

FINAL

Solar Working Group

February 6, 2014

6-8pm, West Boulder Senior Center

ATTENDEES:

- **City** – Yael Gichon, Kelly Crandall, Karl Guiler
- **Working Group** – Puneet Pasrich, Todd Stewart, Jim Hartman, Galen Brown, Kai Abelkis, Phil Wardell, Ken Gamauf, Ken Regelson, Tim Schoechle, Jeremy Epstein (for Boulder County), John Street, Dan Kramer, Paul Melamed, Lynn Segal, John Johnson

MEETING NOTES:

1. Introductions

2. Update from Boulder County on Loans & Rebates (Jeremy Epstein)

- a. Background about Energy Loans through Elevations Credit Union:

Jeremy Epstein from Boulder County shared some progress related to the Elevations Credit Union energy loans and how they can be used to finance solar projects. Residential loans start at 2.5% with 3, 5, 7, 10 year terms. Elevations is going to offer a 15-year term that will start at 8%. 20 solar projects have been funded. Closing costs are minor (\$40-70) and the residential loan has a zero-down option.

The County Commissioners directed county staff to be looking to move beyond efficiency and increase local solar with the ARRA grant ending. There are stipulations requiring energy efficiency prior to solar on DOE-funded loans (there must be 15% deemed energy savings before being eligible for a solar loan), which makes it difficult for efficient new construction to qualify. The County is looking to create a non-federal version of energy loans without that stipulation. Jeremy is looking for feedback on how to use their funding in a “post-rebate world,” such as through soft cost reduction, interest rate buy-down, credit enhancements, etc. Jeremy may bring back updates or questions for a subsequent meeting.

- Todd suggested reducing or eliminating the tangible personal property tax (TPP), which is locally assessed for systems under 2 MW and can be taxed at any rate. In NY, it was not providing enough revenue to justify the deterrence.
- Phil noted that increasing solar could be justified and quantified through the reduction in coal, which touches on public health issues.
- Puneet asked why the loan product has a higher interest rate for commercial loans than residential loans, noting that Boulder’s energy use is 80% commercial and industrial. Jeremy says commercial loans are perceived as riskier and this seems to generally be a common practice.
- John stated that the monthly debt service with the Elevations loans looked to be significant and they should strive to be cash neutral through lower interest rates or longer terms.
- A cash reserve by a third party, such as the city, was suggested to reduce bank concerns over default.

3. Report Out and Discussion of Subgroup Findings & Recommendations (Yael & Kelly)

This section refers to the “solar opportunities analysis” matrix. Yael introduced the context that staff is looking for the working group’s feedback on prioritizing those items that would have the biggest impact on moving solar forward in Boulder. This will help structure or refine the work plan for the next year. The matrix will be posted on Basecamp with additional opportunity for feedback.

Kelly described how she and Yael had populated the columns on short-term and long-term timing and whether the action was possible without a municipal utility. Many of the actions could be at least investigated or begun within the short term. Whether or not the action could be taken without a municipal utility was a more useful distinction. Actions were classified as requiring a municipal utility if it appeared that it would require significant resources or extreme legal creativity to complete the action without a municipal utility. There were exceptions, such as the local generation opportunity analysis, where some elements could be analyzed without a municipal utility and other issues related to optimal siting of solar from a grid perspective may require a municipal utility.

a. Marketing & Incenting Category (Introduced by Todd)

The Marketing and Incenting subgroup generally classified this category as a lower-priority. They looked at the following opportunities:

