategies Manager | Redwood Coast Energy Authority
(707)269.1700 x 352 | www.RedwoodEnergy.org

From: Information <info@redwoodenergy.org>
Sent: Monday, December 23, 2019 11:51 AM
To: Nancy Stephenson <NStephenson@redwoodenergy.org>
Subject: FW: Please include this letter in next board packet

I forwarded this to Lori T and Matthew. Anyone else it should be forwarded to?

Meredith

From: e[redacted] <e[redacted]>
Sent: Monday, December 23, 2019 10:25 AM
To: Information <info@redwoodenergy.org>
Cc: efennell@co.humboldt.ca.us; [redacted]
Subject: Please include this letter in next board packet

Dear Sir or Madam:

I feel your organization acted outside its role and place by - as Supervisor Fennel pointed out at the last meeting - becoming a cheerleader for an out-of-area corporation prior to approval of the project by the Board of Supervisors. I wish to lend my support to her statement as I have read your organizational statements and do not find that at any point you should have been spending money, building websites, or using staff time to promote the activities of a corporation and I hope you resist doing this in the future. Is it my business? Yes, I pay RCEA for electricity every month and I feel embarrassed and ashamed to have financially contributed to your actions leading up to the denial of permit by the Supervisors.

Due to RCEA bias and cheerleading, much of the information on several of your webpages is incorrect. I request proper editing on (https://redwoodenergy.org/services/planning/#1572045660039-de584e42-5b92) this page to reflect current conditions now that our community is no longer being railroaded to accept a project listed as a level 4 siting by the California Department of Fish and Wildlife. Any reasonable energy board would have looked at CDFW's 2017 letter sent to scoping comments and at least maintained an open mind. Personally, I have no idea why the county even let it get so far - the scoping letters were clear in

their issues - none of which went away - and all of which resulted in the huge community response to being "railroaded" and feeling like the "fix was in." The actions of the natural area community and HSU professors were obvious. They felt that their many - sometimes 35 years - of experience were swept aside in a mad rush to hop on the allegedly "green" project.

That RCEA led the way was particularly troubling considering public statements by Mr. Marshall that offshore wind will result in greater output of electricity with less onshore disruption. He was quoted by the Mad River Union as saying at a Eureka meeting: "*The offshore turbines are very big - unlike on land, you don't have the constraint of moving things around by truck... So the scale of these is much larger, and with fewer turbines there is more efficiency and reduced costs."* He added that the tip of the blades would reach about the height of the Golden Gate Bridge being at the 600-foot-tall range. Even with all the numbers on your own web page, he can't keep his facts straight because 600' was the same height proposed for the the onshore turbines, dwarfing the last remaining old growth redwoods by over 250 feet.

To me it doesn't make any sense that your board was out cheerleading - sometimes contradicting the information on RCEA's own website. It doesn't make any sense to lie, misrepresent or omit facts while allegedly in service to your community. I would hope that the recent experiences would return our community to a whole community, consider all voices, omit none. Do not be in such a hurry to empire build that your construction begins on shifting sands.

At that meeting, I become aware of a lack of listening skills. At the meeting, I made a 2-minute comment. It was about County buildings and conservation. Mr. Marshall in his 22 minute reply to 14 minutes of public comments, stated that conservation efforts are ongoing in homes and businesses. This is obviously not the same thing as I commented about but since the public is not allowed dialog in your meetings, I have to point this out in writing. Your chair said the public had to be quick because the board needed the time, but did not rein in your director as he rambled longer than all the public comments put together. This was unfair to both the public and the board.

The omission of a tribal seat at your table invalidates your status as a "joint powers authority" instead you become a "joint white settlers authority. The discussion by your board of granting a seat to anyone tribal was painful to hear - overt and covert racism in this day and age should not be part of any governmental agency.

Another place where I felt that your organization may not understand its role and place is when Mr. Marshall stated that he should have been informed by Ted Hernandez, et alia, about the sacred nature of Tsakiyuwit. There is absolutely no excuse for Mr. Marshall's remarks that "I wasn't told" followed by the implication that he might have done differently if he had known.

Indeed, if Mr. Marshall understood his role and place and that of your organization he would realize that neither he nor RCEA is part of AB52 consultations and has no "need to know" about cultural aspects of any project at any location in California. That is the role of the state archaeologist, the planning department and

the tribes - not RCEA. The general public, into which category all your board members and your executive director fit, are not informed about cultural aspects based on the track record of 180 years of excavation and desecration in California.

Like Tuluwat, Tsakiyuwit is not a mystery, or even a deep-dark secret to anyone who takes even the most rudimentary interest in local history. The term Tsakiyuwit and its definition was published in a University of California publication over 100 years ago - and never challenged since. The citation is available on Wikipedia on the Wiyot pages; the publication is available from the Internet Archive. From white-man's history are the recollections of murderer Seth Kinman, published by Ferndale Museum, and cited on Wikipedia on his page which actually describes some history of Tsakiyuwit. You might have learned a lot by a fast read of readily available materials even if you are not in the AB52 process. Please plan diversity and cultural sensitivity training for your staff - as what I saw at your board meeting shows it is needed desperately and soon.

I would appreciate it if you would reply to this letter so that I know you have seen it, and that however many copies of it get made and sent to your Board, or included in their packets, for your next board meeting.

Sincerely yours,
Ellin Beltz
Ferndale

From:	Information
To:	Matthew Marshall
Cc:	Lori Biondini; Lori Taketa; Richard Engel; Dana Boudreau
Subject:	FW: CEQA required for CAPE/RePower Humboldt planning process
Date:	Monday, December 30, 2019 8:49:31 AM

From: Northern Spotted Owl <[redacted]>
Sent: Sunday, December 29, 2019 5:54 PM
To: Information <info@redwoodenergy.org>; efennell@co.humboldt.ca.us
Subject: CEQA required for CAPE/RePower Humboldt planning process

Dear RCEA Board and staff,

The Redwood Coast Energy Authority (RCEA) is a "Public Entity."

See: https://redwoodenergy.org/wp-content/uploads/2017/08/RCEA_JPA-FINAL.pdf

"1.2 Separate Public Entity.
The RCEA is a public entity separate from the Members within the meaning of Government Code Section 6507."

Therefore, RCEA is required to comply with CEQA and other state laws, including AB 52 concerning Tribal consultation.

The Comprehensive Action Plan for Energy ("CAPE"), also referred to as "RePower Humboldt," is a "project" under CEQA because it is a discretionary action, and it could have a direct, or reasonably foreseeable indirect impact on the environment.

RCEA has failed to produce an initial study as required by CEQA for the CAPE and the CAPE revision.

Because the issues addressed in the CAPE have the potential to cause significant impacts (direct, indirect, cumulative) to the environment, RCEA must prepare an Environmental Impact Report (EIR).

RCEA is required to comply with AB 52. Based on recent events with the failed TerraGen project, RCEA has failed in this duty as well.

