

Nebraska Climate Pollution Reduction Plan Stakeholder Engagement Notes

Date/Time: Wednesday, December 19th, 2023; 10:00-11:30 AM (Central)

Sector: Buildings, Housing, & Communities (Round 2)

Attendance:

Welcome & Presentation of Measures:

- Introductions
- Overview & Ground Rules
- NDEE Presentation- EPA scoring criteria, program timeline, and list of measures from Session 1
- Q&A
 - It was previously noted that NDEE is not looking to set new directives, laws, or requirements through this project. Concerned that without requirements/legislation, not enough will be done considering climate change. Who determined these restrictions?
 - NDEE decided as an agency that for the purposes of the Priority Climate Action Plan (PCAP) they would not focus on legislation because of the short timeline.
 - On the EPA's scoring criteria, does the next 25 years include the next six years, or is it referring to 2030 and beyond?
 - Not entirely sure, but it would assume the long-term also includes the short-term.
 - Are the carbon reduction measures limited to operation carbon emissions?
 - Embodied carbon emissions of the civic and public buildings as of now, no measures on those lines have been proposed. We would have to figure out how to measure that, and we aren't looking to establish policies or regulations.

Residential Breakout Room:

Attendance:

Poll Results:

- 23 participants completed a poll ranking the measures (highest priority to lowest) as follows:
 - Incentives for high-efficiency heat pumps and home appliances for low-income households.
 - Create financing mechanisms for efficiency upgrades for tenants and property owners.
 - Funding repairs/upgrades to increase Weatherization Eligibility.

- Funding for planting urban trees to reduce energy use and reduce heat-island effects.
- Support residential solar development.
- Large community geothermal loops.
- Incentives of residential law/landscape to 30-50% of native species reduce the need for artificial watering.
- Battery storage, as a supplement to rooftop solar.
- Recycling/Reuse of building materials can reduce emissions.
- Incentives for electric lawn mowers and lawn equipment.

Discussion of Priority Measures:

- US Department of Energy put in weatherization-ready funds. Last year, there was \$80,000 statewide. This year, it's double that. However, there are not enough weatherization-ready funds, leaving more dollars on the table for weatherization.
- Making buildings weatherization-ready is a difficult thing to do and can take a lot of time and money. It may be hard to score high on these activities. Given the timeframe, switching out appliances and putting in heat pumps should be a higher priority.
 - Weatherization is difficult.
 - Heat pumps make it hard to measure GHG reductions.
 - Contractors fight heat pumps- need to think about training on how to design, install and verify.
 - Switching hot water heaters to electric in low-income housing would have a significant impact and could score well.
- Noted that the top three priorities voted on focus on reduction in energy demand as opposed to creating cleaner energy- which is a good thing.
 - Surprising how bit of an energy footprint water heating can have and how much improvement we can have there.
 - Water heating as a thermal battery, demand response controllers- electric water heaters are turned on during off-peak hours, reducing the draw on the grid.
- 12 million dollars in the state for tree planting through IRA funding. A huge part of reducing energy use and responding to heat challenges that will come with climate change are trees- there is a lot of funding there.
- What are geothermal loops?
 - Put in a big geothermal loop and connect housing. Schools in Lincoln have made geothermal loops for heating/cooling.
 - Talking about retrofit- when you start talking about large community geothermal, challenges in metering and who owns the loop, who pays for repairs.
 - Serious challenges
- Would the projects under the US Forestry and State Arboretum passthrough in the NDEE that would be readily done for urban trees?
 - NE forest services will be passing through 1.67 million of their award, competitive RFP that is released for communities, non-profits, and government.
 - Restricts on those funds
 - Lots of demand

- Point of clarification - it's not energy reduction, it's GHG reduction- so reducing fossil fuel-based energy consumption is a direct one-to-one reduction while reducing electricity consumption is provider and even time of day dependent.
- Following up on trees, while BIL and/or IRA has provided funding, it is probably insufficient to adequately address the decline in urban canopies, and probably even more important than the planting is to support longer-term maintenance of the tree canopy, which is perpetually underfunded. Interestingly, LES used to incentivize tree planting in their Sustainable Energy Program but decided not to fund trees at some point in time.

