

MARIN CONSERVATION LEAGUE

Climate Action Working Group: June 15, 2018

Muir Woods Conference Room, 175 N. Redwood Blvd., San Rafael

Present: Co-Chairs Doug Wilson and Pam Reaves; Belle Cole, Bill Carney, Dale Miller, Pat Nelson, Kiki La Porta, David Haskell, Judy Ford, Marshall Bentley, Sarah Loughran, Helene Marsh, Bruce Ackerman, David Kunhardt, Lauren Mott, Bruce King, Alice Zannmiller, Bob Miller, Susan Stompe, Nona Dennis, Ed Mainland, Ken Jones, Tom Flynn, Roger Roberts, Kate Powers, Robert Gould, Ed Mainland, Tamra Peters.

Speakers: Allison Miller, Bruce King.

Co-Chair Doug Wilson called the meeting to order at 9:05.

Brief Introductions

Agenda and Minutes

The agenda and minutes were approved by consensus, with corrections.

9:10 Discussion 1: Zero Emission Buildings and Infrastructure

Doug remarked that the topic of the built environment has been in the background of previous discussions and in mind for elaboration for some time. He then introduced the speakers. Bruce King has written a book, *New Carbon Architecture: Building to Cool the Planet*, which examines the entire life-cycle of building. It addresses the full cycle of greenhouse gas generation, looking carefully at all materials used in the building process. Allison Miller has a different perspective. She addresses the practicalities of the process, what needs to change in the building codes and approval process.

Allison introduced herself, noting that her background includes two years working on climate action planning. She explained the bureaucratic framework for green building/building in general. State building requirements appear in Title 24 of the California Code of Regulations. Parts 6 (Energy) and 11 (Green Building—CALGreen Code) are of particular interest. The state building requirements reflect national model codes. The Building Standards Commission amends the model codes every 3 years. Other state agencies such as the California Energy Commission may also amend the model codes. It is then up to local governments to adopt or go beyond the state requirements.

The Marin County Board of Supervisors adopted a new ordinance in March 2018, replacing a chapter of the Marin County Code's building code, adopting new standards that help the County to implement its 2015 Climate Action Plan. New standards include performance-based energy saving requirements for new construction; an all-electric building option for new construction;

streamlined procedures for designated green building project tiers; more stringent energy efficiency requirements for very large homes (more than 4,000 square feet); and requirements for electric vehicle (EV) charging preparedness to reduce barriers to purchasing an EV. These standards will remain in place until the 2019 California Building Standards Code takes effect in January 2020.

The County started on the update to the Green Building Element in 2016. The County felt that clarity could be improved and new topics added. The objectives included increased flexibility and transparency, and increased stringency of standards within the state framework. The County was aware that the state CBEST favors natural gas and state legacy rules impede the goal of all-electric construction. The County supported legislation that would require all-electric construction.

Questions and Comments

Doug: Will the revision in 2020 help? A. Yes. The California Energy Commission (CEC) gave its okay for a reach code, allowing for zero net energy homes in the future. Currently, the state definition requires solar panels but still allows natural gas.

Pam: Are there other partners in addition to NRDC? A. Yes. The cities of Berkeley, San Francisco. See SB 714, etc. I will send a list.

Dale: How difficult is it to get to all-electric (no barriers and easier to show compliance with state requirements), and how difficult is it to convert existing housing to all-electric? There are few new homes being built here. A. With existing homes, you might be in a better position, because you do not need such detailed calculations. But there are some rules against fuel switching. Switching fuels can make you ineligible for rebates.

Ed: In Marin, the problem is existing buildings. What is the toolbox, and what is needed? A. The Reach Code is one piece. There is a Climate Act subcommittee, funding for a pilot program for rebates, and a successful application for additional funding to facilitate the transition from gas to electric appliances. What is needed is word-of-mouth about the benefits of electrification.

David: Can we adopt the CEC standards sooner? A. For homes over 4,000 square feet, the standards are similar to the CEC standards. There is a passive-house option. The standards are starting to be introduced into the building community without requiring them for all houses.

