2022 TAG Meeting: Buildings

Version March 18, 2022
All Sector-Specific Meetings will take place from 1:00 – 4:00 pm MT

Join by Zoom
https://cbuilding.zoom.us/j/95190047848 | Meeting ID: 951 9004 7848
Dial by your location
+1 669 900 6833 US (San Jose)
+1 253 215 8782 US (Tacoma)
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Materials

- Climate Equity Guiding Principles
- RMI Slides from Kickoff Meeting
- CAT Slides from Kickoff Meetings
- Buildings Sector Brief

Agenda

Part 1: Quick Review & Prioritize Discussions

1:00 Welcome, Opening

- Reconnect – Opening – Small Group
- Ground in Climate Equity Guiding Principles (esp 6.c: Reduce the energy burden on low- and no-income households)
- Announcements and Updates

1:15 Review: Sector Goals & Implementing Actions, ask questions

Alyssa Latuchie/NM Agency Staff

- Role of 2021 energy efficiency codes (may have covered in discussion around stretch codes and building codes, may cover more during buildings session)

Part 2: Small Group Work

1:40 Small Group Work: In Depth Discussion of Building Goals & Proposed Implementing Actions

- Reminder: purpose & outcomes for conversations
- Walk through conversations – ask for alternates to let me know who they are sub'ing for
- We will check in as a full group at 2:30 and take a ten-minute break.
- Each group will be asked to cover 1-2 Goals and prioritize additional goals for discussion to ensure coverage

Part 3: Debrief & Wrap UP

3:30 Report Back, Debrief

3:55 Wrap Up, Next Meeting

Buildings Sector Emission Reduction Goals

New Mexico Climate Change Task Force

Technical Advisory Group

Summary

The buildings sector contributes a relatively small amount of emissions (3.5% of total) but is an important sector for the energy transition to touch. Buildings have long life-cycles and by encouraging and incentivizing upgrades at the end of life, we have the opportunity to avoid costly retrofits in order to meets this goal. This is an opportunity to not just reduce emissions but increase resilience, equity, economics, and state efforts.

Issues

- Direct buildings emissions in 2020: 3.65 MMT (million metric tons)
    - If no policy change – by 2030: 4.19 MMT
    - With the proposed policies 2030: 3.78 MMT
    - To get to 45% reduction of 2005 level by 2030: 2.43 MMT
    - So the proposed policy doesn't get us all the way there, but gets us about a 24% reduction
- Within the building sector the vast majority of direct emissions come from burning natural gas for heating (both heat and water)
- Within the buildings sector, there are 2 major pathways for emissions reductions
    - Building code updates
    - Building electrification
- At the start of the workshops, we talked a lot about building code updates, and possibly updating the building codes on a regular schedule. But RMI ran some numbers and made it clear that while this does have some impact on emissions reductions, it is a very small piece of the puzzle. And instead, we must focus on building electrification.

All new buildings are electrified	0.54 MMT (31% of total)
Fuel switching of existing buildings	1.07 MMT (61% of total)
New building efficiency	0.15 MMT (8% of total)
Retrofits	Accelerates fuel switching and efficiency

- Where is natural gas in buildings?
    - About half in commercial properties
        - Commercial fuel switching tends to be more complicated and more expensive because the systems are larger and tend to be centralized – this is why there is less of a focus on commercial fuel switching
    - Half in residential – 77% urban, 33% rural
        - 3 in 5 homes in NM use natural gas
        - About half of those homes will need a new furnace over the next decade
        - In order to reach 45% emissions reductions target 2/3 of what will be replaced needs to be a fuel switch
- If there is no action taken by 2024, it is no longer feasible to meet the goal with replacements alone. Retrofits would be required, which are vastly more expensive since equipment is not at the end of its life.

Recommendations

Goal 1: Establish legislation requiring 100% fuel switching of gas space and water heating systems at end-of-life by 2023

Possible implementing actions:

a. Establish legislation that ensures an equitable transition of the gas infrastructure system with steps to begin by 2023
b. Implement training programs so that implementers and installers are comfortable with and knowledgeable about the technology

Rationale: When space and water heating systems reach the end of the life, people tend to buy what is cheapest, easiest to install, and recommended by their contractor. We need legislation for the switch to be mandatory.