As a "separate public entity" it is imperative that RCEA begin to take its responsibilities under CEQA, AB 52 and other state and federal statutes seriously. To continue down the path as currently portrayed by board and staff, RCEA operates at its own peril, and at a disservice to the public.

Siskiyou Land Conservancy

January 20, 2020

Dear RCEA Board,

Regarding Agenda 6.2 (meeting of Jan. 23, 2020), prioritizing utility scale renewable electricity:

Please prioritize widespread public and private distributed solar electricity generation, and hang out the Open for Solar sign on Humboldt County, like you did with Terra-Gen.

I am compelled to write to you because of the tremendous opportunities available in the solar marketplace and an unprecedented awakening of community awareness. Please budget for RCEA attendance at some of the upcoming solar conferences (with an inviting "Open for Solar Business" attitude). These include the Oregon Solar Conference in Portland in April, the Energy Fair in Custer, Colorado in June, the Solar Power International conference in September, in Anaheim, and the Philadelphia microgrid conference in June. Humboldt could also host its own energy fair for distributed onsite solar arrays, including microgrids with Vehicle to Grid (V2G) capability.

Let's flood the County with enterprising solar entrepreneurs and financiers eager to help implement a Solarize Humboldt strategy that results in resilient energy shared by all.

The reality is that our County's onshore winds cannot be harvested for electricity without unacceptable cultural and ecological consequences. Terra-Gen's defeat has opened the door to solar, which is an energy priority that has no public opposition, only public benefit and support.

Prioritizing solar as the onshore bridge to offshore wind will benefit Humboldt in many ways: make us resilient during emergencies, make electric vehicles affordable and irresistible, and share our energy wealth broadly.

However, instead of joining the enthusiastic community chorus for solar, RCEA continues its institutional skepticism (see website below), based on flawed premises: that solar must generate all the electricity that we use; that battery storage is not advancing rapidly; that the economy of scale, or agile financing, including tax credits, cannot be exploited; and that electric vehicles cannot be part of the storage mix.

Our policy should be "To acquire as much solar, in as many modalities as available, as quickly as we can."

For it's part, the County should prioritize critical facilities and map potential sites and buildings to provide data to interested solar businesses.

The RCEA website rationalizes an electricity export economy because we have electricity generating resources that urban counties do not, but they use a lot more electricity.

(https://redwoodenergy.org/services/planning/) This rationale creates a perverse incentive for those counties to NOT solarize. They all have vast untapped solar potential. If we all take advantage of solar, then the grid will have to upgrade its balancing technologies to incorporate widely distributed solar electricity, including EVs. In this way Humboldt's embracing of solar can foment similar activity in urban areas.

Distributed Solar may not provide Terra-Gen's concentrated 155MWs or offshore's 1100MWs, but widespread distributed public and private solar with V2G capability and stationary storage, if paired with the 130MW pilot offshore, and networked intelligently, could replace our use of biomass and the PGE plant by 2030, and in the meantime benefit everyone and harm no one. Solar is immediately dispatchable without the polluting start-up of biomass and PGE plant.

A solar economy is a thriving economy that generates revenues in many ways that can then fund government. Solar, like all industrial operations and electronic equipment, has lifecycle impacts. Fortunately they are manageable.

Local solar makes electric vehicles (EVs) irresistible, and heat pumps affordable. EVs must be charged from locally produced electricity to be sustainable, affordable and non-polluting, but then they require no petroleum or maintenance and they last a long time. V2G is cutting edge capability.

Distributed mostly grid-tied solar plus storage can be accomplished in an environmentally and fiscally sound and affordable manner, using a combination of static and EV storage. EV batteries retain much of their static storage capacity after 10 years of use, and recycling methods are promising, according to the LA Times article cited on your website.

Solar creates hundreds of jobs and apprenticeships, generates revenues and fuel, can be made available to everyone, pays for itself and creates equity, and still qualifies for tax credits. Technological upgrades balancing the grid will be required, generating hi tech jobs. It also increases our energy IQ, reducing our carbon footprint, whereas relying solely on the grid tends to increase electricity use.

RCEA and Schatz can engage our broad and committed community in implementing a solarizing policy. There's no other way, and no better choice. Distributed Solar is the way of the future, now is our ideal chance to implement it and create an exciting modern 21st century energy policy.

/s/

Ken Miller
Secretary
Siskiyou Land Conservancy

Times Standard

January 16, 2020

Saying No to Terra-Gen Says Yes to Solar

By Greg King
Siskiyou Land Conservancy

A banner headline in the Times-Standard Jan. 11 reported on an unfounded solar skepticism from the people who should know better at Redwood Coast Energy Authority (RCEA).

Clearly RCEA's skepticism derives from an overconfident reliance on creating an export electricity economy based on onshore wind generation to meet our climate goals. That plan is no longer viable since the Terra-Gen fiasco, because the ecological and cultural consequences of Big Wind are unacceptable.

RCEA's priorities cheat Humboldt County of the resilient energy and solar economy we desperately need and could have. We now have an exciting opportunity to correct that.

Rather than rely on the fragility of centralized power production, Humboldt County needs to generate electricity on a community-wide basis. Fortunately, solar technology is available and affordable, and it's viable. Solar can power entire homes, even those with electric vehicles, and even on Humboldt's foggy coast.

Vehicle to micro-grid and home capability is becoming "off the shelf" technology. According to PV magazine, "In the U.S. particularly, solar-plus-storage projects may even shoulder aside gas peaking plants as the method of choice for backing up security of electricity supply. Lithium-ion batteries can pull megawatt hours onto the grid in milliseconds, matching supply to demand in real time."

As we transition to solar we must at the same time replace gasoline and diesel engines with electric ones, because auto exhaust represents 70 percent of Humboldt's greenhouse gas emissions (GHGs). We also must conserve and sequester carbon in our vast forest resources by growing trees instead liquidating them. County officials must enact local logging rules to disallow even-aged management and foment significant carbon sequestration. The Van Eck Forest and Arcata's Community Forest are already managed in this way and generate good jobs and profits.

The real experts in solar feasibility are at solar conferences, but RCEA has no budget for attending, or apparent interest. We need to attract these experts to work in Humboldt. The Oregon Solar Conference in Portland in April, the Energy Fair in Custer, Colorado in June, the Solar Power International conference in September, in Anaheim, and the

Philadelphia microgrid conference in June are just a few of the conventions our policymakers and energy gurus could attend. Humboldt could also host an energy fair for distributed onsite solar arrays, including microgrids with Vehicle to Grid (V2G) capability.

Solar investment funds are growing, and the county should take advantage of them. Mosaic provides "an online marketplace" where clean energy investing is open to the public. SfunCube is an incubator and accelerator dedicated to supporting solar entrepreneurs. SunRun provides comprehensive solar and storage consultations to counties. Tesla offers sweet rooftop solar deals for homeowners (and landlords). These businesses facilitate solar with hardware, smart software, financing, and analytic solutions.

The resilience provided by solar during emergencies is priceless, and putting power into the hands of "the people" bolsters democratic societies.

