

## **MARIN CONSERVATION LEAGUE**

**Climate Action Working Group: May 18, 2018**

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

Present: Co-Chairs Doug Wilson and Pam Reaves; Bill Carney, Tamra Peters, Nancy Bell, Nancy Benjamin, Dale Miller, David Kunhardt, Ed Mainland, Bob Miller, Nona Dennis, Pat Nelson, Carleen Cullen, Doug Cooper, Heather Furmidge, Robert Gould, Greg Thompson, Ken Jones, Tom Flynn, Mary Bryan, April Dean, Kate Powers, Kiki La Porta, Vicki Nichols, Kathy Durbin, Bob Archer, Bruce Bell, Barbara Boylan, Roger Roberts, Cory Bytof.

Speaker Panel: Lauren Navarro, Environmental Defense Fund; Ralph Cavanaugh, Natural Resources Defense Council; Doug Karpa, Clean Coalition; Bob Miller, MCL, board member, economist; Dawn Weisz, CEO of MCE.

Co-Chair Doug Wilson called the meeting to order at 9:10.

### **Brief Introductions**

### **Agenda and Minutes**

The agenda and minutes were approved by consensus.

### **9:15 Panel Discussion: Pros and Cons of Western Grid Regionalization**

Doug W. introduced the panel and summarized the purpose of the discussion. He suggested that climate change behavior and institutional change must be based on knowledge. In this discussion, we are addressing the important underlying task of understanding the grid. We are assembling critics and supporters of Western Grid regionalization and presenting them with the same questions to ensure that we are comparing apples to apples when we formulate a position pro or con.

Bob M. The issue is complex, with multiple players, issues, laws, etc. We're going to cut to the chase by making it clear where the areas of agreement are. There is much agreement on significant issues and objectives such as protecting institutions, preserving laws, creating jobs, lowering costs to customers, mitigating climate change, increasing resilience and the use of renewable energy. Problems arise from the intermittent nature of solar and wind power, which affects the ability to balance supply and demand.

Doug K.: It's not renewables that are intermittent, but the ability to meet the load. The problem is the inflexibility of the fossil-fuel-oriented grid. We need to move to 100% renewables, using wind, solar and storage to meet the load. Forecast demand accurately and move energy to meet the demand. Forecast generation and meet the load, not the reverse.

Lauren: How do you build the grid to meet those objectives?

Roger: Are you going to address wheeling costs?

Bob M.: There is agreement on the need for more distributed resources, a shift in focus away from the generation side and toward the demand side. We need better and smarter distribution and integration. We need some integration; the issue is “how much.” We need a description of key organizations and resources.

Doug W.: MCL has made a connection with NRDC, thanks to Tamra who helped to build NRDC’s work on global warming in the 1980s. Ralph can address issues relating to the Western Grid.

Ralph: Ralph described his background, including his introduction to the field of transmission physics in 1983 by Stanford Professor Dennis Hayes. He explained that within the large Western Grid area, there was originally a high degree of fragmentation, eventually resolving into 34-39 balancing authorities, with the California ISO (CAISO) being the largest, accounting for one quarter of consumption. The balancing authorities are all part of the Western Grid, but each is responsible for balancing supply and demand in its own territory. A further reduction in the number of fiefdoms would be good for the transition to renewable energy. If CAISO were coordinated with other balancing authorities, what institution would govern?

Bob M.: How does CAISO operate in the energy imbalance market (EIM)?

Doug K.: The question is what level of coordination among balancing authorities is needed to accomplish what goals relating to load and energy, transmission planning, operating the market, setting rules. The system for importing and exporting energy among territories is similar to a trade agreement like NAFTA. It’s now very short-term. It would be cheaper and more efficient to plan a day ahead. The EIM is a small part of the market, but an important one.

Lauren: We need planning to get to the deeper carbon reductions; we need to focus more on the EIM.

Doug K.: It’s a transitional step. The RTO (Regional Transmission Organization) operates, plans, sets operational rules, etc.

Bob M.: The RTO is CAISO.

Ralph: CAISO is the RTO that wants to perform these functions for a broader area.

Doug K.: What renewable energy looks like in relation to the grid: The transmission grid has a radial structure with long-distance hookups to local substations. The model is predicated on large coal plants as an energy source. Distributed energy resources (DER) operate locally, close to the load, around the edges of the grid. These local sources can be combined with storage. The appropriate model is to operate locally first, import energy only if it is needed.

Lauren: Environmental Defense Fund is a supporter of DER, protected at the legislative level. We need both. Big and small, both/and, not either/or.

Dawn: MCE brings the perspective of an entity buying and selling energy and interfacing with CAISO. Customer behavior is an important factor in making 100% renewables work within the structure. Have a pilot program to shift demand. Now, solar is being curtailed. The result: paying for energy not being delivered, negative pricing, impacts on supply, customers, load. We need to be able to interact with more entities, expose fossil fuel to the low cost of solar, make sure solar power gets used. Push the load to the middle of the day. Plug EVs in from 6-9 p.m. Fossil power is flexible and will fill in the gaps.

