Public Comment

for December 19, 2019
RCEA Board of Directors Meeting

From: Wendy Ring
To: Lori Taketa
Subject: Correction to health impacts of biomass: It"s worse than we thought
Date: Friday, November 29, 2019 2:02:11 PM

Lori,

Can you please make sure this gets to board members. What I told them about the health impacts of biomass turns out to be an understatement. Two studies just published in highly reputable medical journals found more hospitalizations and deaths from low level particulate exposure than what I presented.

Study of 4.5 million US veterans found increased deaths from 9 causes at levels below US air quality standard
Study of Medicare recipients found increased hospitalizations from expanded list of conditions at levels below US air quality standard

Please note:
The most recent version of the CAPE still commits to expanding biomass generation, increasing particulate pollution and health impacts. It's not as bad as the 2nd draft, but it's still more pollution. In 10 years there will be so many more options for local clean energy and mill waste that the aspirational goal should be to eliminate combustion energy, not increase it.

The Best Available Control Technology in the current language does not mean updating pollution controls. The language for that is **Best Available Retrofit Control Technology,** a procedure defined by the state but not required up here because they are prioritizing places with worse air pollution. The CAPE language should require it as a condition for any new contracts. Still not a panacea: judging from what the EPA required of Blue Lake Power and expected in terms of emissions reduction.

Wendy Ring MD, MPH

Get inspired by communities taking climate action
*with **Cool Solutions Radio and Podcast***

From: Ken Miller
To: Lori Taketa
Subject: Website inaccuracy
Date: Monday, December 2, 2019 2:16:57 PM

Dear Board members,

In the RCEA Onshore Wind site, the Q&A section asks, rhetorically, what people who live near windsites think of them
https://redwoodenergy.org/community-choice-energy/about-community-choice/power-sources/onshore-wind-energy/#1566508147535-ae9b56fe-bf5e

RCEA links to the following survey, but fails to adhere to the study's admonition that "Results may not be generalized to areas beyond the sample, such as areas near turbines smaller than 354 feet (108 meters), **larger than 492 feet (150 meters)**…"

National Survey of Attitudes of Wind Power Project Neighbors: Summary of Results

https://emp.lbl.gov/sites/default/files/paw_summary_results_for_web_page_v6.pdf

Since TerraGen's turbines exceed the height limit, it is therefore not applicable and is potentially misleading.

Please consider removing this study from the website.

Sincerely,

Ken Miller

From: Ken Miller
To: Lori Taketa
Subject: Please show the RCEA Board?
Date: Wednesday, December 18, 2019 7:00:58 PM

GRID EDGE

US Microgrid Market Slowed in 2019. PG&E Could Single-Handedly Reverse the Trend

The bankrupt California utility seeks the biggest U.S. microgrid portfolio ever, to be built in record time — a potential inflection point for the market.

JULIAN SPECTOR | DECEMBER 18, 2019

PG&E is rapidly deploying microgrids in Northern California ahead of next year's fire season.

The burgeoning U.S. microgrid industry is set to install less controllable capacity this year than it did last year. But that setback may prove a temporary blip, especially if a new effort to back up the beleaguered Northern California grid comes to fruition.

The U.S. microgrid market set a record with 666 megawatts of capacity additions in 2018, but project delays and cancellations have dropped the expected 2019 total to 553 megawatts, according to a new report by energy research firm Wood Mackenzie. The methodology tracks controllable clusters of energy devices capable of independently powering 100 kilowatts or more for at least 24 hours.

That definition excludes the typical home solar and battery configuration, which deals with smaller loads. But it captures an up-and-coming market of local energy services for big-box stores, universities, public facilities and military bases. These projects collectively generated an estimated $1.7 billion in capital expenses in 2019, nearly triple the $645 million invested in the U.S. energy storage sector this year.

As more customers become familiar with microgrid options and more jurisdictions face battering storms and wildfires, the prospects for resilient grid infrastructure look strong going forward, said report author Isaac Maze-Rothstein."We see this, long-term, as a blip, and next year we see a return to growth," he said.

Hot on the heels of the report's publication, news emerged to bolster that growth potential. Utility Pacific Gas & Electric, which went bankrupt for its role in sparking deadly wildfires in Northern California, last week requested an unprecedented microgrid investment.