RCEA, Schatz Energy, and County Planning can provide the data these solar aficionados need, but direction from the Board of Supervisors is required. The Board, in conformance with the county's General Plan, must take the lead with innovative and aggressive initiatives to provide the county with widespread distributed solar ASAP as the best, most logical way for Humboldt to achieve energy independence while "doing our part" to alleviate the climate emergency.

Unlike wind factories, solar can provide hundreds of permanent, good paying jobs—which is why the International Brotherhood of Electrical Workers is so supportive of solar. Retrofitting buildings and public spaces means good work for electricians, carpenters, roofers, techies, and tradespeople.

Solarizing Humboldt promises more than electricity and resilience. It offers a thriving, homegrown economy that shares our energy wealth and benefits everyone no matter their socio-economic status, while at the same time safeguarding cultural and ecological biodiversity.

Blue Lake Rancheria's outreach coordinator, Maia Cheli offered the following practical guide to solarizing: "It's not so much a question of whether microgrids could power the entire county, but where they can be best utilized to support community services. …" (TS, 1/11)

The question is not, and never has been, can local solar generate as much electricity as we use, or as much as Terra-Gen promised. The only relevant benchmark is that we need as much solar as we can get right away—hopefully enough, by 2030, to replace the electricity we currently use from the polluting biomass and PG&E plants. Add in a significant county-led conservation effort—which for some reason never gets discussed—and Humboldt will contribute

By Doug Fraser / Cape Cod Times
Posted Jan 13, 2020 at 12:41 PM Updated Jan 13, 2020 at 12:41 PM

Towns on Cape Cod and Martha's Vineyard received more than $3.4 million in credits and cash in the last fiscal year as municipal solar power installations produce both power and profits.

It's a trend that is expected to continue well into the future, as the renewable energy industry gains a firmer foothold in the state economy every year.

"This has taken care of our entire municipal energy budget ... It certainly has paid off," said Shareen Davis, chairwoman of the Chatham Board of Selectmen

The Cape and Vineyard Electric Cooperative brokered the region's first solar projects in 2010, putting photovoltaic panels on the roofs of schools and other municipal buildings in a handful of towns. Two more rounds of projects followed in 2014 and 2015, with 11 and 12 megawatts of power, respectively. These were mostly large projects — such as solar farms on capped landfills — that returned more than $13.7 million in money in energy credits to towns since 2010.

According to cooperative data, Chatham, for instance, received $208,398 in fiscal 2019 by generating nearly 2.7 million kilowatt-hours of electricity at its landfill's photovoltaic array. The town has generated nearly $555,000 in solar power revenue in the past three fiscal years.

Barnstable, the largest Cape municipal solar power generator, received nearly $802,000 in fiscal 2019 by producing 11.3 million kilowatt-hours of electricity.

These projects cost the towns no money. The cooperative arranged 20-year contracts with developers that generally gave them 40% of the money paid for the electricity by the power utility company, typically Eversource.

Eversource paid $1.94 million for Barnstable's electricity, and the developer received $770,000 of that, according to cooperative data. Out of the $6.7 million paid for solar power generated by photovoltaic panels on municipal land and rooftops in the last fiscal year, a little over $3 million went to the developers, while $3.34 million was paid to towns.

"We're excited about it," said Larry Ballantine, chairman of the Harwich Board of Selectmen.

Harwich has one of the Cape's largest solar farms at its landfill, producing nearly 3.6 million kilowatt-hours of electricity that grossed $607,951 in payments or credits from Eversource in fiscal 2019. Of that figure, $441,216 was paid to the town.

"We did not put any money in (for the solar power project)," Ballantine said. "We need more win-wins and more solar."

While millions of dollars may pass through its hands, the cooperative operates on a shoestring budget. It received a little under $300,000 in administration fees in fiscal 2019, enough to allow it to break even after paying expenses and salary, according to cooperative president Leo Cakounes.

"CVEC is not in the business of making money," he said. "That's not what we're about. We're a cooperative. We're just trying to stay afloat and pay the expenses of running an office."

But as towns reached their limits in terms of the amount of solar power they need to meet their demand, CVEC found revenue flattening out just as it was expanding to meet space and personnel demands as new projects called for more staff.

The cooperative budget is a little too close to the bone for comfort, Cakounes said.

“We are constantly looking for other ways to bring in revenue,” he said.

In the first big round of projects in 2014, the cooperative didn’t charge towns any administrative fees. But in recent years, it has been asking member towns to voluntarily pay a quarter of a cent on each kilowatt-hour on revenues from those landfill cap projects. All of the succeeding project rounds have had that fee built into the contracts.

“It’s not a big ask for the towns but it makes a big difference to us,” CVEC manager Liz Argo said.

Solar power momentum lagged when state incentives for installations were in limbo for a few years. Solar projects for CVEC dried up for nearly four years.

“Lots of companies almost or did go bankrupt,” Argo recalled.

But Massachusetts is now considered one of the national leaders in the clean energy industry. Boston has been ranked first in the nation four years in a row by the American Council for an Energy Efficient Economy, and the state was ranked No. 1 in leadership in energy and environmental design by the US Green Building Council in 2017 and 2018.

In 2018, the state Department of Energy Resources unveiled its Solar Massachusetts Renewable Target (SMART) program, with incentives to add 1.6 gigawatts of solar power. The cooperative now has three more rounds of municipal solar projects close to completion and a fourth in the wings.

Already in the installation phase is a relatively small group of projects to put solar panels on the roofs of seven libraries, fire stations, a community center and wastewater treatment plant from Oak Bluffs to Provincetown.

Argo said the contracts are all signed on the next round, but the cooperative is awaiting Eversource approval and town permits for 12 megawatts of power that include many solar canopies (open, roofed structures in parking lots and golf courses); and a community solar project in Harwich in which the town offers solar power benefits to residents. Three schools in Sandwich will also benefit from solar power installations in this round, as will Monomoy Regional High School in Harwich.

These projects as well as those in the following round, which are still in the design phase, may prove the most interesting as a number will incorporate power storage, something the state is using as an incentive in its SMART program.

Battery storage technology has greatly improved in recent years, and the state would like to see buildings equipped with both photovoltaic panels and batteries to store the power generated during the day for use at night or on cloudy days.

Even more intriguing is the idea of utilities paying more for power that can be tapped during periods of high demand, such as early morning and early evening when people are leaving for, and returning from, work. Battery storage would allow solar power producers to keep their power on site and then release it when they will get the highest price.

“It’s a fantastic benefit to towns,” Christopher Powicki, an energy consultant and advocate from Brewster, said of the solar power energy credits and revenues. “They essentially get free money.”

But some argue the municipal solar power system needs some tweaking.

In some towns, the money is credited against their electric bill, but for most the accounting is too burdensome to credit the payments to multiple facilities, and Eversource or another utility simply writes the town a check. That money generally goes into the general fund, but Powicki would like to see a dedicated fund established that would use the money to pay for other green initiatives like electrifying the town’s fleet of vehicles.

