

C/CAG
CITY/COUNTY ASSOCIATION OF GOVERNMENTS
OF SAN MATEO COUNTY

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RESOURCE MANAGEMENT AND CLIMATE PROTECTION TASK FORCE
Minutes from the 10-21-2015 Meeting

In attendance:

Michael Barber, Supervisor Pine's office
Beth Bhatnagar, Sustainable San Mateo County
Don Bray, Joint Venture (SEEDZ project)
Adrienne Carr, BAWSCA
Bob Cormia, Foothill De Anza Community College
Rick DeGolia, Town of Atherton*
Don Horsley, San Mateo County Board of Supervisors*
Maryann Moise Derwin, Committee Vice Chair, Portola Valley Town Council*
Deborah Gordon, Committee Chair, Woodside Town Council*
Pradeep Gupta, South San Francisco City Council*
Ashley Henderson, Lifecycle Associates
Joe Herr, PG&E
Deborah Hirst, Supervisor Horsley's office
John Hoang, C/CAG
Kathy Lavezzo, PG&E
Dave Pine, San Mateo County Board of Supervisors *
Kim Springer, County of San Mateo RecycleWorks (staff)
Susan Wright, County of San Mateo RecycleWorks (staff)

Not in attendance:

Jorge Jaramillo, San Mateo County Hispanic Chamber of Commerce
Alex Palantzas, San Mateo County Hispanic Chamber of Commerce
Barbara Pierce, Redwood City City Council*
Nicole Sandkulla, BAWSCA
Eric Sevim, A+ Japanese Auto Repair
Sandy Wong, C/CAG
*=elected official member

1) Introductions

Attendees introduced themselves and their organizations.

2) Public Comment

There was no public comment.

3) Approval of Minutes

The minutes from the September 16, 2015 meeting were approved.

4) Presentation on Microgrid Projects in California and Associated Challenges (Joe Herr)

After Joe Herr gave his presentation, the following ideas were shared:

- You could think about this on a building level. Every major skyscraper in NYC is a microgrid. They all are connected to the grid, but have back-up systems.
- PG&E has forecast ranges from 2013-2020 from Navigant. PG&E sees growth. Capacity numbers show the highest end of 20 MW; that's a small fraction of what's in CAISO service market today. Microgrids aren't going to solve the climate crisis by 2020. Communities can use this to help with resiliency, but it doesn't make a lot of difference to GHGs.
- Factors limiting the growth of microgrids:
 - Controllers aren't field tested. They're being down-scaled from CAISO scale.
 - Inverters – standards question hasn't been figured out to move between grid and islanding mode.
 - Cost question. Is this something customers want to rely on?
- How to get reliability? Flywheels are to maintain power quality into a data center. Need to define the problem you're trying to solve. Also, span of control question. Angel Island – PG&E can control. In a neighborhood, who owns the microgrid?

Deborah G: The behavior of each one of those nodes. Who gets to tell them how to operate? IT's easy to say with a jail or even a business. When you start getting into a community, the control issue is a big one.

Joe: It started as a hazard assessment. It was about emergency needs. Now, cities are thinking about bundling buildings: police, fire, community center. Sf project

Pradeep: Would look at it from 2 perspectives. Customer don't care how they get power. PG&E benefits from local control to make reliable supply. 2) In a community, people want to use only renewables as much as they can; want to be able to isolate themselves from main grid in case there's a problem. That's Pradeep's interest. For communities thinking about climate resiliency.

Joe: SF is most clear example. A tribe in Humboldt got an EPIC grant to make a regional emergency relief place. Tribal office, casino, hotel on site.

Deborah: PG&E model is a deliverer of energy that manages everything. Micro grid is an entirely different model.

Joe: How is PG&E's business model changing? PG&E makes money by investing in assets. Framework of thinking in 3rd category (multiple accounts on-grid): we have competition. We're going to need to innovate when cities come to us. PG&E doesn't have the tariffs that enable a city to do that today. Joe works in customer energy solutions. This a new technology set that has yet to gel. Some of these projects are IDSN that are relabeled as smart grid. PG&E is looking at how they can provide services when customers are interested in resiliency.

Bob: Title 24 standards will probably drive more nanogrids.

Joe:

- Existing microgrids have a fossil fuel backbone. "we need spinning equipment." Provide voltage, frequency regulation.
- Planned microgrids – add battery storage and PV.
- Cogen – if you're going to heat the pool anyway, why not use it as electricity?

Don: Stanford's new energy center is very creative use of thermodynamics.

Joe: Example: Hitachi Global Storage Technologies in San Jose. Utility side of the meter at the end

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San Mateo County Transit District Office, 1250 San Carlos Ave., San Carlos, CA.

of the line. Testing the ability to island. 28 successful islanding tests using this large battery. Economic value – participation in CAISO markets. PG&E is required to install a lot of storage. There aren't multiple distributed generators. Able to island upon certain triggers. Externally called a microgrid. PG&E calls it a controlled battery storage system.