Bob M.: There are question related to areas of disagreement. What are the costs and benefits of a regional grid? What could it do that can't be done now?

Doug K.: Fast, autonomous demand-response and a more robust EIM are more effective than attempts to manipulate customer behavior. The EIM market gets 80 – 90% of the benefits of a Regional Transmission Organization (RTO). The market consists of layers of transactions. Use cost-effective renewables to undercut coal. Flexibility and alternative approaches would be enough to eliminate the need for curtailment of solar resources—have more generation than load, and use local curtailment which would not be affected by the RTO. CAISO determines what sources are curtailed. Ideally the first source to be curtailed would be natural gas, but solar is often curtailed because it is more flexible. Why does this happen? Because the current system, which utilizes take-or-pay gas contracts, was developed to make the world safe for natural gas. These are bad market rules and an issue of governance.

Lauren: Solar curtailment is a problem. Regionalization entails a variety of solutions. Balance renewables in real time. Band with others who see eye-to-eye. We need partners and friends.

Ralph: It is not possible to get 80-90% of the benefits of regionalization with an EIM. An RTO will shut down the highest-cost energy source whenever possible. Multiple fiefdoms are the cause of special deals.

Doug K.: The 80-90% figure comes from a CAISO study re an expanded EIM.

Dawn: It is important to support the ability of CCAs to procure and build more renewable energy source by creating a more robust market. Regionalization would reduce curtailment, make bills lower, result in a more transparent process. Make sure California's high standards are not undermined; focus on state action such as the RPS, etc. CAISO is subject to FERC, but FERC does not control policy. Regionalization creates an opportunity to influence other states, sell renewables out of state. We pay for double procurement if there is a wall around California.

David: How many participate in the EIM? A. Seven utilities participate, with others queued up. The problem is the short-term nature of the market. Coal can't ramp up or down quickly.

Dawn (cont.): In the last 20 years we have hoped that renewables would achieve cost parity with fossil fuels; now they are cheaper than fossil fuels. Interaction in the market will not help fossil fuels.

Bob M.: What are the governance issues and the anticipated process?

Doug K.: There is an issue re finding off-takers for renewables. Storage is key and is cheaper. Sending energy long-distance is expensive. The AB 813 concept is nice. Can we expand in a way that protects renewables, and can we do it legally? We're already under FERC jurisdiction and don't want an additional Trump influence. It's a corporate law issue: Who has the authority to change the rules? Under AB 813, the utilities can't join an RTO unless it meets California standards. As a price of CAISO expansion, we need to make the CAISO board independent. The concern is that the California legislature can set requirements and then the board can undo them. It is possible to set up CAISO so that market rules favor renewables. It is easy to put a thumb on the scale.

Lauren: CAISO is already regulated by FERC. California maintains control of procurement authority. We now have political authority via legislative appointment. How do we continue to have the legislature maintain some control?

Doug K.: Constitutional authority?

Lauren: We can always withdraw and reconstitute CAISO.

Ralph: Oregon and Washington have great enthusiasm for integration, but they will not join a regional organization if all of the board members are appointed by California. It's not a policymaking, political board. We need a board that is independent from politics. We can't retain California votes. It's not that kind of board.

Dawn: I like the language regarding transparency. It's similar to the Brown Act, establishes accountability to the people.

Doug K.: The independent operator can change at any time, and withdrawal is unlikely.

Ralph: The potential for withdrawal is a huge deterrent.

Doug K.: CAISO gives sweetheart deals to transmission operators and can manipulate market rules. For example, the requirement to post a bond and the use of take-or-pay contracts. There is a market distortion that operates against renewables, not wholesale distributors. And there is the issue of regulatory capture.

Dawn: Clarification: The bond is not related to renewables. The investor-owned utilities use the bond to buy energy if the CCA fails. The CCAs are not concerned. It's easy to paint worst-case scenarios for regionalization. What are the worst-case scenarios if we continue as we're going? It is likely we will not be able to fully utilize renewables.

Q. We need to achieve 100% renewables and no curtailment. We need to consider the enormous cost of peak fossil fuel energy vs. storing renewable energy.

Doug K.: The Clean Coalition stages projects statewide. Sales are not the only option; there is storage also. There are models addressing how much storage is needed.

Dawn: Double.

Pam: I'm concerned about the transmission cost to customers and the environmental cost.

Ralph: If there is a fully integrated system, there is less transmission and less inefficient use.

Doug K.: We need to see the figures and the assumptions behind them. If you choose to buy distant energy, there is more transmission cost.

Lauren: There are barriers to community participation in solar. Some people can't afford DER.

### **Questions and Comments**

Ed: AB 813 says we can withdraw with two years notice. Are there any examples of FERC allowing a state to withdraw from an RTO?

Ralph: Exelon switched to a different RTO. That's a utility precedent, not a state precedent. Withdrawals are quite rare. There has never been a request for an entire state to withdraw.

Ed: Maryland is in court.

Ralph: Maryland is in court but did not try to withdraw.

Dale: EVs present an opportunity for renewable. They don't create a peak problem. The cars are controlled by software and charge when it is cheapest.

