

Memo on the Forthcoming CEP Work Plan

December 3, 2021

From: The EVAC Work Plan Subcommittee (John Farrell, Timothy Denherder-Thomas, Becky Olson, Patty O'Keefe, Marcus Mills, Elizabeth Turner, and Jon Kuskie)

To: EVAC, Planning Team, Clean Energy Partners

Dear Clean Energy Partnership friends,

The EVAC Work Plan Subcommittee met twice in the past month to discuss the forthcoming Partnership work plan and to provide initial input to be shared with the full EVAC for its 2021 Q4 meeting.

The group focused on the three priority goals identified at the 2021 Q3 EVAC meeting: receiving 30% of citywide electricity from local, distributed solar; Beneficial electrification of gas end uses; and Deep energy efficiency with community benefits.

After some discussion, the subcommittee felt that its most useful contribution would be to ask questions or provide information to help define success for each of these three initiatives, and then to provide ideas for near-term action that would lay the groundwork for ultimate success. The feedback is summarized below.

Local Renewable Energy

Of the three priorities, this goal of 30% of citywide electricity served by local, distributed solar is most clearly defined. Work Plan Subcommittee members did have any additional suggestions to clarify the goal.

For near-term work plan items, the subcommittee offers a few suggestions:

- That the City of Minneapolis adopt the SolarAPP and allow virtual permitting of distributed solar projects. This free software tool, developed by the National Renewable Energy Laboratory in partnership with several volunteer cities, could simplify and shorten the permitting process for residential and small commercial projects.
- That Xcel Energy adopt presumptive interconnection within 10 days of project application for projects under a certain size threshold (eg. 100kW), as is done for net metered systems in Vermont. This policy should be informed by the utility's hosting capacity study and other factors to ensure safety and reliability.
- That solar projects be added as permissible standalone projects under the inclusive financing pilot program and that Xcel Energy join the pilot to allow for financing to be used for measures that may have electric-only benefits, including fuel switching.
- That the city develop plans (with help from Xcel Energy) to help coordinate acquisition of large rooftops from commercial or institutional property owners for community solar serving local residents or for aggregating solar serving multifamily residents.

Decarbonizing Gas End Uses

Work Plan Subcommittee members felt like this goal requires more definition in order to allow EVAC and others to determine whether it is successful. In particular, it would be helpful to understand:

1. The scope by customer class and end use. For example, is the goal to decarbonize all residential (1-4 unit) gas end uses, e.g. space heating, water heating, cooking, and clothes drying? What about commercial and industrial customers?
2. How well does the goal align the Partnership carbon reduction target with the replacement period for major gas appliances? E.g. How many drop-in gas furnace replacements can still happen without jeopardizing the overall building-sector carbon reduction targets?
3. Knowing that there are no sufficiently low-carbon, drop-in fuels that can meet the long-term carbon emissions goals, how would work toward this goal prevent path dependency that would require maintenance of the entire existing gas network, which would be expensive to ratepayers? How can it be coordinated to allow for the savings that could come from structured decommissioning?

For the near-term work plan, the Work Plan Subcommittee came up with a few options we felt would lay the groundwork to meet the larger goal, which we assumed would likely involve decommissioning gas service to most 1-4 unit residential properties:

- A city-utility partnership to develop a low-carbon district energy system (using some form of thermal medium and heat pumps) to provide heating and cooling for multifamily buildings, to build knowledge and expertise for broader fuel switching
- Incentives for dual-fuel applications of heat pumps (e.g. existing gas as a backup) as well as envelope improvements that would reduce overall costs of decarbonization
- A city-utility bulk purchase and bulk negotiation program program to reduce the total installed cost for heat pumps, heat pump dryers, induction ranges, and other all-electric equipment to replace gas end uses
- Modification to utility rebate programs that apply the savings on electric appliances to the point of sale price

Deep Energy Retrofits

The Work Plan Subcommittee felt that the retrofit goal also needs more definition. The city has a loosely adopted goal of retrofitting 75 percent of residences by 2025 (almost certain to fail). Prior Partnership work plans have — at best — aimed to double participation in weatherization and efficiency programs, with a fairly low baseline. What constitutes a retrofit is also not well-defined. The subcommittee offered a few suggestions for sharpening the goal:

- Divide potential retrofits into “deep” (changing the building shell, e.g. adding exterior insulation when replacing siding) and “medium” (improvements that do not involve major disruptions to the building shell). Within “deep” and “medium” retrofits, develop performance baselines that align with low-carbon heating and cooling systems, e.g. a design heating load of 10 kbtu per square foot, but adjusted into a small set of building types that account for the challenges with retrofits (e.g. brick exterior vs. vinyl siding).
- Identify what available datasets could provide the partners with the performance data (or a reasonable proxy, e.g. R-value of wall and attic insulation, air leakage) for 1-4 unit dwellings in Minneapolis, e.g. a high consumption dashboard to look at actual annual use.
- Pick a subset of the most energy intensive dwellings to address in a near-term goal (e.g. the top quintile by 2026), as well as a longer term goal. (The subcommittee felt like the recent commitment to [decarbonize all buildings in Ithaca, NY. by 2030](#) helps to send a market signal to contractors to hire, for example).

To address the goal, the subcommittee identified a few ideas, several of which could overlap with the first two initiatives:

- Expand and enhance navigator program models (such as being used by Home Energy Squad and proposed by the Energy Cohort) that wrap together energy assessments, project bids, contractors, and financing and that can address financial and other barriers for residents of marginalized communities. These

home energy upgrade packages could include building decarbonization measures, including solar.

- Identify the potential workforce needs of the near- and long-term goals and identify pathways for more members of marginalized communities to be trained in to perform the work and for new and existing BIPOC-owned businesses to grow into this work.
- Identify ways to train local contractors to prioritize measures that would meet Partnership goals, (e.g. siding contractors that pitch additional insulation, HVAC contractors that pitch heat pumps)
- Create a bulk purchase and bulk negotiation program program to reduce the total installed cost for heat pumps, heat pump dryers, induction ranges, and other all-electric equipment to replace gas end uses
- Implement a mechanism like inclusive financing that would channel and de-risk sufficient financing to support widespread retrofits

We look forward to sharing and discussing these ideas and recommendations with you next week.