

Gridworks + Building Decarbonization Coalition
11.09 Roadmapping Session #2 - Irwindale, CA

These notes summarize the November 9 Building Decarbonization Coalition Roadmapping Session #2 facilitated by Gridworks. For a stakeholder list and presentations for this meeting (and for previous meetings), go to <https://gridworks.org/initiatives/building-decarbonization-coalition/> or contact Andrew Spreen at aspreeen@gridworks.org for more information.

Roadmapping Session Meeting Notes

Slides for this meeting are [available here](#)

Participation:

The following individuals participated in person:

- Aldo Ubau, City of LA
- Andy Bilich, EDF
- Jenna Tatum, Building Electrification Coalition
- Kevin Wood, SCE
- Michelle Thomas, SCE
- Obadiah Bartholomy, SMUD
- Tim O'Connor, EDF
- Megan Dewy, PG&E
- Jennifer Kamphuis, SCE
- Jonathan Kevles, Kevles Group
- Pamela Phillips, SCE
- Aja Clarke, SCE
- Karen Klepack, SCE
- Jude Schneider, SCE
- Terra Weeks, CEC
- Collin Tateishi, California Housing Partnership Corporation
- Sam Beeson, Mitsubishi
- Armen Saiyan, LADWP
- Luke Sun, LADWP

The following individuals participated over the phone:

- Ann Edminister, Design AVenues
- Chad Sanborn
- Kelly Murphy
- Jake Silver, AmeriCorps
- Rick Brown, TerraVerde
- Rachel Golden, Sierra Club
- Megan Cordes, ConSOI
- Arthur Haubensstock, California Efficiency + Demand Management Council
- Mike Hennen, RMI
- Owen Howlett, SMUD
- Richard Chien, BayREN
- Peter Turnbull, PG&E
- Leanna Huynh, City of San Jose
- Alejandra Mejia Cunningham, Transcendent Energy
- Barbara Hernessman, WHPA
- Sean Armstrong, Redwood Energy

Agenda (10am-2:30pm):

- 10:00-10:15 - Introductions and Purpose Outlining
- 10:15-10:45 - Recap Targets, Barriers, and Goals from Session 1
- 10:45-12:00 - Exercise: Identifying Actions We Can Take
- 12:00-01:00 - Lunch and Food Tech Lab Tour

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- 01:00-01:45 - Individual Comments on Key Actions
 - 01:45-02:30 - Overview of Comments, Reminder on Upcoming Deadlines
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Introduction, Purpose Outlining, and Session #1 Recap:

Brief introduction by both Panama Bartholomy and Matthew Tisdale regarding the goal of the day: developing a comprehensive list of potential actions and actors for the Coalition to evaluate through subsequent Roadmap drafts and the final Roadmapping session on December 18 in Sacramento. Panama made particular note of the ongoing fire and air quality issues around the Bay and LA as examples of why the Coalition and our goals matter. Also covering the goal of the final meeting in Sacramento. Overview of the agenda for the day as well as guidelines regarding the conversation of the day.

Reminder on due dates and feedback process - Reminder of the goal and inputs/outputs for this meeting.

Recapping the targets, barriers, and goals that came out of the first meeting (Reflected in slides 5-13 in the [slide deck](#)). Participant input on the slides includes:

- Emphasis added on the need for the business model to adapt organically and not be micromanaged
- Jonathan - Ensuring the Coalition has an open perspective towards expansion and including additional non-utility actors will be a central part of greater
- Megan - Customer satisfaction/needs/wants are a major barrier to be addressed as the Coalition moves forward
 - It's more than raising awareness: customers need to embrace and accept the value proposition.
 - Question regarding the centrality of heat pumps in the current roadmap - intentional or result of initial framing?
 - Obadiah: Heat pump has higher efficiency gains than many of the other areas and will likely see greater cost reductions for customers.
- Ann: Disagrees that heat pumps and other technology is fully matured -- not true for retrofits which are likely to have complications from original construction
 - Retailers & architects missing from the goal surrounding the value proposition that decarbonization provides
 - Need to add: effectively sell health, safety, convenience benefits of induction cooking & elec fireplaces (#1 obstacle for new construction)
- Kevin: 2045 100% GHG reduction goal - Is that zero gas or including decarbonized gas?
 - Megan - Are we reaching a concrete/inclusive definition of buildings - including industrial, commercial, government as well?
 - Clarifying question - Carbon neutrality by 2045 or zero new emissions?
 - Takeaway: need to clarify the definition of targets.

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- Obadiah - Current numbers for heat pumps are: 5% space heating; 1% water heating heat pump sales
- Ralph: State policy related to equity/inclusion - specificity regarding workforce in particular. How are we going to be looking to measure inclusion and across what areas - workforce, rentals, homeowners, communities?
- Jonathan - Current draft targets are somewhat vague - Need to specify that BDC is looking specifically at the Building Sector and that industrial, transportation, and agriculture are not foci of this Roadmap.
 - Also focusing around the potential for stranded workforce/equity in workforce as well as community equity that isn't explicitly addressed in the current draft.
- Kelly Murphy (remote): It would be highly beneficial for the CEC to accelerate the data gathering and publication of the Residential Appliance Saturation Study (RASS) update – ideally prior to the March 11th start of the ACEEE Water Heater Forum in Nashville.