Cakounes was concerned that it was hard for towns to track whether their revenues were actually paying for all their utility bills or whether they may need to expand their solar footprint to account for new buildings or old facilities that had been closed.

Powicki said Brewster hired a consultant to keep track of maintenance issues and to get developers, who are tasked with upkeep in their long-term operation contracts, to make repairs in a timely fashion so that the solar array was producing the maximum power.

“There may be a downside of towns not having skin in the game,” he said. “Maybe the systems are not operating at 100% capacity.”

Lexie Fischer

From: Lori Taketa
Sent: Wednesday, January 22, 2020 11:22 PM
To: Lexie Fischer
Subject: Fw: RCEA Community Advisory Committee Meeting

Lexie,

Could you please process this as public comment? Thank you!

- Lori T.

From: Joyce King <[redacted]>
Sent: Wednesday, January 22, 2020 1:31 PM
To: Lori Taketa
Subject: RCEA Community Advisory Committee Meeting

Dear RCEA
Thank you for all your work on the Comprehensive Action Plan for Humboldt county energy sustainability

As a believer in the necessity to protect the natural systems that produced life as we know it, and to reduce greenhouse gas emissions through reduced energy use, I have the following questions:

In your goal to *Work with other local public entities to reduce vehicle miles traveled in Humboldt County by at least 25% by 2030,* do you have plans to address the ongoing zoning ordinance changes which will allow increased residential development in timber and agricultural lands, expanding road networks & vehicle miles traveled?

The increased loss and fragmentation of forests and agricultural lands from the zoning changes will also impact the goal of *Support Carbon Sequestration. Support the development and deployment of mechanisms for retaining carbon in the region's abundant natural areas and working lands.*

How do you calculate the GHG mitigating role of carbon sequestration in our forests, wetlands, and other natural and open spaces, and how high a priority do you put on their preservation?

What priority do you give to the county's biodiversity and ecosystem integrity as factors in the carbon management of its landscapes?

In order to *Provide community education, information, and resources on energy issues to support informed decision making related to customer energy use, including the benefits of conservation, electrification and increased energy efficiency* can you post on your website any issues relevant to the above on the upcoming agendas of decision-making bodies (city councils, planning commissions, Board of Supervisors) ?

And could you improve your public outreach and participation methods to increase public presence and more informed input?

At last week's Eureka Climate Action Plan workshop, there was stunning information on the comparative effectiveness of GHG-reduction strategies which appeared to show conversion to biodiesel to be hugely much more effective than any others, and solar as among the least. Was I mistaken? There was little opportunity for questioning. Can you clarify not only this, but how data for these comparisons are produced? Please post on your website. And if this is so, why is conversion to biodiesel not equally large in the CAP priorities and goals?

Because of the massive effect of transportation emissions, could you calculate the effect of a 55 mph speed limit, and since the State isn't likely to go for it, what about a correspondingly massive public education campaign to voluntarily limit driving above 55?

In response to the question on your website re
1) solar generates in the middle of the day, while our electricity demand picks up in the evening, which currently causes major issues for the state's grid operators;

https://www.pv-magazine.com/2019/04/10/mitsubishi-offers-residential-solar-plus-storage-ev-charging-in-japan-and-europe/

Mitsubishi offers residential solar-plus-storage EV charging in Japan and Europe

The Dendo Drive House includes a solar system, residential storage and a bi-directional charger. Mitsubishi says it reduces electric bills and fuel costs by enabling battery charging from the grid at night, when power prices are cheaper, and can also draw power from an electric vehicle.
APRIL 10, 2019 **EMILIANO BELLINI**

The year in solar, part III: Battery breakthroughs, inverter trouble, sustainable role models and new tech

Storage has long been expected to be the handmaiden of a renewable energy world and its long awaited advances started to finally emerge in the third quarter as researchers posited R&D achievements ranging from potentially potent tungsten disulfide nanotubes to the business case for 10-year solar panels.
DECEMBER 27, 2019 **MAX HALL**

U.S. research teams aim for long-duration storage at $0.05/kWh

To get long-duration storage costs down to $0.05/kWh, research teams funded by ARPA-E are pursuing breakthroughs in flow batteries, hydrogen storage and other technologies – even thermovoltaics.
DECEMBER 30, 2019 **WILLIAM DRISCOLL**
https://www.pv-magazine.com/2019/04/10/mitsubishi-offers-residential-solar-plus-storage-ev-charging-in-japan-and-europe/

Thank you for the opportunity to comment.
Joyce King

McKinleyville

January 23, 2020

RCEA Board Chair and Members:

RE: Agenda item #6.2

As RCEA CCE rate payers, we are submitting comments on Agenda item #6.2. Our comments and priorities are in brackets following each alternative.

1. **Provide Feed-In-Tariff Power Procurement Program for Small Generators**. Offer long-term contracts at a market-adjusting rate for Renewable Portfolio Standard eligible renewable energy generators. [We support this alternative as long as the small generators are not biomass generators.]
2. **Support Utility Scale Solar Energy Development**. Support local efforts to develop solar electric systems in the county. Support development of local training programs for solar contractors and installers. Educate the public about the benefits of solar energy systems. Develop programs that facilitate an increase in the number of solar energy systems in the county. [We support this alternative and give it highest priority.]
3. **Procure Local Solar Energy**. Contract for local onshore solar energy as part of RCEA's community choice energy portfolio to the extent economically feasible and compatible with portfolio diversity needs. [We support this alternative and give it high priority to replace biomass as soon as possible.]
4. **Develop Offshore Wind Energy**. Work with public and private entities to develop offshore wind energy off of the north coast region's coastline, and support establishing Humboldt Bay as a west-coast hub for the offshore wind industry. [We support development of offshore wind; the entrance to Humboldt Bay and cost/problems with depth make 'wet-coast hub' unrealistic.]
5. **Procure Local Offshore Wind Energy**. Contract for local offshore wind energy as part of RCEA's community choice energy portfolio to the extent economically feasible and compatible with portfolio diversity needs. [We support this alternative.]
6. **Promote Large-Scale Wind Energy**. Provide information about the potential for cost-effective, commercial-scale wind farms in the county. Educate the public about the benefits and impacts of wind energy systems. Work with utilities, local government, and private companies to develop onshore wind energy projects. [We oppose this alternative; our existing natural forested landscape needs to be retained for carbon sequestration and maintenance of biological diversity.]
7. **Procure Local Onshore Wind Energy**. Contract for local onshore wind energy as part of RCEA's community choice energy portfolio to the extent economically feasible and compatible with portfolio diversity needs. [Except for existing onshore wind energy in CA, we oppose this alternative.]
8. **Promote Small-Scale Biomass Generation Sites**. Monitor feasibility of smaller and/or mobile biomass electric generators fed with wood waste and very small diameter logs

(e.g., from thinning for fire safety and timber harvest slash). If/when technology proves feasible and cost effective, promote its use in county areas where appropriate. [We adamantly oppose this alternative; timber harvest slash and thinned wood is better mulched and spread in place to replenish and build better soil and slow the rate of carbon emission compared to burning as well as avoid unhealthy small particulate emission.]

