City of Boulder – Xcel Energy Partnership

Building Electrification Working Group- Workshop

Date	March 17, 2022
Location	Zoom Virtual Workshop
Participants	Electrification Working Group • Pat Hillmeyer • Brynn Grunwald • Dennis Arfmann • Wayne Seltzer • Justin Brant • George Craft • David Kang • Eli Feldman Boulder Xcel Team • Iffie Jennings, Boulder County; Xcel Energy • Carolyn Elam, City of Boulder • Emily Sandoval, City of Boulder • Ann Kirkpatrick, Xcel Energy Institute for the Built Environment • Josie Plaut, Facilitator • Carter Cape, Recorder (asynchronous)

Workshop Summary

Topic	Notes
Welcome, Introductions, + Agenda Overview	Two new members were welcomed to the working group, Eli Feldman and Justin Brant. The group reviewed the previously discussed recommendations:

Potential New Activities from Last Meeting	• Develop Electrify Now Campaign: Educate owners, HVAC contractors, and retailers on benefits of switching to electric appliances. • Develop Commercial Electrification Rebates and Incentives: Explore commercial rebates and incentives through a 2023 pilot program. • Explore Split Incentives: Work to understand leverage points and strategies that address split incentives. • Expand Low-Income Weatherization to Include Electrification: Identifies challenges and opportunities with funding low-income housing electrification. • Conduct Additional Contractor and Installer Education: Educate contractors and installers on rebates, tax incentives, and health reasons for building electrification. • Support Transformer Upgrades: Identify strategies to financially support transformer upgrades.
Initiative Development	*The group work on two initiatives for this meeting: Multifaceted Commercial Electrification Strategy and a Residential Electrify Now Program. The group worked from draft documents developed by the staff team – one for each strategy.* **Document Setup** • Description of initiative or strategy • What is the goal of the project? • Key metrics to measure success • Barriers and solution to described problems
Multifaceted Commercial Electrification Strategy	**DRAFT DOCUMENT OVERVIEW** Commercial projects include industrial, office, retail, and multifamily. **Key Metrics** • 5% reduction in fossil gas consumption by 2025 • 30-35% reduction in fossil gas consumption by 2030 **Initial Steps** • Multifamily: Target properties that are candidates for upcoming rehabs and identify necessary incentives. • Explore Private Sector Turnkey Solutions: Catalyze proactive turnkey commercial real estate solutions. • Develop Commercial Electrification Rebates and Incentives: Explore commercial rebates and incentives through 2023 pilot program. • Explore Split Incentives: Work to understand leverage points and strategies that address split incentives. **Alternatives/ Long-Term Ideas**

- RFP: for provider like Denver/ Ithaca (loan loss guarantee, buy down private cost of capital, need financing and address supply chain issues.

DISCUSSION

After the presentation of the draft document, the group discussed key topics and live edited the document. Points made during the discussion are summarized below.

Barriers/ Solutions

- Some technologies are more difficult to electrify so we should focus on specific appliances at first would be more attainable.
- Getting contractors and owners to use incentives while they are available. Making the dates of the new building codes and incentives readily available for people in Boulder.
- Finding solutions to electrify commercial buildings that are more complicated than residential structures. Increased financial burdens are faced by commercial buildings.
- Increased long term costs that may be faced by commercial buildings when they move away from cheap heating options such as natural gas. This could be offset using solar power because it would lower the energy structures draw from the grid.
- Commercial sites draw more energy than can be provided by solar power, but there is a possibility of carbon taxes being implemented that could make electricity cheaper in the future.
- Creating and understanding a cost model that forecasted the price changes in gas and electricity, and this could benefit commercial sites because they could understand the benefits and drawbacks easier.
- Technology solutions are not always straightforward for structures to increase electrification.
- Contractors may not have complete understanding of how to install the new technologies, and if the technology does not function there will be a strong pushback.
- Complete electrification in the commercial sector is not currently feasible, so where are the best places to target the teams' efforts to reach the metrics set. Focusing on the easiest areas to electrify to increase the odds of reaching the working groups goals.
- Getting building owners to pay for the high costs associated with identifying how to electrify their building that would require engineers and architects. There needs to be some sort of incentive to help owners share all the costs associated with building electrification. Owners can also charge tenants for the use of the power they generate to help offset the increased costs that they face.

	• Increasing the efficiency of structures through improvements like insulation is harder to measure. This can lead to incentives not being as easy to establish based on improvements. **Target Strategies** • Talk to building owners to discover who is more receptive to the changes and working with them first. • Using the city's new information from building gas use to identify what areas of commercial use the most fossil fuels. This information can help the team target which areas will be most beneficial and most simple to improve. • Adding a technical assistance program that can help owners find out where they can improve their electrification with the assistance of Boulder and Xcel. • Encouraging retailers to begin offering more electrical appliance options to customers to get ahead of gas bans in Boulder. • Changing the name of the electrifying programs could increase the publics approval of the programs.
Develop a Residential Electrify Now Program	*Below summarizes the discussion of the Residential Electrify Now Program.* Before presenting the draft, one member had to leave early, but expressed concerned with the name "Electrify Now" and the program branding and marketing suggesting that Boulder should consider branding similar to the Energize Denver campaign or similar. **DRAFT DOCUMENT OVERVIEW** **Key Metrics** • 15% reduction in fossil gas use by 2025. • 85% reduction in fossil gas consumption by 2030. **Initial Steps** • Homeowner and installer education programs: Build awareness of benefits to community, dispel myths and misconceptions, and provide additional information. • Explore city-backed volume purchases. • Provide rebates/financial support for residential panel upgrades. • Continue contractor education programs. **DISCUSSION** **Barriers/ Solutions**

- Waiting for the HVAC systems to be replaced would decrease the effectiveness of this plan, so the electrification of buildings earlier must be incentivized.
- There is a high initial cost associated with electrifying a home. This could be offset by having a finance program available that could be run through your utilities.
- Replacing an AC only unit with a heat pump is more expensive. This could be offset by incentivizing owners financially to lower the economic burden of electrification.
- Encourage contractors to educate owners on the feasibility of heat pumps as an option when replacing an AC unit.
- Do consumers analyze minimal changes in the costs with energy use in more efficient uses? The main cost examined by most consumers is the initial cost because some owners cannot afford more expensive options. The high cost of the initial purchase of the furnace can also be offset by the purchase of a heat pump because less strain is put on the heat pump.

Clarifications

- The breakdown of energy use of different appliances in households is better understood by the working group than commercial structures. For example, the bulk energy use is space heating in residential.
- Natural gas stoves cause negative health side effects due to their release of methane gas that has increased asthma rates in families and households.
- Heaters have a longevity of around 18 years and water heaters last 10-12 years.