Groundbreaking opportunity

PG&E has resorted to preemptively shutting off power to prevent its electrical equipment from starting new fires, but that approach disrupts the lives of its customers and economic activity in the region.

To minimize the impact of power shutoffs, PG&E published a request for offers last week to secure microgrids at 20 hand-picked substations in fire-prone regions. Companies can bid to own the systems and contract their services to PG&E for 10 years or to build and transfer the project to PG&E ownership. The systems will bid into the wholesale markets and provide grid reliability outside of fire season.

Several elements of the solicitation struck Maze-Rothstein as "surreal," including the fact that if the 20 projects become reality, their combined 522 megawatts will surpass all microgrids built in the U.S. so far in 2019. Individual project peak load requirements range from 5 megawatts to 70 megawatts.

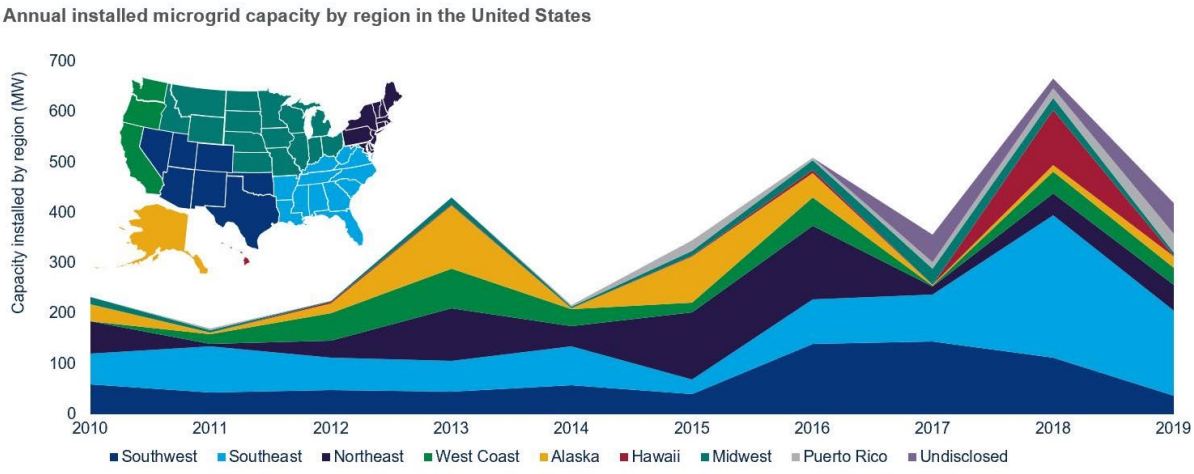
Then there's the timeline: PG&E wants the systems up and running by next fire season; it asks for systems online by June 2020, or September at the latest.

"The shortest timeline I hear for microgrids is nine months, and many are multiple years from announcement to completion," Maze-Rothstein noted.

And any contracts awarded are conditioned on approval by the California Public Utilities Commission (normal for a grid investment like this) and the Bankruptcy Court (not normal). Not only must developers sprint to complete construction in record time, they must do so for a counterparty whose creditworthiness recently went up in smoke.

Perhaps most unexpectedly, though, PG&E is skipping the time-honored utility procedure of studiously vetting new technologies for years before deploying them commercially. As of November, GTM reported, PG&E's microgrid aspirations consisted of a not-yet-finished grant-funded demonstration project in Humboldt County. The utility's appetite for trying new things expanded ravenously in the intervening weeks, as it grapples with a prolonged grid emergency.

"These are not science experiments," Maze-Rothstein said. "PG&E has confirmed this is the best resource that they see available in the timeline they have before the next fire season."



Source: Wood Mackenzie Power & Renewables, Microgrid Tracker

Ample experience elsewhere

Though regulated utilities have looked at microgrids as novelties to study, private sector companies have been selling and installing them for years. The market report sheds light on what these systems look like.

Fossil-fueled technologies, namely diesel and natural gas (including fuel cells), accounted for 88 percent of microgrid capacity installed in 2019, Maze-Rothstein calculated. Those firm resources are needed to ensure multiday runtimes, like the four or five days PG&E asked for.

But that's just nameplate capacity. A growing number of microgrids use solar and battery storage technologies as well. There's an economic case for dispatching solar first in a backup scenario, as it has no fuel cost to operate, and then burning gas or diesel only when necessary.