Caveats: Incentives and funding for this is necessary for this to be equitable (see goal 2).

Questions for the TAG to consider:

- How can we obtain and maintain gas utility support for transition programs?
- LMI residents may need assistance paying for higher fuel costs since currently natural gas is cheaper than electricity. How can this be facilitated in the long run?

Goal 2: Electrify 1/3 of the space and water heating in buildings by 2030 by providing financing and incentives.

Possible implementing actions:

a. Identify where existing programs (state, utility, or federal) can be expanded or refocused to meet space and water heating electrification needs (especially in LMI and underserved communities)
b. Identify other funding mechanisms, such as green banks, that can help bridge the gap of funding
c. Implement training programs so that implementers are comfortable with technology and able to recommend the technology

Rationale: This goal is related to goal 1. In order to encourage fuel switching, there has to be a "why" that is compelling to the public. Incentives can help bridge the cost gap and ensuring that there are multiple avenues for inexpensive financing can make new and more costly technologies more feasible. Incentives are imperative for this transition to have minimal impact on lower income residents.

Caveats: Incentives need to be easily attainable and readily available, ideally at the register. Funding for these incentives needs to be ample. Financing options will need to be competitive at low/no interest and available to those with lower FICO scores.

Questions for the TAG to consider:

- Can and should these types of goals be included in the rule making for the Community Energy Efficiency Block Grant Bill? How can we best do that?
- How can we leverage the Bipartisan Infrastructure Bill for this effort?

Goal 3: Establish a building performance standard by 2023 that drives a 33% reduction in commercial gas consumption by 2030.

Possible implementing actions:

a. Implement and building on building and trade training programs on codes
b. Legislative action to establish authority for energy standards for existing buildings

Rationale: Commercial properties account for about half of the consumption of natural gas within the building sector. While fuel switching in the commercial part of the sector tends to be more complicated and expensive than the residential side, it is important that we find a way to do this so we can impact these emissions.

Caveats: Since commercial properties vary greatly, we need to take that into account with the building standard that is created. There may be a need for different standards for different industries and this could balloon.

Questions for the TAG to consider:

- Commercial gas use can vary greatly between different industries. How can we craft policy to target certain industries to have the greatest impact?

Goal 4: Develop and incentivize the adoption of an all-electric, net-zero-carbon stretch code that is adopted by municipalities representing 50% of New Mexico's population by 2025.

Possible implementing actions:

a. Legislative action to establish authority for energy standards for existing buildings
b. Create stretch code guidelines that can be used by municipalities so they wouldn't need to put in the work to do that themselves
c. Determine and implement appropriate incentive

Rationale: New building must keep up with the standards. This can help with reducing new infrastructure being built that would then need to be retired before the end of it's life. RLD argued against regular code updates because of the administrative lift, along with the cost that comes to the industry. This was the alternative that was agreed upon.

Caveats: Equity needs to be strongly considered here.

Questions for the TAG to consider:

- What kind of incentive? How can the state do this?
- Do stretch codes have the potential of increasing home costs in any given area? How can this be done and not impact the ability of LMI residents to buy homes?
- How to implement training for builders in these areas? Can be especially complicated in rural areas.
- Is it easier and more effective to update building codes on a regular basis? If this is better/easier, how do we mitigate costs to industry?

Other goals that were discussed, but did not receive the same attention:

5. Use legislation to redesign utility rates by 2023 so that electrification is cost-effective on a lifecycle basis for 90% of residential customers
6. Establish legislation that ensures an equitable transition of the gas infrastructure system, with steps to begin in 2023, clear benchmarks to be achieved throughout, and a focus on avoiding spiraling costs for remaining consumers
7. Establish requirements that reduce embodied carbon refrigerant emissions from new residential and commercial buildings by 1/3 by 2030

8. Ensure that every electrification requirement, once enacted, is immediately and directly supported by at least one long-term education or technical assistance program for both the supply side (contractors, manufacturers, etc.) and for consumers
9. Adopt a state base code that requires all new buildings to be all-electric by 2030

Contact

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