

Energize Denver Task Force – Meeting #3

March 18, 2021 – via Zoom

Prepared by the Consensus Building Institute (CBI)

Meeting in Brief

The Task Force had its third meeting, focusing on the policy options, data, and tools needed by the Task Force to begin developing policy energy efficiency and renewable energy recommendations in April. The City presented sample policies and a policy design tool being developed by the City for Task Force decision-making. Task Force members weighed in on additional information that would help them evaluate potential options.

Click [here](#) for the Task Force Charter and membership, a video recording of the meeting, future meeting announcements, and other materials.

Background Context

The City reminded the Task Force of where we are in the process and work being done by the Equity, Workgroup and Climate Solutions workgroups to help advance the Task Force charge. Workgroup information is available on the Task Force [website](#).

The Task Force approved in principle the Racial Equity Lens that came out of Meeting 2, as refined by the Equity Workgroup. The Racial Equity Lens will guide the work of the Task Force and is available [here](#). The group discussed reasons for focusing specifically on racial equity. While the Lens is designed to promote equity for *all* historically under-resourced groups, data shows that designing around race ‘raises all boats.’ The Equity Lens is race-explicit but in using it, the Task Force will take into consideration all vulnerable groups.

Energy Efficiency & Renewable Energy Policy Options + Tools

Katrina Managan described the gaps that buildings will need to address to get Denver’s existing buildings to Net Zero Energy by 2040. She reviewed policies used to increase energy efficiency in Seattle, St. Louis and New York City (including requiring building tune-ups, achieving a per-square-foot energy use target, and setting carbon targets, respectively). She shared a policy design tool being developed by the City to help the Task Force evaluate impacts from various policies under different scenarios, for varying sizes and types of buildings. The City also briefly reviewed anticipated state legislation and promised to keep the Task Force updated on this. Task Force members Frank Arellano and Jon Buerge also provided examples of innovative energy efficiency and renewable projects in which they’ve been involved.

Small Group Discussions

The Task Force broke into groups to discuss ideas, questions, and additional information needed to consider energy efficiency and renewable energy policies. The input is summarized below.

What ideas resonate?

- Dividing bigger buildings and smaller ones, perhaps at 25,000 square feet.
- Prescriptive options for small buildings use; performance options for larger ones.
- Keep ENERGY STAR and EUI - both have plusses and minuses.
- Include more on sourcing, embodied carbon, and a way to adjust over time.
- Have a review timeframe when things sunset and/or change (at that point some buildings may have gone as far as they can).

- Make the ‘right’ thing the easy thing for building owners/managers.
- As we make our decisions, take relevant information and use it for community education. To buy in and promote ‘eager compliance,’ the public needs to understand the different trade-offs and reasons for the chosen policies.
- Prioritize options/incentives over mandates/penalties.
- Use peer pressure, e.g., Energy Star list and efforts by companies like Kroger, Walmart and Wells Fargo, focusing on the 20% that are likely 80% of the issue.
- Embed racial equity lens in policy design tool (e.g., evaluate impacts on tenants). Identify who it’s going to be hardest for and hardest to reach.
- Help owners quantify future savings from change to electric boilers, heat pumps.
- Ensure there are adequate incentives to cover relevant buildings (after Green Buildings Ordinance, option to join community solar was limited).
- Provide multiple compliance options, so utilities will offer rebates. (If City mandates something, utilities withhold incentives because it is required.)
- Watch for upcoming ballot initiative that would impact gas and electric rates.
- Allow multiple pathways to compliance.
- Design the policy for those in the ‘middle,’ targeting incentives for those with most need who can’t do it otherwise.
- Industrial REIT’s leasing rooftops to install solar farms.
- Focus on financing mechanisms to make it easy. The C-PACE program can be used for deferred maintenance.
- Incorporate tiered revisiting/flexibility to reevaluate given dynamic landscape.
- Incentivize early adopters, then focus on buildings that are ‘biggest bang for buck’; give early adopters ways to do more without penalizing them.
- Raise building owners’ awareness, provide resources, and align incentives.
- Normalize and reframe energy efficiency/smarter energy use; make it socially appealing; get people excited about saving operating costs and helping the planet; focus on the next generation (e.g., through education, ‘gamification’).
- Consider 0% interest and any kind of carrots the City can use.
- ‘Technologically feasible, fiscally obtainable, eager compliance, grid stability.’