Action - Actor - Timeframe Exercise - Will remain editable for additions until 11.19

During this segment participants identified what actions can be done to achieve the identified targets, barriers, and goals. A complete collection of identified actions can be found here [link to sheet]. Participants chose to highlight the following actions.

- Recognize the benefit of avoiding hoods/health department citations
- Risks of stranded assets may be ripe for a CPUC proceeding on the issue specifically on targeting building decarbonization. Need for targeting that emphasizes these savings
- Rate design/financing: Full value of building decarbonization in comparison to gas. Incorporating true cost and value of gas service. TOU rates will be a valuable target.
- Regarding raising awareness: Public awards at industry events. Get notice that peers are in action. Competitors are taking action, shouldn't you?! Articles in local publications that target markets. Case studies, testimonials, etc
- Consumer preferences study to help focus contractor efforts around the areas most likely to drive demand. What do consumers/market actors know and how have they been educated about the technology and benefits of decarbonization?
- Increase awareness. Mapping thought leaders to communities to determine who to reach out to drive interest. Stakeholder mapping.
- Invite contractors to presentations on decarbonization. Workshops in communities to help improve visibility and outreach
- Customer value, rate designs - Net metering factor. Rate design matters a ton for customers to incentivize initial adoption and accelerate the curve
- Local reach codes, solar as a model for operation. Codes at the local level to provide a template for reach codes that can be used in other cities that may not have the issue at the forefront of development.
- Gas companies have invested in safe and reliable gas as a customer choice. Need to find a way that the transition path is responsible and effective for gas utilities. Rates for gas customers need to maintain stable. Financially viable for existing utilities. Make sure that the transition is successful for scaling to national/international. Need something that

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identifies how cost recovery happens. Inverse condemnation will hurt the opportunities for decarbonization and electrification

- Engage/train builders and contractors. Reward/recognize builders and contractors. Accreditation, insurance, programs, accessibility to homeowners. Policy/communication: performance approach for GHG reductions. Time value, retrofits, performance of individual contractors. Yelp it.
- Importance of ZNE buildings. New construction and benefit for consumers. Transparent cost savings. Retrofits: coalition needs to evaluate and focus on carbon reduction. Focus on that as the primary target rather than other technology.
- HPWH seminar emphasized need to build a market. Maybe need to partner with a magazine to bring an emphasis on overall building decarbonization and make it popular among consumers. **Build awareness of decarbonizing**. Use popular media, existing platform.
 - What happens first/second?
 - Someone needs to reach out to a chosen group, figure out if it connects with a targeted consumer base and move from there. Sunset suggested as a target partner for driving information
- Set a trajectory that is consistent with the Coalition goals, establish yearly targets and determine a funding mechanism. Needs to be determined to drive the market equitably. Different building types, limited available capital, what does the replacement cost/incentive need to be established
- On Goal 2C - Tailoring messages to all customers. Emphasizing the need to target underserved communities. Identify the communities and be clear in how it is considered (codes, inspections, etc) and then reaching out to those active in the community to help drive local adoption. Develop local evangelists or test installation sites. Inspiration from Silvar/Sun Valley - area that didn't have any supply of green infrastructure and worked to mobilize the community/local council to drive action at the municipal level.
- Reaching out to separate groups requires different tactics. Contractors, communities, municipalities. Look at how it operates with the cooking state codes. Evaluate the previous issue with solar where installations were deemed not up to code due to the structure of the code that was meant to incentivize solar.
 - People with a background in marketing reach out to BDC to help develop specific steps that need to happen.
 - Current development in ZNE and that investment should be leveraged towards decarbonization. LBNL has fact sheets that can be converted over to decarbonization communications effectively.
- Market research - Research still needs to happen. Study and ensure that the upfront investment in research is effective and pays off rather than charging ahead instead. There are specific cities looking to drive and pilot strategies that are being discussed. Work from cities upward.
- Financing should potentially reach out to CAFTA. Demonstrations to drive behavior change through teaching/education/example setting. Use celebrity to drive adoption. Improvise, adapt, overcome - Social media and youtube.