Dawn: Some consumers do not take the time to program their EVs or respond to price signals. Charging interfaces are available but expensive. One other possible solution is an education campaign.

David: Is MCE going to structure rates in a way that promotes use of solar, so that rates are lower during the day? If AB 813 does not pass, will there be a natural evolution toward expansion of the EIM?

Dawn: No. You would have to change the rates. MCE cannot have a rate that is different than PG&E. PG&E's peak period starts at 2:00.

Kiki: Looking at the future of distribution and generation, how will this interact with the California storage mandate?

Dawn: It paves the way for using storage technology and provides more flexibility for everyone. It creates an opportunity to lead the way for other states to increase storage.

## Reports

**City of San Rafael (Cory):** San Rafael is updating its Climate Action Plan and needs everyone to participate. Price signals are not always effective. A real barrier [to the timing of EV charging for example], is that people don't know how to program or embed technology in the product. It might be useful to advocate that service providers look at the social science of behavior change, identify key, needed behaviors and look at how to create the desired impact.

Carleen: Kids in school educate and influence their parents. There is community-based behavior change, and conferences and programs that are beneficial.

Tamra: Resilient Neighborhoods is based on behavior change through education and training people to help.

**EVs (Dale and Carleen):** The Board of Supervisors is being asked to approve the purchase of new vehicles for the Open Space District. Advocate for EVs.

Alcoa and Apple have developed a new process to transform bauxite to aluminum, which produces less GHG.

The BMW \$10,000 EV discount is available through this month. The \$3,000 LEAF discount is available through July. Carleen has a handout.

The group advocacy at the TAM meeting was a big success. The proponents did not get everything they asked for, but achieved a lot. GHG impacts will be considered by TAM going forward. Under Measure B, \$1.2 million was potentially available, only \$200,000 was spent. The board is now allocating \$600,000 for EV purposes, and funds cannot be diverted from this going forward. Money is available. Encourage municipalities to take advantage of this. Regarding the Measure A renewal proposal, it now includes language relating to spending for the EV fleet and infrastructure.

Nona: They are embracing e-bikes. The Parks and Open Space Committee is studying the issue and distinguishing between their use for recreation and transportation and the appropriateness of using them on multi-use paths.

Carleen: We support e-bikes for transportation and for their reduction of GHGs.

Ed [announcement]: Everyone is invited to the Novato Green Film showing on May 31 r carbon sequestration and sustainable agriculture.

**Drawdown/MCAN (Cory/Doug W.):** The County will be meeting with Drawdown on Monday re steering committee and working group responsibilities. The social learning is slow and steady, creating a good foundation.

Doug W.: The work of MCAN is ongoing. Renewable energy is the first issue. We need an integrated approach.

Cory noted that significant penetration is needed and thanked Pam and Doug for today's presentation.

Doug W.: We inform ourselves about what can/should be done, and draw others in.

Pam: NEM [net energy metering] 2.0 is a requirement for new solar users. Its change in peak hours to the evening unfavorably affect the prices solar users receive for solar energy for energy sent to the grid and prices they pay for energy taken from the grid. It's impossible to find out from PG&E what they are consuming as an entity. They need to hammer out such issues.

David [announcement]: The Environmental Forum of Marin's annual meeting on May 20 will feature an art display depicting "Marin As It Could Have Been." Mia Monroe will be speaking.

Doug W. [announcement]: Vote Yes on Proposition 68.

**Time to Lead on Climate (Bill):** The location for the fall event has been shifted to the College of Marin gym. The main speaker will be Christiana Figueres.

Kiki: The sustainable organizations and Lead on Climate Marin initiative has expanded their board to include the Marin Interfaith Council.

**Sustainable Organizations (Bill, etc.):** In San Rafael, they are tracking Resilient by Design presentations, including the project addressing the impact of sea level rise in central San Rafael. They are considering a public event. Presentations are available online at the Resilient by Design website.

Pam: We have invited some public officials to be here. Collaborate, don't duplicate.

Kiki: In the Canal District, the primary message has been around planned retreat. The profound impacts on individuals and their lives should be considered.

Kate: Resilient by Design is dealing with sea level rise. Most of the vulnerable communities are close to the Bay. It is not only in Marin that most presentations focus on getting from one side of the highway to another and take public space. Plan it so that it works for all. San Rafael is at a crossroads. The 2040 plan and the steering committee for the relocation of the transit center are independent. It's important for the public to comment now. One of the least-public decisions in the San Rafael Master Plan concerns the bicycle-pedestrian update. Major routes must be in the plan in order to be funded. There will be a meeting on May 22.

**350.org, Marin (Ken):** AB 813 was referred to the Policy Committee yesterday. Weigh in with comments.

**Resilient Neighborhoods (Tamra):** There will be a workshop on June 12. Register on the website.

## **Announcements**

There will be a global climate action summit on May 22 in Oakland from 5:30 to 7:30, at 274 14<sup>th</sup> Street. The biggest West Coast march is planned for the weekend before the summit.

The next CAWG meeting is on June 15.

Meeting adjourned 11:05.

Minutes: PN.