What other info/data do you need as we start considering energy efficiency/renewable policy options?

- Info about what’s easy/doable for building owners.
- Viable options for renewable energy compliance pathways that still meet our targets. Could options be offsite (e.g., community solar, wind)?
- What are examples of successful ways to measure progress across multiple options/pathways (including when building use changes)?
- Examples from other cities, to show what’s worked and (maybe more importantly) what hasn’t or is distinct from what we’re trying to do. Share links/policies where possible. Any examples of meaningful labor standards?
- Where does C-PACE or performance contracting worked and not worked well?
- Examples of prescriptive options that don’t work well for smaller buildings?

- Use simple flowcharts and infographics including to show costs and payback.
- Ask business owners and tenant groups: would we need to make it work for both? (E.g., partnerships with utilities or other programs, rebates from utilities, tax incentives at state/local level, credits and not assessments).
- Create matrix of all certifications, so we're using these tools where possible.
- Analysis of gas rate impacts when X number of buildings have been electrified? Is there a certain threshold that makes electric more cost effective than gas?

Concerns

- Warehouses need sufficient power to have much solar per Xcel's limits.
- Want more details about the 20% gap - including the Xcel issue with limits on capacity on loops.
- Financing concerns: when selling a building, it stays with the property so can hurt the future sale/value of the building (although new owners get benefits from the project itself). Non-profits may also not stand to gain financially.
- Generalized reduction policy can be inequitable to first market adopters.
- Concern about inequitable access to capital for innovative energy projects.
- EOC manages the large efficiency grants, they do the marketing, funding sources, meet reporting guidelines.
- Don't always need a lot of financing, but there's so much that's needed even to apply for tax credits meet efficiency guidelines
- Need more realtors at the table.
- Steam buildings are expensive/complicated (e.g., fitting equipment in elevator).
- It can be challenging for buildings to pass along capital costs in workable ways.
- Concerned with mandatory upgrade concepts. playing out in the boulder on lighting. ruffles some feathers. far more in favor starting end of life replacements
- Concern about grids flexibility and ability to accommodate all additional energy use that will come from this possible. How do we ensure grid reliability?

Questions

- Why solar and not wind?
- Steam and chilled water systems: how will we address those buildings?
- If we use Energy Star as a metric, how do we manage to a tool that's getting consistently updated?
- Can we allow the option of trading renewables/solar with energy efficiency requirements to meet the 100% renewable goal?
- How do we keep Denver competitive and anticipate changes post-COVID?
- Are we considering the lifecycle of materials/impacts from making and disposing of solar panels and batteries, compared with lifecycle of materials/impacts of fossil fuels?
- Is there enough space for solar and where would panels go?
- Is concrete more important than solar panels?
- Are we looking at embodied carbon in solar?
- How do we really implement our Equity Lens, especially the race-explicit aspect?
- How do we use lessons learned in large buildings to help smaller buildings?

- Are we adequately considering maintenance?
- Who's going to do the work of maintaining the buildings?

Electrification Policy Options + Tools

Katrina described options and considerations for building electrification policies (e.g., health impacts, impacts to the grid). She shared examples of what other cities are doing to require electrification and policy levers available to Denver as a Home Rule city, which can pass building codes with specific requirements beyond energy efficiency targets (e.g., requiring heat pumps at end-of-life system replacement). She explained that Denver is working to develop options at cost parity, or that are potentially more expensive but get the City further toward its goals of Net Zero Energy. As examples, Task Force members Aaron Martinez and Sergio Cordova provided case studies of building electrification projects in which they've been involved. The Task Force will consider electrification policy options in June and July, when more data is available regarding the above and other considerations.