- Traditional Marketing – the subgroup did not think this was a priority because there is an industry that is working on this (companies like Mapdwell).
- Split Incentive – the subgroup noted the city’s existing SmartRegs program and commercial benchmarking pilot, which are designed to address the gap between renters who benefit from energy efficiency/solar programs and building owners who pay to install the measures.
 - Jim noted that in larger buildings, there can be common areas, so landlords can benefit from solar and energy efficiency. Tenants benefit more from solar gardens because the bill credit is portable.
 - Kai stated that building managers tend to know roofers and if roofers and the solar industry partnered, more buildings might be prepared for solar. Todd suggested there could be a trigger in the roof permitting process to see if solar had been considered.
 - Dan said that it should be a high priority to address renters’ ability to participate in solar through gardens or similar.
- Education & Awareness – the subgroup thought that it would be better to do this for a specific reason rather than generally promoting solar; for example, utility bill inserts advertising a program, or a focused website.
- Research & Analysis – the subgroup thought this was important, but that it requires industry expertise to go from the companies (like Sun Numbers) that use high-resolution photography or lasers to image, to issues like ownership, age, warranties, etc.
- Rebates – the subgroup thought it would be better to focus on doing everything else first: like lower costs of capital and reduce disincentives.
- Grants – Dan asked if grants could be directed to rental units to help reduce split incentives. Jim suggested that zero-down installations and low-interest loans may be better than grants.

b. Costs & Financing Category (Introduced by Todd)

The Costs & Financing subgroup thought there were several priority items in this category. They looked at the following opportunities:

- Strategies to Reduce Soft Costs – Boulder should look at the Solar Friendly Communities standard for permitting to be in line with other jurisdictions. Boulder should also promote standardized quoting for solar installers, and could consider that along with fast-track permitting or similar. Solar installers do not break out overhead, profit, and labor, but that is standard in other industries like commercial real estate.
- Property Tax Impacts – solar is not designated as a real asset federally because it is not integral to the operation of the building. As discussed above, the suggestion was for Boulder County to look at the tangible personal property tax. Appraisers do not adjust home prices due to solar.
- Lower Capital Costs by Enhancing Credit – city (or other) funding could be used to fund a portfolio of projects and provide a default risk pool. This is like insurance except that it is immediately available if there is a default.
- Property Assessed Clean Energy (PACE) – PACE loans allow customers to take out loans and then repay them through a property tax assessment, but generally existing creditors have to agree to subordinate liens to a new PACE lien. There is a statute in Maine that says that PACE liens are junior to mortgages, which addresses Federal Housing Administration concerns. On-bill financing can be an alternative to PACE and allows transferability. Staff at the Colorado Energy Office (CEO) have researched developing a state clean energy district.
- On-Bill Financing – this can be considered credit enhancement because a utility can turn off power. It's premise-based so could be transferred to a buyer. There are many examples to look to but this would likely happen only with a municipal utility.
- City Bonds – the city could add a set-aside to a larger bond, such as one used to form a municipal utility. This leverages the city's ability to issue debt at a lower interest rate.
- Out of these opportunities, the subgroup identified these priorities:
 - Become a Solar Friendly Community (and aim for Platinum)
 - Look at city bonding capabilities
 - Follow-up with CEO on PACE loans
 - Investigate on-bill financing if a municipal utility is formed
 - Boulder County can look at the tangible personal property tax

c. Other Issues Category (Introduced by Puneet)

The Other Issues subgroup thought there were several priority items in this category, although they were more complicated to do without a municipal utility. They consider this category to be largely technology and tariffs. They looked at the following opportunities:

- Technologies:
 - Microgrids, Energy Storage, and Smart Grid technologies need to mature based on cost or technology, or need a lot of time to implement. Even if there is a municipal utility, there would need to be technology and infrastructure put into place.
- Tariffs:
 - The first step is to figure out how solar is valued. There will be a PUC process that addresses this in the near future. There are currently many different methodologies

with different assumptions that lead to dramatic differences in net benefits. Kai suggested that coal externalities be part of that valuation.