Kiki: Sustainable San Rafael worked with Bob Brown to develop stringent target standards. If there is a more-than-50% remodel, the new green building standards could apply. A. Yes, if there is more than a 50-75% remodel, more stringent standards apply. Local jurisdictions wishing to impose more stringent standards must conduct a cost-effectiveness analysis and obtain CEC approval. In the Bay Area, a lot of people simply don't seek the permits that are required for a remodel. There is also a cost factor.

Dale: What is the County position re remodeling existing buildings for energy efficiency? Does the County approve the permit? A. Yes. The problem is the rebates. Dale: The heat pump costs less. There is a state software barrier for new construction and equipment swap-outs. Grant

funding is an opportunity to address carbon impacts. See www.stopwaste.org concerning a government-industry partnership in Alameda County.

[Presentation continued]

Bruce: [Bruce briefly described his background in designing rammed-earth and straw-bale buildings in areas that build more sustainably than we do. He noted that buildings account for 40% of GHG emissions. He presented several graphs showing the relative impacts of operational carbon emissions vs. “embodied carbon,” the carbon emitted when materials are mined, manufactured, and transported. While most people think that carbon emitted from a building’s operations has the greater impact, the larger concern is actually “embodied carbon,” carbon produced in the mining, transporting, etc. of the building materials.]

Bruce [cont.]: We have made the most progress in reducing operational carbon. But it is not just what we put into the air; it is when we put it there and how long it stays in the atmosphere. The greatest concern is the next 20 years. Possibilities that would help to address the problem include creating buildings that absorb more carbon than they produce and writing building codes to address embodied emissions.

Concrete (Portland cement) is a major emitter. Portland cement (essentially artificial rock) is limestone baked at high temperatures. Portland cement is the most widely used building material and accounts for 6% of global carbon emissions; construction of buildings as a whole, 10%. Although we have become accustomed to using it, it is possible to do without Portland cement. We can use building codes to address the issue. Start at the local level and provide a template.

Bruce remarked the construction industry is a tough industry in which to effect change. He noted that he wrote an ASTM standard for adobe, which was crushed by the cement industry as a perceived threat.

Foam insulation is also a high-emitting material. Blowing gases is an intense use.

Questions and Comments

David: Has the County looked at producing aggregate by other methods? Blue Planet has developed a method of pulling waste carbon out of flue gas to produce manmade limestone. A. It’s like the pearl in the oyster. Sand and gravel to produce aggregate. There’s a shortage now. Q. Is this a net positive? A. I haven’t seen the numbers. It could be a huge step. Q. The key is in locking carbon. How else do you get below zero? A. You can build higher with wood (small trees); the only concrete used would be in the foundation. Straw building has moved into the cities. Straw is used as insulation.

Nona: What is the laminate/glue? A. MBI. Petrochemical. We’re working on another, non-emitting glue.

Q. What about recycling concrete? A. We can do recycling, but it downgrades functionality. Recycled concrete is used in roadbeds. There are engineering problems. It’s not a big, easy win.

Bob: Are government funds and venture capital going into research? A. There's not a lot of money flooding in from venture capitalists. Venture capital is not patient money.

Judy: Is biomimicry being considered? A. They are all looking at it [citing examples]. It might be possible to mimic coral, but coral has time; a builder does not. We're just starting to looking at structural and chemical processes other than heat and pressure.

David: What about carbon pricing? A. Prices vary by two orders of magnitude. Therefore, the carbon market is less effective. There was a Republican group that presented this idea to Pres. Trump. It didn't go anywhere.

David: There are two laws being drafted under the radar. The starting point is carbon pricing. They call it a "carbon dividend." There are 40 members in the carbon solutions caucus.

Pam: In the 2040 General Plan Steering Committee, it's frustrating trying to get people to understand the need to switch, the cost effect. A. We're working with Bill Kelly. Governing is hard. Artificial intelligence is the wild card—making machines as smart or smarter than people. AI could solve the climate problem, and how we govern. Singapore has computerized the permitting process so that builders get a quick answer. Machines could simplify the building code, not just add another layer. 2040 could be a different ballgame.