The presentation is available [here](#).

Small Group Discussions

The Task Force broke into groups to discuss ideas, questions, and additional information needed to consider electrification policies. The input is summarized below.

What ideas resonate?

- Inspiring to see it working!
- Help tenants be part of the change – e.g., explore ‘pathway’ of incentives to help build growth with tenants, workers, and their communities.
- Can we create a community engagement that encourages communities to come together and create encouragement from within?
- City to help provide access to)% interest or very low cost debt (to achieve cost parity).
- Create programs for entrepreneurial paths for minority and women owned businesses.
- Create new opportunities for youth.
- Create retrofit leaders in targeted neighborhoods to inspire and influence others and show it's possible for ‘regular’ people or those with less land or roof space.
- Using Equity Lens, target key buildings and neighborhoods and create feasibility plans.
- Identify barriers and solutions, to help go from where we are to where we need to go. Identify strategies/pathways by building type.
- Thinking ahead to ensure there are tools/resources and affordability/incentives when buildings need to do end-of-life system replacement – e.g., in terms of utility programs and on the open market. Where has this worked well/poorly?
- The ROI is long-term. How do you finance this? What is the impact to tenants? Exploring rebates and incentives is critical.
- Incentivize and educate owners to proactively encourage them to replace systems.
- Identify resources needed to help owners ‘eagerly comply.’
- Identify workforce and job implications of electrification and labor displacement.
- What contractor and other stakeholder buy-in is needed to go from gas to
- Use LEED to think about different approaches and compliance pathways (can't design a perfect policy).

- Requiring retrofits at system life replacement allows flexibility in planning; increase a building's efficiency while we move to this transition; until you can replace gas boiler, you're working on energy efficiency, maybe resealing or adding insulation.
- Encourage end of life system replacement: e.g., buy a heat pump get a free energy audit; City to provide additional components; utility partnership/city buys down cost of energy efficiency.
- Upgrades and 5-year tune-ups are a lot easier than switching buildings over to electric. We are talking about tackling the hardest buildings first and will need a substantial number of engineers to be able to maintain these new systems.
- Most office buildings downtown need a lighting upgrade. A lot of companies have 24/7 operations which is why lights are on downtown at night.
- Maintenance contracts.
- Connect 'like' kinds of projects with one another.
- Electrification can work for most buildings now!
- We have a lot more data, information, and examples than we did even a year ago. And we know that the systems themselves improved drastically in the past couple years and now work at temps down to -20 degrees.
- Top preference: electrification at the time of replacement (at end of useful life) for heating equipment as well as cooling equipment. Next best option: policy mechanism that would be electric-preferred, where you offset the emissions from a new fossil-fueled system either through more efficiency onsite, or through increased permit fees where the funds are directed to education, training, or grants for buildings in disadvantaged areas or sectors

What other info/data do you need as we start considering electrification policy options?

- How can we create a better cost parity with current energy rates?
- Can we use funding to loan out to those in need for upgrades and use the interest and payback to fund other ventures?
- What percent of buildings really are tall with little roofs?
- Identify near-term options for cost parity, to ensure vendors are including those options and designing incentives accordingly.
- Electrification case studies shared with the Task Force involved unusual privileges and access; need to see those involving 'normal' people and situations (e.g., with debt).
- What will be the impact on tenants, given the capital expenditures? Use the policy design tool to assess the per square foot so we can guess at costs that will be passed on to tenants. Use the Equity Lens to gage that impact.
- Case studies in how electric appliances (e.g., heat pumps) have operated in Denver-type weather (with highly efficient buildings and not).
- Given costs to go all-electric, what have other states/cities done to offset this cost
- Want understanding of our grid infrastructure. How does Denver compare? What do we need from utility companies and others to make it work?
- Prescriptive vs performance-based policies. How effective has this been elsewhere to require electrification (e.g., other countries)?
- How prepared are we to engage with manufacturers and contractors in terms of both cultural and economic resistance to new technologies?
- Life cycle analyses, including water conservation (e.g., inputs, products sourcing).
- Need cost information 1) for new electric systems if we mandate them; 2) longer-term recovery costs in terms of benefits. Can tenants and the market bear the costs?
- What education options do we have to get folks to buy into longer-term cost benefits.