5) Presentation on Joint Venture Silicon Valley, Smart Energy Enterprise Development Zone (Don Bray)

Bob: They have a building they will be ready to do this – could be ZNE. Could work with a system interfaced with a utility. What happens if we buy / sell energy now.

Deborah: We are moving in this direction: integrated, connected set of systems. But we haven't moved to the point where we're training people to manage/run these buildings. Need people to be trained. Looking at new careers for people.

Bob: Webinar today for energy managers: How does internet of things relate to facilities managers? Power bills that are escalating everywhere in the county. Energy is a commodity that is an important resource. If you can make it and manage it.

Deborah: New A/C at Stanford. Now everyone is freezing.

Don: Between energy storage and EV charging, there are some interesting pilots. If charger is connected to a building, it spikes usage. Battery is a buffer between EV and building that reduces demand charges. At a building level, same thing. Building usage is monitored, managed. Economic case to be made: cut demand charges by monitoring usage. Solar and energy storage being paired now to manage demand charges.

Kim: so many systems dependent on connecting so they can communicate. Inter-grid communication. If things can communicate with each other through grid, power line, it would simplify the communication between the pieces of equipment. Is there anything like that going on?

Joe: (This is outside his expertise.) Inverters will activate/deactivate based on voltage sensed over the lines. That's how it senses when they broader grid is down.

Kim: dishwashers are smart enough to look at smart meter to decide when to run. Pieces of each equipment talking to each other through the power lines in the house. That's a model a utility running the power lines should develop.

Don: Where do these different communication standards get managed? Automated demand response – signal comes from utility; building responds. That involves a standard between building management system and utility.

Michael: Technology where battery becomes inverters. Is the idea that the battery storage capacity becomes storage/inverter?

Don: With EV charging and energy storage, you get a half hour...Tesla doing a fast charge. If you can put energy storage in a line.

Joe: That's peak shaving. Tesla and Stem have peak shaving programs. EVs spike demand. Peak shaving – install a battery system not for resiliency, but for demand. Run the battery for a certain amount of time. Battery company will split the utility savings with you.

Michael: Server farm – batteries set up to add additional power during peak periods.

Joe: Server farms keep a flat load to keep on A/C. If you've got light industrial activity, you want one of these batteries. Math models what your load peak would have been, they charge the difference between what your usage would have been and what it is.

Deborah: Concept of what a battery does is take/use energy. Other things are buffers or batteries that fill a function.

6) Presentation on Alternative Fuel Readiness Plan and Draft Summary Document for Review and Discussion (Ashley Henderson)

Ashley Henderson and John Hoang gave a presentation on the Alternative Fuels Readiness Plan nearing completion for submission to the CEC.

John: Follow the lead of the CEC. It was funded by them. They want counties to promote alt fuels and adoption of alt fuel vehicles. Hope that cites take the plan, move forward with ideas ARB funding for buses and trucks for disadvantaged communities. Specific laws require.

Bob: EV sales in US have plateaued, then dropped in conjunction with dropping price in gas. Change in marketing by CEC? Benefit of environment instead of cost savings.

Ashley: We can try to get the message out at the local level.

Dave: Trends with EV purchasing in SMC?

Ashley: It's much higher in this county.

Kim: DMV can sort data by vehicle type now.

Ashley: EV sales have exceeded plug-in hybrids.

Joe: PG&E wants more EVs. PG&E service territory is 25% cleaner in GHG content than California average.

Don: Very active with California EV collaborative. Workplace charging is very important. If you can charge at home and work, you have most bases covered. Silicon Valley has 1,000+ charging in place. How do we incentivize more of that?

Deborah: Page 13 chart – what if you add the cost of infrastructure assets to this chart?

Ashley: vehicle volume isn't up to scale yet, plus infrastructure still being built.

Deborah: What would it take to make a critical change in how communities plan the infrastructure?

Bob: If you made gas more expensive...

Ashley: Gasoline doesn't account for all the externalities, so it is underpriced.

Kim: this is going to CMEQ, TAC, then to C/CAG Board. There's a 50-page summary being reviewed by John Hoang. Kim will send that out. If you have comments, that would be great.

Deborah: My boss will be speaking at Council of Cities. William Perry.

7) Update on Current Water Supply and Drought Conditions (Adrienne Carr, BAWSCA)

Adrienne Carr provided the following information in response to questions:

- Total savings chart: The information from Bear Gulch doesn't match with what this chart shows. Bear Gulch says they have only saved 50% of what they need to save for the year, but the messaging from Bear Gulch tells the community that they're doing fine
- AC: It's unlikely that State would come down on us. BAWSCA is doing really well. Some places in state are completely ignoring the targets (SoCal).
- Warmer but wetter weather is predicted in Dec – Jan – Feb.
- Groundwater meeting went well.

8) Committee Member Updates

None.

9) Next Regular Meeting Date: November 18, 2015

Attachments:

Presentation from this meeting have been posted on the C/CAG RMCP website.