9. **Pursue Wave and Tidal Energy Development**. Build on the previous WaveConnect and CalWave projects to explore and evaluate opportunities for local wave and tidal energy research, development, and pilot deployment. [We support this alternative and am especially interested in wave energy converter buoys being tested off Newport Beach, OR.]
10. **Support Existing and New Local Small-scale Hydroelectric Power**. Evaluate options for contracting with existing small hydroelectric projects as well as the development of new run-of- river hydroelectric projects that would be eligible for Renewable Portfolio Standard designation and compatible with environmental and cultural priorities. Update the Oscar Larson and Associates' 1982 assessment of small hydroelectric resource potential in the county. [We oppose this alternative because global warming increases the risk of depending on stream water.]

Thank you for giving serious consideration to our comments and priorities.

Diane Ryerson and Walt Paniak
[redacted]

January 23, 2020

Subject: RCEA comments to agenda items.

I am not able to attend the meeting. I would like to make a few comments and suggestions.

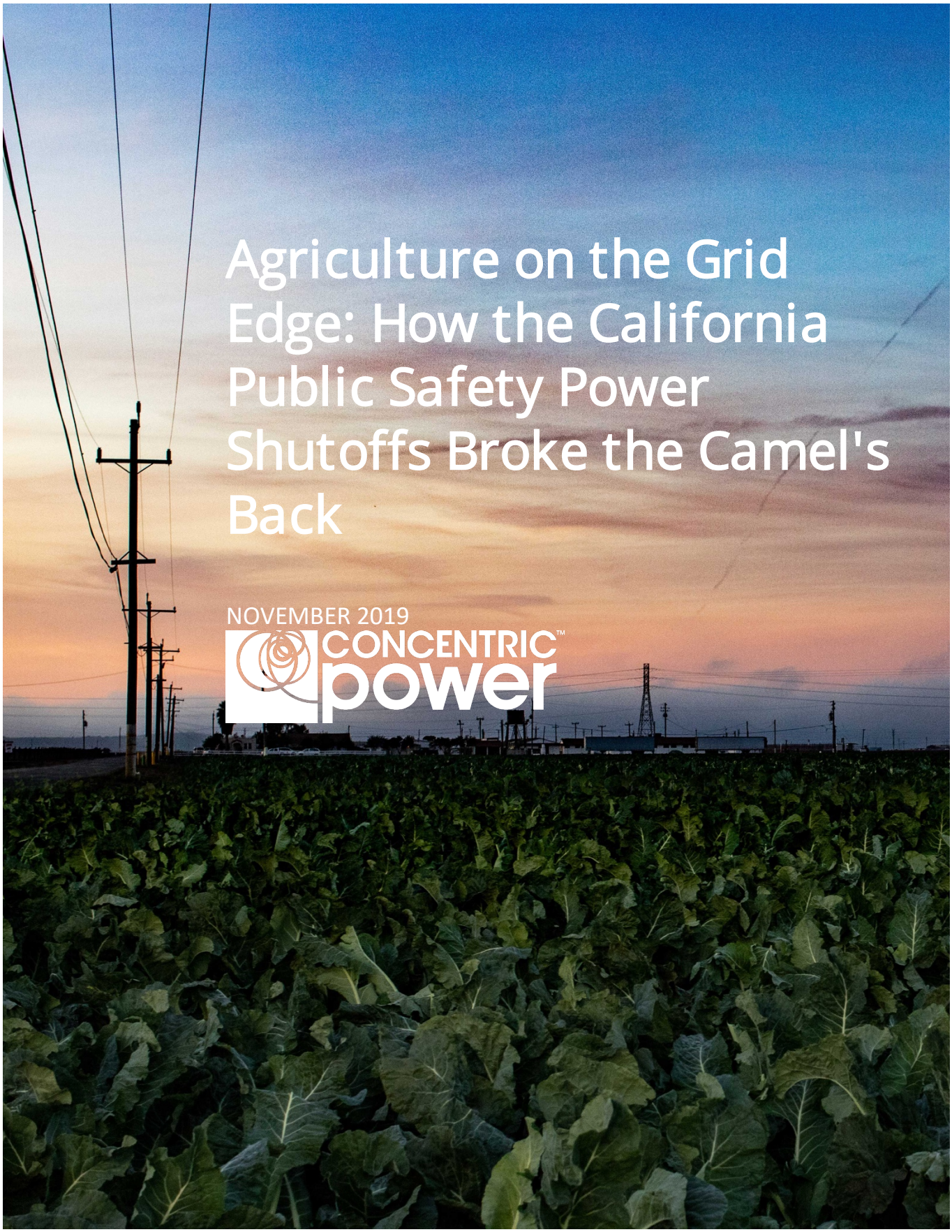
1. Risk Management
   I suggest that the board discuss the ability to create a database tool for fiscal and performance analysis of TEA data. Sometimes this tool is called a report writer. This would allow finance committee members to do independent analysis after some experience.
   Perhaps this could be a project for the HSU School of Business.. This could be a student project to write an operating procedure manual and help set up training for data analysis and forecasting. This might take several semesters ; I think board members should be familiar with details about costs and pricing. They have a fiduciary responsibility to do so.

2. The finance committee should have more responsibility in understanding the risk managing model. Sometimes questions from someone with general knowledge can be very good.

Power mix item 6.2
I support adding additional In State grid level Solar and in the short term out of state wind if allows by State regulations.
The biomass contracts with cost of inflation increases are problematic. If the economy stays robust the RCEA can afford the higher rates. However, the economic cycle points to a downturn within the next 5 years. Therefore, we need cost certainty of fixed rate contracts.
There should be some emphasis on energy storage. When storage reaches grid level some of the complexity of “hedging “ goes away. I would also expect more price stability as a benefit.

Walt Paniak
Arcata

WHITE PAPER



Defining the Problem: Operating at the Grid Edge

For many agricultural and food processing companies in California, operating at the edge of the centralized power grid has become an increasingly risky proposition. To start, the quality and stability of the energy is consistently poor in agricultural regions. Further, the cost of that energy is unpredictable and continues to see increases. For year-to-date 2019 in PG&E territory, agricultural retail rates have increased 12%, a total increase of 19.1% since the beginning of 2018.

In addition, power outages have been persistent. With storm-caused outages during the winter and the recent public safety power shutoffs (PSPS) during the dryer summer months, outages are now year-round. Compounding this, the timing and duration of those outages makes it difficult for customers to plan ahead and adjust production accordingly.

Ag operators are looking at these issues and considering adding self-generation or other types of grid assets onsite. Historically, these options have been costly and time-intensive to implement. But multiple economic and technical factors have shifted significantly over the last several years, making energy independence a viable consideration. These include low cost of capital, high cost of energy, technology advancements, and new financial solutions.