- How have other cities/states addressed impacts on the workforce successfully?
- What lessons can we learn from the auto industry in transitioning to cleaner technologies?
- Lifecycle emissions from a new fossil-fueled furnace, boiler, or water heater - how much onsite efficiency would it take to offset that? Or what would be a reasonable permit fee increase for fossil fueled systems to offset those emissions?
- Define 'end of life' (e.g., DOE advanced rooftop replacement; if unit is 15 year old).
- Should we target 1,000 buildings that use 90% of the gas, or is it all equally distributed across buildings?

Concerns

- Most vulnerable communities don't have access to decision-making; need to address deeper questions of ownership.
- The case highlighted the cost challenges; it's hard to make this cost-effective right now.

Questions

- How are we dealing with historic preservation?
- How can we create a model using current assets? Can we use City dollars to help influence contractors?
- What can we do in our school systems to help educate our youth about these projects?
- How do we ensure our grid remains stable (avoiding TX or CA outcomes)?
- What could the alternative compliance pathways be and who can use these?
- How do we better define 'end of life' for systems and how do we use this to help adopt?
- How do you finance this?
- How do you convince stakeholders this is important? What is the impact to tenants?
- What contractor buy-in is needed?
- How do we encourage replacement before failure/proactive replacement?

Wrap Up & Next Steps

The next Task Force meeting is Thursday, April 22. The pre-meeting briefing for Task Force members is Monday April 12. The Climate Action workgroup will meet twice before the next meeting to help the City refine the Policy Design Tool presented today, and to use it to preliminarily vet options for Task Force consideration in April. The Workforce and Equity workgroups will continue to meet as needed as well.

Meeting Attendees

The meeting was attended by the following Task Force members, City staff and consultants:

City of Denver – Office of Climate Action, Sustainability and Resilience

- Grace Rink, Executive Director
- Katrina Managan, Buildings Team and Task Force lead
- Amber Wood, Energy Program Administrator
- Jan Keleher, Building Electrification Lead
- Maria Thompson, Buildings Program Administrator
- Jarrett Vigil, Buildings Intern

Ryan Golten, Consensus Building Institute (facilitator)

Task Force Members

Present			
x	Arellano	Frank	LBA Realty
x	Barstnar	Kathie	NAIOP Colorado

x	Brinker	Christine	Southwest Energy Efficiency Project (SWEEP)
x	Buerge	Jon	Urban Villages
x	Bustamante	Eddie	LiUNA! Local 720
	Cappelli	Jonathan	Neighborhood Development Collaborative
x	Cizik	Celeste	Group 14 Engineering
x	Clark	Jolon	Denver City Council District 7
x	Cordova	Sergio	Pipefitters Local Union No. 208
	Dyers	Monique	Ensign Energy Consulting, LLC
x	Fletcher	Angela	Denver Housing Authority
x	Gonzales	Jennie	IBEW 68
x	Gonzalez	Ariana	Natural Resources Defense Council
x	Gremmert	Jennifer	Energy Outreach Colorado
x	Knaizer	Sam	BPX Energy, BP America
x	Kruger	Mike	Colorado Solar and Storage Association (COSSA)
x	Martinez	Aaron	Urban Land Conservancy
	Mayhew	Amie	Colorado Hotel & Lodging Association
x	Morgan	Steve	Rocky Mountain Association of Energy Engineers
x	Muccio	Peter	Apartment Association of Metro Denver
x	Pace	Lori	Denver Metro Association of Realtors
x	Prestidge	Scott	Colorado Oil and Gas Association
x	Smith	Tyler	Xcel Energy
x	Shephard	Stephen	Denver Metro BOMA
x	Wilford	Jenny	Colorado Sierra Club