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- Incentives play an integral role in driving success. Get incentives right and **consistent** to build momentum and identify what would work before establishing standards.
 - Public/tenant safety benefits of decarbonization.
- Engage with the CCAs because they can facilitate on workforce, financing, adoption, incentives, stabilizing financing long term. Negative anecdotes will be adopted and pushed from opposition groups.
 - CCA/ CALCCA should be actors and engaged with the BDC
 - Volunteered to lead engagement if needed
- Induction stoves are currently seen as inferior by most consumers. How do we make induction cooktops the next Instant Pot? Induction Cooktop foodie movement could be a good push. Quality portable induction stoves are decently cheap (~\$75 retail right now) add a rebate to it? Sonoma Clean Power offers a lending library of induction cooktops
 - Message testing/field research is absolutely essential.
- Raising awareness with demonstration labs. Partner with colleges/universities/trade schools to help raise awareness and put it in the hands of potential installers/marketers/etc.
- Making things easier to build/certify/permit encourages builders to adopt by simplifying their approach. Include outline on efficiency stats/sales/etc. Precertification can help push installation.
 - Hotline that provides details, information, inspection?
- 1B - Engaging & training for high quality solutions. Leverage existing IOU energy code compliance training. Live, digitally engaged through phone.
 - Performance assessment through angie's list, home advisor, "marketplace" etc
 - Expand home energy efficiency reports from Oracle to include decarbonization.
 - These technologies have demand response capability. Activate it and incentivize
- 4 points
 - Goal 4B - Aggressive national level campaign on the need for increase volume of sales. Current stock of equipment is insufficient to meet the existing needs. This is a major issue that will require movement on policy, manufacturing, and installation.
 - Goal 5B - Large scale funding for POD system direct retrofits. Develop with multiple manufacturers to provide an all-inclusive, fast, and effective retrofit methodology aiming to minimize the need for extensive renovations.
 - Goal 5B - Building recladding will need to be considered as another avenue for approaching decarbonization and effectively mitigating emissions.
 - Goal 3A - Quantify and assign a monetary value to non-energy benefits that are coming along with decarbonization.
- Need for a proceeding at CPUC that addresses how the gas infrastructure is funded and who bears the burden/risk. Address stranded costs as well as how to address any existing infrastructure expansion plans
- Infrastructure on the electric side - Make use of grid assets rather than always building more infrastructure. Need evidence and research focusing on the dependability of

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demand response assets rather than continuing to expand physical infrastructure where it may not be necessary.

- CEC IEPR Transcript from June 14th because starting on page 185 Michelle Nall with Glendale Water and Power, Bryan Pham from Edison, and Russ Griffith with PG&E spoke about the significant Energy Efficiency gains (their words) from Conservation Voltage Reduction Technology (CVR). Echoing back to ACEEE's 2012 ideas that they labeled "intelligent efficiency", let's make sure we build and expand upon and further leverage the fantastic gains we've had with device efficiency by coordinating our efforts to alleviate the challenges at the ultra-grid-edge which if not cured will inhibit our goals of 100%. New construction (reach codes), rate reform (esp TOU and larger baseline allowance) and unlocking EE rebates for decarbonization are key to get this moving.
- Need to integrate carbon reduction/RESNET/COMNET ratings that could be required to get building permits to improve visibility.
 - Certification/state licensing bureaus
 - Sales out to the consumers needed by kitchen table sales.

Main Themes/Grouping for potential actions:

- Jonathan Kevles - Education - Property owners, contractors.
 - Policy work at state/municipal/city level
 - Developing Standards
- Kevin Woods
 - How to combine actions into designed programs?. Develop overarching approaches that drive towards specific goals
- Michelle Thomas
 - **Messaging** - Developing consistent messaging that is carefully targeted
- Megan
 - Opportunity to find someone who is passionate about the issue but comes from outside the industry.
- Pam - Potential to find a pro-bono outside contributor.
- Jenna - We have a marketing perspective that may be overrepresented today, but that isn't a bad thing. Previous endeavors have faltered at times
- Collin - There is broad recognition that communication is vital
- Jonathan Kevles - Messaging is likely to be a core part of outreach but not necessarily a separate segment
 - Manufacturers have marketers, they should be reviewed and considered.
 - Jenna - Most of these manufacturers do both gas and electric. No incentive to push electric.
- What are we trying to sell? What is the action we are driving towards? Where is the incentive that makes it economically feasible? What are the products/behaviors/programs that we are working towards.

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- Sean Armstrong - There are rebates focused around fuel switching at the moment. Pearl Harbor for climate change is a hurricane or the wildfires. Cities are being threatened by these fires and it emphasizes the need for action. Call to action to save the cities/states
- Panama:
 - 3 major buckets
 - Awareness
 - Public Policy - Including rates
 - Market transformation

Next steps that happen for the BDC - Deadlines, meetings, feedback timeline:

- Stakeholder Comments for the [Barriers/Goals draft](#) are due 11.16
- [Actors-Action-Timeline Exercise](#) is open for additions until 11.23
- Next Roadmap Draft 11.29
- Stakeholder Comments for Actions-Actors Draft are due 12.07
- Final Roadmapping Session 12.18 in [Sacramento at the California Endowment](#)
- Draft Roadmap for Comment Available 12.23
- Final Stakeholder Comments due 01.__.19
- Roadmap Completion: 01.15.19