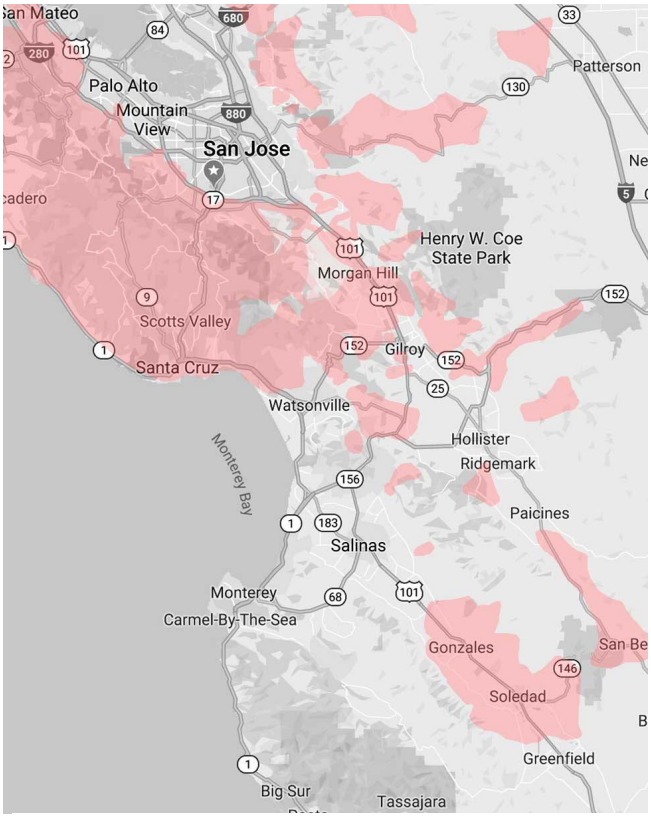


Figure 1. Areas on California's central coast affected by the October 28-30 PSPS

The Last Straw: PG&E's Public Safety Power Shutoffs

The PSPS events from PG&E in recent weeks were made necessary, according to the utility, when "gusty wind and dry conditions, combined with a heightened fire risk, are forecasted." As California's dry conditions have worsened in recent years and the risk and severity of wildfires have increased, PSPS events are becoming a new normal for California residents and businesses. The prevalence of outages is exacerbated by PG&E dealing with a bankruptcy that was, at least in part, caused by wildfires for which the utility has been blamed. In the most recent PSPS event implemented on October 29, 540,000 customers across 27 counties were affected, after only days earlier shutting off power to 973,000 customers.

As PG&E tries to simultaneously manage both wildfires and customers, the situation shines a bright light on a fundamental issue. The grid infrastructure is long overdue for investment that would increase reliability of power delivery, prevent unnecessary safety concerns, and add smart grid technologies to the system. At the same time, the utility's operation and management practices need to be overhauled.

For customers, including those in Ag, these problems result in higher retail electricity rates – Californians already pay among the highest power rates in the country, reaching 68% higher than the national average as of August 2019 – despite the fact that the marginal cost to produce power remains low. Rates are expected to further increase, with the PSPS events bringing it all to a tipping point…the straw that broke the camel's back.

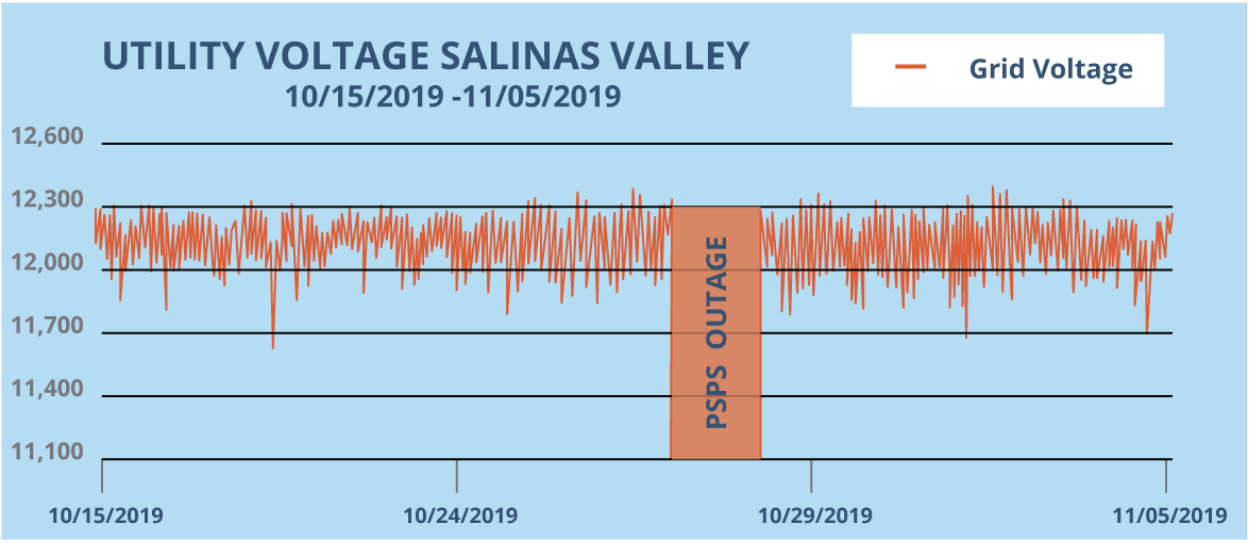


Figure 2. Voltage of power being delivered to the agricultural region of California's Salinas Valley is out of utility specification

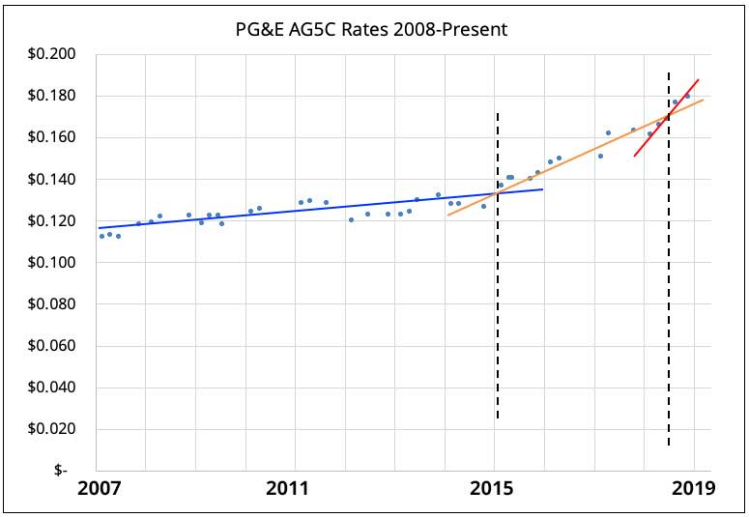


Figure 3. PG&E rates over an 11-year period

How do the PSPS events and utility mismanagement affect ranch owners and food processors in California? A lack of power for any amount of time, whether planned or not, negatively impacts the bottom line of operations through increased costs and lost revenue. However, the comprehensive impacts go deeper than that. For example, when power shutoffs occur during harvest season, economic impact can be long-lasting. Ag facilities are unlike other businesses that can simply make up work at a later date; they need to stay on strict harvesting, processing and shipping schedules. Lack of power for appreciable amounts of time can completely undercut seasonal economic results. As one farmer noted to the New York Times, "A large farm can't be without power for even an hour. Crops must be irrigated and harvested, animals watered, freezers and coolers kept cold and offices run."