Bill: At the moment, it's pretty easy at the County. It's more complicated for the other 11 jurisdictions. How do we extend leadership to the other jurisdictions where there are lots of barriers? A. [Allison]: There's a Marin climate-energy partnership. Having a fully staffed sustainability team makes it easier for the County to provide a template and assume a policy role. The County staff has time available.

Ed: Is the County seriously considering requiring time-of-sale energy upgrades? A. Yes, we are researching the examples provided by Berkeley, the City of Davis, Chico.

Bruce: Encourage the County to lead, as far as it can. Only two jurisdictions have sustainability directors. All have Climate Action Plans. Bring the staff into the process. Make it strong enough to say "yes." It's important to hear from the public.

David: They are natural allies to make standards the same.

Doug: I want to put in a plug for Marin. There's a potential "snapback" problem. You have to make sure that the people are coming along with you. Make sure you are pushing and pulling. We need to reach people. A. Government should be seen as a resource, not an enemy. Use all-electric rebates in the current atmosphere. Understand that zero energy programs are counteracted by commuting and consumption. Take a more integrated approach. That's the role of a General Plan, to build in flexibility.

Roger: Is it true that at the time of sale, an energy audit is done and shared with the buyer? A. No. That is Portland and Berkeley. Q. The real estate industry would support it. A. Have an energy score rebate.

Bruce: There is a rarefied atmosphere in Marin. We don't fully appreciate the population problem. To accommodate the world's expanding population, a city the size of New York City would have to be built every 35 days. Marin does not create a large impact in terms of the size of its population, but it can serve as a template for other places.

Doug: We'll follow up as the months go by.

Judy: In an area where there is a lot of tearing down and rebuilding, is there a way to motivate people to renovate instead? A. The City of Portland has incentives related to densification.

Doug: There's a huge-home syndrome in Marin. Can we implement penalties? A. There is something like that in the approach to homes over 4,000 square feet. Currently, there are more energy-efficiency requirements for such homes—a Brian Crawford thing.

Belle: What are the arguments that made that successful? A. A willingness to collaborate and provide a template for other jurisdictions.

Discussion 2: Western Grid regionalization – Evaluation of last month's panel discussion

Doug: Last month we had a panel discussion of AB 813, which proposes western grid regionalization as way to deal with excess solar energy. We discussed the duck curve of too much solar produced at mid day. There were lots of questions about the effectiveness of that solution, and possible risks. Regionalization would loosen California's ability to control the composition of its energy supply and tie the state to fossil-fuel producing states with divergent interests. Regionalization could threaten California's ability to set its own rules legislatively. Three of the presenters were in favor of regionalization, and two were against it. What is the evaluation of the CAWG group?

Kiki: This is a challenging issue, with tentacles. There was not enough public process, particularly underlying MCE's support. There is no rush to do this. Why not have more input and studies. MCE's support was not appropriate.

Q. Follow the money. Do we need another loss of public control? Can we retain public control of transmission and distribution? This was not discussed at the MCE board level. That is inappropriate. There is too much at stake.

Robert: There is a lot of complexity in regionalization. It can't be viewed in isolation from demand management and storage. We need to look at the whole picture. We would be ceding both control and revenue.

Doug: It is not established that regionalization would help.

David: The advice to McGuire should be "Take your time." Demand will grow substantially. We have fears concerning control and management, values and RPS, but no answer regarding the mid-day solar surplus.

Roger: AB 813 is silent on renewable energy goals. Vote it down as is.

Ken: The bill will be re-referred to the Senate Committee on Energy, Utilities, and Communications on Tuesday at 9:00, and will go next to the Judiciary Committee. This committee is the most important. It has already passed in the Assembly. It is too late for letters. Make calls or send emails.

Bob: Questions remain unanswered. What is the net benefit of a regional ISO vis-à-vis and expanded EIM [energy imbalance market]? What is the process of developing governance of the new ISO? The black box is the issue of trust.

Ken: This committee agrees that there is a big impact from DER and storage, which promote resilience. It is preferable to have more focus on factors with the biggest impact.

Ed: Three votes are crucial, McGuire, Skinner, and Weiner. I urge you to call them.