- The second step is to figure out which tariff is appropriate. The tariffs under consideration include time of use, feed-in tariffs, value of solar tariffs, renewable energy tariffs, and transactive energy payments or markets (these are defined on the matrix). Net metering could be applied with or without a tariff. The subgroup thought that a value of solar tariff was a higher priority than net metering.
 - John suggested that the working group could help advise on the tariffs once a value of solar analysis was complete.
 - Jim said that feed-in tariffs provide more stability for the industry, but that they are taxable income. He also suggested that electric school buses are a good match to provide storage for peak periods.
 - Phil said that the Minnesota value of solar tariff seems to be recalculated every year, but the price calculated lasts for 20 years (or the duration of the contract).
 - Todd noted that if a feed-in tariff is under-priced, the utility gets the value. In general, utilities hedge with feed-in tariffs while customers hedge with net metering.
- Out of these opportunities, the subgroup identified the following priorities:
 - Valuing solar is the highest priority, then you would determine the correct tariff, net metering, or other structure. It's unlikely you can do this without a municipal utility.
 - Yael indicated that a question for the group may be how the city includes this as part of a ratemaking process.

4. Next Steps and Upcoming Issues

a. Renewable Energy Sources in Zoning Code, Solar Friendly Communities (Karl)

Karl asked the group for feedback on potential zoning standards that may apply to solar. Currently, solar gardens are not a permitted use in the city code, and the Planning Department is looking to change the code to remove barriers while addressing potential future aesthetic concerns. Karl offered to post a draft on Basecamp and return at a subsequent meeting or gather a smaller group for discussion. Karl would appreciate feedback on whether zoning regulations are a barrier to being a platinum-level Solar Friendly Community. The working group had several suggestions:

- Jim said the city should encourage architects to add building-integrated photovoltaics (BIPV), where solar becomes an element of the building. He also suggested changing any zoned district that would prohibit solar. Karl said that the draft regulations would allow solar anywhere, but with some limitations.
- Todd suggested looking at "solar zones" based on land ownership in areas where the city may be looking to condemn utility infrastructure for municipalization. The working group indicated some disagreement over whether there was enough roof space in Boulder to maximize local solar.
- Ken R. suggested modifying building codes so that, for example, if you build a bedroom you add 1 kW solar, and you have to add 1 kW storage for every kW solar, and similar for commercial.

b. Local Generation Analysis Scope (Yael)

Yael shared city staff's plan to bring a scope of work to the working group for discussion. This analysis would likely look at solar prior to other forms of local generation, and would consider technical and economic potential for solar in Boulder. Ken suggested adding an analysis on the full amount of solar that could be installed locally prior to including technical and economic potential.

c. “Boulder Docket” Subgroup (Kelly)

Kelly described Xcel’s recent application to the Public Utilities Commission (docket 14A-0102E) to modify solar and energy efficiency programs in Boulder moving forward. She is forming a subgroup to look at the potential contract changes Xcel has proposed and to address more overarching questions related to the treatment of existing solar installations should municipalization occur. The three changes that have been proposed are:

- Add a termination provision in new Solar*Rewards contracts that would allow Xcel to terminate obligation to (1) purchase energy and (2) pay for RECs if a “cut-over date” occurs, i.e., Boulder “assume[s] load-serving responsibility.”
- Modify new Customer-Owned Small Solar*Rewards contracts (≤ 10 kW) to make them “pay for performance.” Currently, these 20-year contracts compensate customers for RECs over 10 years.
- Prevent solar gardens from being located in Boulder and prevent Boulder customers from being able to subscribe to solar gardens in the county.

The group expressed concerns particularly about the solar gardens provision. Jim said that there have already been problems with city customers considering participating in gardens located in the county.

Dan, Phil, Johnny, and Todd volunteered at the meeting. Kelly will ask for other volunteers on Basecamp.

d. Wrap-Up & Next Steps

- Yael and Kelly will post the updated matrix, notes, and other documents on Basecamp.
- Karl will post the draft regulations for feedback from the working group.
- Kelly will form the subgroup on Xcel’s new filing.
- Yael and Kelly will determine priorities and look at opportunities for next meetings, including building codes, local generation analysis scope, value of solar speaker, etc.