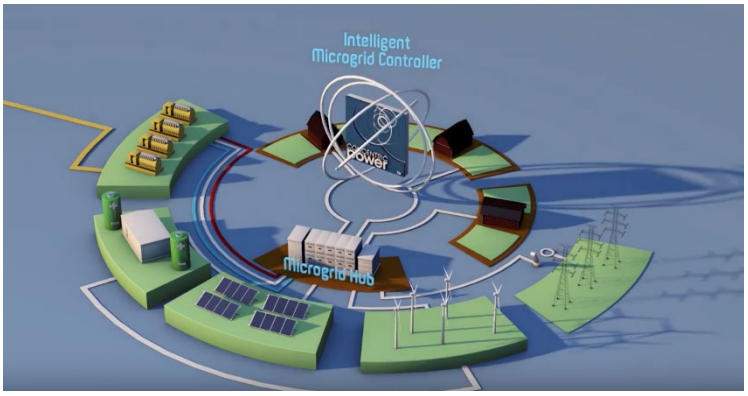
Microgrids as a Solution

For many decades, the utility industry has operated largely under the legacy structure of centralized power generation that is delivered using the existing transmission and distribution system. However, the energy sector is now evolving due to technology innovations, lower costs, and market-based business models for microgrids.

> As defined by the U.S. Department of Energy:
> *"Microgrids are localized grids that can disconnect from the traditional grid to operate autonomously. Because they are able to operate while the main grid is down, microgrids can strengthen grid resilience and help mitigate grid disturbances as well as function as a grid resource for faster system response and recovery."*

Microgrids allow customers to take more agency with their power systems when the existing utility and grid structure is not working for them. When installing and connecting microgrids, whether onsite or in conjunction with a local community who connects to the same microgrid system, Ag operators will find several benefits that help make the case for microgrids:

Microgrids Provide a Platform for Distributed Energy Resource Development



As renewable energy generation costs decrease and RPS targets and government incentives increase, more businesses and municipalities are generating their own power. When power is generated closer to where it is going to be used, it is known as a **distributed energy resource (DER)**. DERs can function as grid supply, grid support, or independent power. In the case of grid supply power, typically the generation is owned by a distribution utility, third party or merchant entity. This supply is used as the greater pool of electrons on the grid. Grid support from DERs can function in front of or behind the meter as generation takes place on site, is owned by the end user and is used to curtail customer loads during high peak usage hours.

Microgrid infrastructure controls the DERs as they evolve, connecting them and their potential users together in a secondary grid, which typically functions in parallel with the main grid. However, microgrids insulate their users from issues associated with the main grid. As technological development and market forces continue to push DER prevalence, the buildout of microgrids is a natural way for end users to get the most out of their DERs.

Increased Grid Reliability and Assured Power Delivery

In the event of a power disruption from the main grid, advanced microgrids can island themselves to ensure those using them can continue to receive reliable power.

For example, Schneider Electric presents a use case where a microgrid was built for a 100+ acre Oncor campus. By utilizing existing resources as well as integrating new DERs like solar PV, wind turbines and battery energy storage systems, the microgrid ensures that in the event of an emergency power shutoff the campus will still generate its own power and tap into the energy that had been stored to keep the lights on across the facilities.

Cost Independence from Utility Fluctuations

A microgrid inherently provides onsite generation at a lower bundled cost than grid power. This is achieved through networking DERs and applying baseload power to infill where the cost of storage or other resources is not economically viable. As markets develop and costs for storage and other DERs come down, microgrids can integrate these resources through their controls to meet the needs of regulation and advancement along the way.

Further, volatility in energy costs and utility rates tends to increase over time. To hedge against this risk, microgrids provide a direct levelized cost of energy over the long-term investment of the assets. End users can take control of their own costs and eliminate long-term vulnerability.

Energy Procurement Control

Unlike the central grid, microgrid users have flexibility around how their energy is paid. Some choose to pay a set price to the microgrid owner/operator, while others may choose to own the microgrid assets and have long-term service agreements with operators.

When connected to the greater grid, customers typically pay for what is referred to as the **spark spread**, the margin of profit a gas-fired power plant receives when selling electricity versus the cost to acquire the fuel on the centralized grid. This spread is the basis of what gets charged to the end user. With microgrids, all generation sources are controlled with a centralized controls platform that manages the capacity and distribution of the energy production costs.

Similarly, the **marginal cost of generation** describes the cost to add additional electricity once the generator is already running. The existing power markets are complicated further with power being sold at wholesale (lower) prices to retailers who turn around and sell power to customers at (higher) retail rates. For customers only connected to the main grid, these spark spread costs, marginal costs, and retail vs. wholesale prices increase their total power bills.

With the marginal cost of generation going down and the cost to the end user continually rising, the utilities are not providing cost effective services to customers. By tapping into a microgrid, a customer will see a similar levelized cost of energy to balance their energy overhead.

At the grid edge, realizing the benefits of these cost controls becomes vital for overall business success. Having the ability to bookkeep based on fixed energy pricing can open doors for business expansion and growth.

Public Policy is Shifting

Technology innovations are changing the game, while public policies and regulations are shifting to allow new business models to gain traction. Combined, the regulatory and policy framework in California has bolstered the outlook of microgrids in the state. This includes grants for microgrid development through the Electric Program Investment Charge, a newly passed law that requires the California Public Utility Commission (CPUC) to develop standards and guidelines for microgrids. In addition, SB 1339's passage opened the door to microgrid tariffs and predictable interconnection procedures.