Solar also helps microgrid economics by generating cheap electricity on a daily basis, paying down some of the cost of backup power. A majority of the solar installed in microgrids this year went to military bases.

Geographically, the Southeast led the country in cumulative microgrid installations, followed by the Southwest. Commercial deals by companies such as PowerSecure and Enchanted Rock dominate those two regions, respectively. They back up commercial properties so that grid outages don't force a loss of business.

Microgrids capable of backing up entire communities, like the ones PG&E is contemplating, remain rare. And the West Coast has seen relatively little microgrid development of any sort (although California is a leader in small-scale solar-plus-storage).

PG&E won't have a thriving local microgrid industry to call upon, then, but across the nation companies have already built at scale. The challenge will be to secure financing to deal with a bankrupt company, rush through all the necessary approvals and permitting, and then get systems built and commissioned in time for the 2020 fire season. At least land acquisition won't be a struggle, because PG&E is supplying it.

If PG&E pulls this off, even if not all 20 units reach completion, it could provide for microgrid developers the proof of concept that the energy storage industry achieved following the Aliso Canyon gas leak. That was when California fast-tracked battery deployments, in a matter of months, to compensate for limited gas capacity in the southern part of the state.

"There's never been a procurement from a utility for microgrids on this scale," Maze-Rothstein said. "The shift in thinking — from microgrids are a pilot to be explored versus a commercial solution to be deployed — that is the parallel I see with Aliso Canyon."

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Wood Mackenzie's latest report on the US microgrid market contains data and analysis of 2,963 planned and operational microgrid projects across the United States.

10 Lessons from the TerraGen Experience

1. *A winning energy strategy needs a majority of residents behind it.* We seek an environmentally just strategy that benefits low-income residents by eliminating transmission costs while providing clean inexpensive transportation and mobile battery backup.

2. *Don't assume that the public will find benefits compelling or impacts acceptable just because you do, as if culture does not play a role*

3. *Bring those most affected by any plan in from the beginning, not at the end, making potential impacts clear & understandable.* Don't wait for investors to come wanting to set up in their chosen site. Offshore seems like a good example, so far.

4. *Make sure the accounting is comprehensive and not biased to promote a favored project.* There was no official non-partisan analysis provided for T-G project; not Planning Department, not RCEA, not Schatz. That allowed distrust and misperceptions to thrive. Our energy gurus all stumped for TerraGen and distorted accounting: Jacobsen, Zoellick, Lehman, Winkler, Marshall all disregarded solar's equity ownership, tax credits, economy of scale and association with EVs, instead multiplying one rooftop by the number to produce 155 MWs, an artificial and unnecessary threshold designed for electricity export, not local needs. This erodes your credibility.

5. *Pre-determined, arbitrary guidelines and thresholds should not outweigh real cultural and biological concerns.* We lost valuable time duking this one out.

6. *RCEA should rearrange its priorities and shift its dependence on utility scale onshore wind generation to widespread, networked resilient energy production with V2G capability, immediately. Rapid*

advancements in, and low impacts of distributed solar technology should place it above high impact utility scale generation.
Complete a solar maximization survey of the county to determine where it will yield the most power without determining whether it is feasible or not. RCEA doesn't have that expertise, enterprising investors do.

7. *We need a comprehensive wind ordinance*

8. *An awakened community looks to you for plans that enable us, not some untrustworthy transnational energy powerhouse, to do our part and share our energy wealth while nourishing our biodiversity.* The low carbon, conservation minded community looks to you for plans that enable us to reduce our own footprints, not to create larger footprints that dump huge amounts of GHGs into our climate emergency.

9. *RCEA should attend national & international solar conferences and invite and recruit solar entrepreneurs and financiers to help.* Knock on their, and our doors.

10. *Explore conservation measures that can be implemented, starting from easiest to most painful.*

11. *Seek to learn from the nearly 50 years of alternative energy pursuits in Humboldt County.*

12. *Encourage, promote, fund a solar generator business with HSU students to build and sell solar generators that can be portable and benefit renters. 20,000 gas generators are a problem that is readily solved.*

Respectfully submitted for 6/10 people surveyed

Ken Miller
12/19/2019