Tom: Let's hold off. There is a long way to go on demand-side management. We should all get more involved and be aware.

Kiki: Doug Karpa said solar curtailment is being used as an argument, BUT the legislature is requiring that solar be curtailed first. That needs to be changed.

Doug: Holden is sponsoring the bill—not a friend to CCAs.

Ed: NRDC has a long history of opposing CCAs.

Reports

Drawdown (Robert): We're in a holding pattern. There is interest in a faster pace in the renewable energy group.

Doug: The #6 group, Energy, is the most important. The County has an interest in hiring someone to facilitate.

Pam: The position has been posted, and there are lots of applicants.

San Rafael 2040 General Plan Update (Kate): We looked at different locations where projects that are likely to change the city are contemplated. Environmental justice has been added as a required element of the plan. We are looking at the possibility of adding other elements, considering what is being done in other counties and cities to reflect their vision. We looked at Guiding Principles and sharing values. The Planning Commission, Design Review Board and Board of Supervisors will examine actions for consistency. We're still at the beginning, front-loading the process with a learning curve.

Pam: The folks that know the Council best are the developers. We need other input!

Kate: It's important. The City of San Rafael needs to have a vision for adapting to change.

Resilient Neighborhoods (Bill): The County Civic Center team is under way. There are three other teams at community centers.

Lead on Climate (Belle): Our proposal has been accepted to be an affiliate event of the global climate summit being held in San Francisco on Sept. 12 – 14. The Lead on Climate event, “Getting to Paris Without Going Through Washington,” will take place on Sept. 15 at the College of Marin gym. Christiana Figueres will be the main speaker. Daniel Kammen of UC Berkeley will be the moderator. Damon Connolly, Kate Sears, and Josh Fryday will be on the panel discussing what we are doing in Marin. There will be a pre-event with Kiki La Porta and Carleen Cullen. We are working on childcare.

Environmental Forum (Helene): David will no longer be on the Forum board because he is the newly elected Council member for Corte Madera. For the next couple of months, the Forum will be working on preparing for the next Master Class, which begins on Sept. 8. There will be a preview on June 23. Please refer interested people.

Deep Green Campaign (Helene): The Marin Sanitary District, Las Gallinas Sanitary Board, Central Marin Sanitary Agency, and Ross Valley Sanitary District have signed on for Deep Green. Sausalito is considering.

Sustainable Organizations

Novato (Ed): Sustainable Novato is working with Carleen to enlist EV drivers to participate in the July 4th parade. Thanks to Helene for her Deep Green pitch to Novato Sanitary District.

San Rafael (Bill): The update to the San Rafael Climate Change Action Plan (CCAP) is important, and Resilient by Design is an important part of addressing the impact of sea level rise. We're on the forefront on long-term planning. There is \$30 million in funding for the Transit Center. Meetings and concepts are posted on the Bridge District website. It's easy to comment. The issue of keeping the concrete seating on Fourth Street is pending. It's a framework for developing a Keep Downtown Viable approach

350 Marin (Ken): There is a planning meeting for a march on the 15th. There will be a large march at the Civic Center. Talk to Ken.

MCE (Ed): There is something broken in the MCE consultation process, an internal problem. We should consider an advisory group. There are two organizations in California that support CCAs against AB 813.

Doug: the MCE meetings for June are canceled. There is no forum this month.

Pam: The BAAQMD meetings are important, relevant in terms of where the grants go, etc. Ken, will you be attending; will you report to us?

Cool the Earth and GGEVA (Dale): The \$10,000 discount for the BMW i3 EV is available until the end of the month, as is the \$3,000 discount for the LEAF. Sept. 8 – 16 is National Drive Electric Week. There will be test drives at the Bon Air Center on Sept. 15.

Citizens Climate Lobby (David): The Citizens Climate Lobby on Capitol Hill on June 13 was well attended and interesting. Conservative Republicans spoke. The national carbon dividend legislation is supported in colleges, and 20 school districts in California are supporting climate legislation. There were more than 500 meetings on Capitol Hill.

The next CAWG meeting is on July 20. We will address public health implications of climate change next month or the following month.

Meeting adjourned 11:13.

Minutes: PN.