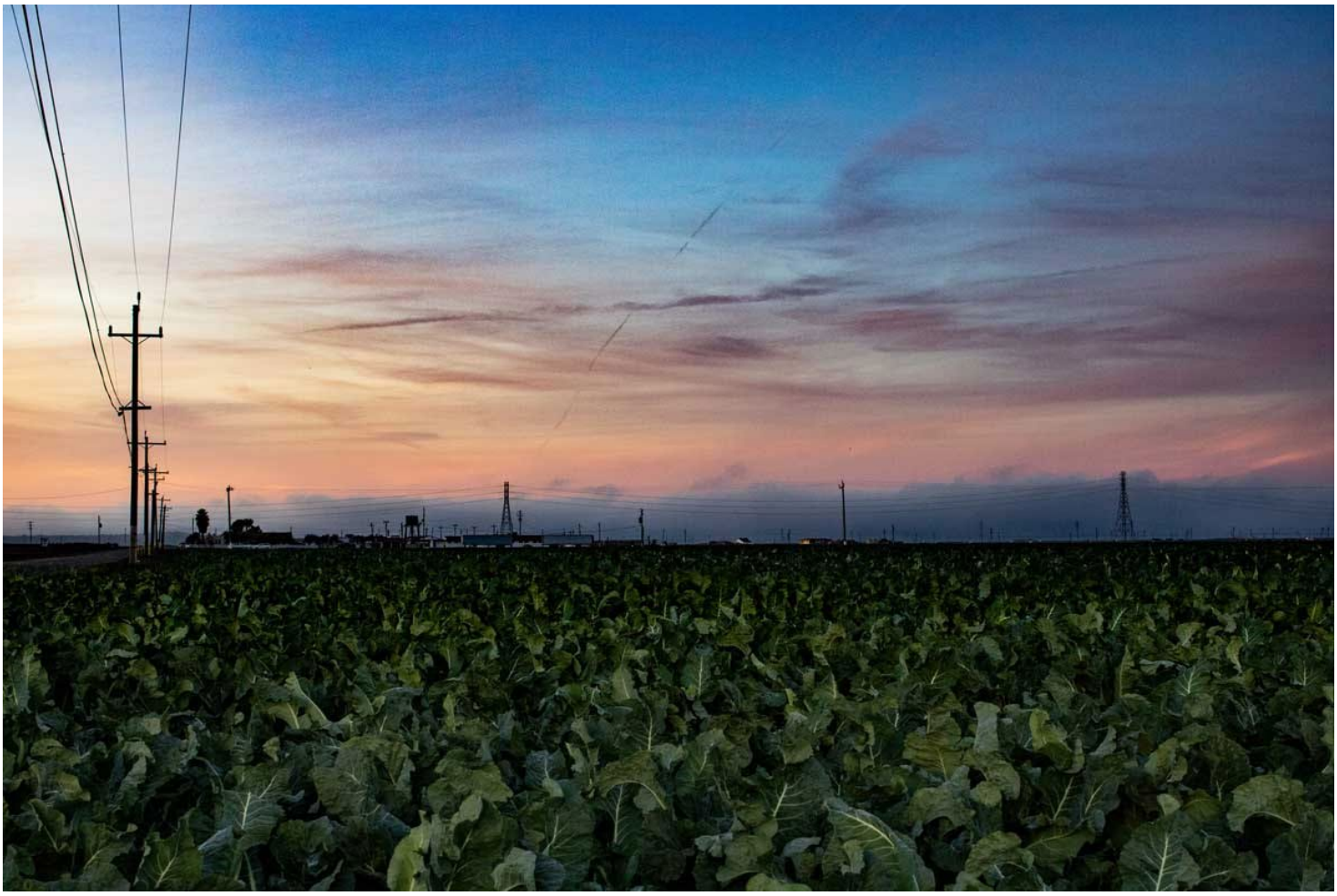
These, along with developments in California's push to be a national leader in microgrids, are resulting in the propagation of programs and new business models like community choice aggregation (CCA), municipal utilities, demand-side management, and aggregated supply.

Conclusion

For California's ag industry, the feasibility of maintaining the status quo is lessening by the day. The facts above point to a not-too-distant future where microgrids and DERs play an increasingly important role in the state's energy mix. The state's ranch owners, food and beverage processors and the communities where they operate can reap the benefits of distributed energy while at the same time supporting the entire grid. This is what it will take to mend the camel's back.

About Concentric Power Inc.

With offices in both Salinas and Campbell, CA, Concentric Power Inc. is a vertically integrated clean energy project developer with a proven track record in agricultural, industrial, and community applications. A licensed Class A General Engineering Contractor, the company is focused on solving modern grid problems through its engineering, procurement, construction, operations and maintenance services. Concentric Power also employs O&M field technicians and works closely with their supply chain to bring world class expertise, reliability and responsiveness to every project.



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Climate 'Healing' Processes Are Far More Imperative!

Coming away from the Terra Gen vote was like an unspoken demand for immediate new ways to confront this world climate catastrophe. What is it we must do...because this is a 74 year old alarm? And we've done little more than set goals!

These severe measures are urged for Humboldt to rapidly implement:
Confronting the worst of climate impacts:
'Humboldt Climate Action Declaration Package'

1- Transportation:
+ **Rationing of gas!** Calling upon Humboldt to enact, as certain as Americans across our nation gladly did facing the threat of being conquered and the ruin of losing World War 11.
+ Taking personal vows to end driving until *'living' answers are available.*
+ Inspiring greater use of car pooling / parking areas designated, use of bicycles, More bus scheduling, more stops, closer attention to larger employment localities. ***Express buses for longer distances;*** Later scheduling times for night events; ***Rapid adoption of electric buses.***
+ Rapid adoption of photovoltaic cell panels for electric cars to free them up from uses of natural gas and biomass in RCEA energy mixes. Demanding the auto industry make this long known technology available!
+ Urging the auto industry to produce hydrogen cells to power combustible engines. If ignored, boycotting new car sales to make certain they understand.
+ Finding the means to expedite through the best of financing agreements.
+ Avoiding travel by air, the worst of polluters and warming carbons.

2- Domestic and Industrial Clean Solar, Wind and Wave
+ **Making installation of solar *'mandatory'* for Humboldt residences. First replacing natural gas with electric in all homes, then going solar.**
+ **5 year interim for industrial and business installation of solar.** Actually there's tax credits for some and better financial arrangements than residences. Banking and Creating County rotating financing arrangements.
+ Adaption of micro grid photo voltaic energy where best suited.
+ County and school buildings to install solar
+ Adaption of new hydro electric technology just discovered by the Supervisors.
+ Finding and installing the best technology for storing of collected 'daytime' energy... for use at night. Example: Home water storage tanks.

The more rapidly this can be done, the greater elimination of our dependence upon RCEA uses of natural gas and biomass. This will help them end their uses.

3- Saving Our Trees, Our Natural Healers. Confronting how *'deforestation'* locally has been ignored for generations!
Understanding how ***'trees, left alive'***, massively, absorb warming carbons;
+ Ending practices of clear-cutting and short term logging cycles;
+ Going before (CDF) California Department Of Forestry to insure they enforce climate regulations, which for years have been ignored. to bee applied to every (THP) Timber Harvest Plan, to be approved.
+ Urging thorough re-visioning of The Forest Practices Act, which have been made obsolete in many parts by this Climate Age!

4- A five-year phase-out of all dairy and beef cattle.

5- *Widespread public searches for the best land locally for constructing solar and wind projects in keeping with our needs.*

Community groups and individuals to interface with these urgent plans and together reaching out to our entire Humboldt Community with Climate Teach-Ins: ' Why The Necessity Of These Critical Measures'? 'Why we must limit our daily carbon uses in face of this catastrophic situation?

****We hear from the Indigenous People of Australia, that if they had their ways of forest care, that calamity would never have happened.***

As certain as the California Department Of Forestry has ignored the care taking practices of forest by our local Indigenous Tribes.

Local insistence, so outspoken as to get the attention of the State in helping, as happened in the late 90's when thousands locally turned out to save Old Growth Redwoods on private lands which created the Headwaters Agreement!

Respectfully submitted.....

Climate Crisis Humboldt / HSU