Discussion of NDEE's Preliminary Priority Categories:

- NDEE shared their preliminary priority categories as follows:
 - High Priority:
 - Incentives for high-efficiency heat pumps and home appliances for low-income households.
 - Support residential solar development.
 - Funding repairs/upgrades to increase weatherization eligibility.
 - Has Potential- Longer Term:
 - Battery storage, as a supplement to rooftop solar.
 - Create financing mechanisms for efficient upgrades for tenants and property owners.
 - Lower Impact/ Higher Difficulty:
 - Funding for planting urban trees to reduce energy use and reduce heat-island effects.
 - Incentives for electric law mowers and lawn equipment.
 - Incentives to convert residential lawns/landscapes to 30-50% native species reduce the need for artificial watering.
 - Large community geothermal loops.
 - Recycling/Reuse of building materials can reduce emissions.
- Surprised the lawn mower conversion isn't higher. Generally low level of patience on equipment.
 - Not a lot of GHG was admitted. People don't mow their lawns that often.
 - Difficult to monitor and track.
- Confused about how weatherization is considered easy and appliance switch out is medium.
 - Would have had those flipped. Weatherization is hard.
 - The buildings that need it typically have other health and safety issues
 - Difficult to measure/document
 - Appliance switch-off can be done pretty easily, and pretty quickly
 - Hard for NE to argue for weatherization dollars when other states do a lot more and better of it
- Where did the large geothermal loops come from
 - Just make it geothermal but not large community loops
 - The most difficulty with geothermal is putting the loop in
 - Can retrofit a geothermal
 - Include both?

- Geothermal loops for multi-family – Large community seems like it would be more difficult
- individual loops for individual projects, which misses the point. District-level solutions are necessary, and this strategy deals specifically with neighborhood-level infrastructure.
- Everyone rated highest, adding to existing efficiency and then creating new energy sources. Makes sense to use energy as efficiently as possible and then put clearer energy in place.
- On the top three, you're talking about the pending home rebate and existing weatherization programs- supercharging them. Is residential solar a new project? Or referring to solar for all?
 - Not familiar with Solar for All, it would be a new project that would possibly supercharge the program.

Commercial Breakout Room:

Poll Results:

- 16 participants responded to a poll ranking the measures (highest priority to lowest) as follows:
 - Electrification/weatherization programs for commercial buildings.
 - Funding for solar- commercial, retail, and non-profits, particularly in low-income communities.
 - Incentives for high-performance commercial buildings new/upgrades.
 - City planning for more walkable cities, reducing empty spaces.
 - Community-level ground source heating/cooling for multiple buildings or business districts.
 - Subsidies for parking lot solar electricity to commercial buildings.
 - Expand eligibility for certain programs (e.g., the LES sustainable program).

Discussion of Priority Measures:

- Several of the measures are very similar
- Ground-sourced heating and cooling is the most efficient system. A good way to reduce cost and emissions.
 - NDEE agrees it would be very effective. How long would it take to implement? Could we do it next year? I don't think so. Great measure to a comprehensive action plan, but funding up front with a short time frame could be an issue.
 - Might recommend creating a structure to help incentivize. But it is a large undertaking.
- Where do schools and churches fall under these categories? Does commercial cover these entities?
 - NDEE – The second item was worded to cover the whole gamut. Non-profit to cover churches. As a government entity, we didn't think we could single out churches to receive funds, so we worded it as non-profit to easier fund.
 - Talked about Scalability in the first meeting. One participant noted that schools in low to moderate income areas should be targeted.

- Bring backup the low-income emphasis in scoring criteria. What we choose needs to address that. Not sure how commercial buildings benefit low-income communities.
 - The project does not have to be in low-income communities to benefit. If we reduce air pollution regionally, it will impact low-income communities and other areas. For statewide programs, the EPA indicated it's okay to portion benefits to low-income disadvantaged areas based on the proportion of state. Not every measure is targeted towards low-income disadvantaged areas only. Weatherization tied specifically to low-income communities needs to strike a balance.
- Curious about a comment, "these are not new programs implemented," so the list we're looking at, do these things exist or what we're creating?
 - It could be either. Most utilities have incentive programs for residential/commercial customers. Most maxed-out funds are allocated to those programs, so we can take advantage of those by funneling additional funds. Efficient on the administrative side. Some will be new programs set up with implementation grant funding.
 - Here's a link to an example of projects that could be in solar/battery backup schools as emergency shelters and education opportunities for STEM: <http://www.fsec.ucf.edu/en/education/sunsmart/index.html>.
- Appreciate the suggestion for funding for solar non-profits. Tax incentives for solar or electrification but not weatherization. Not eligible for tax credits as a non-profit, for-profit organizations can take advantage of a weatherization tax credit.
- Sen. McKinney & Wayne passed legislation to improve north and south Omaha could leverage funds toward encouraging electrification and weatherization.
- LES's sustainable energy program is very successful. Expanding eligibility for that program, like adding additional funds for things like heat pumps or ground sources heating systems, would provide additional bang for the buck.
- Needs are not being met in low-income areas with Community Action Agency.
 - Anything we do would need to focus on energy efficiency and lowering greenhouse gas emissions in regard to economic improvement.
 - Checking the Governor's policy office as a fly-by might be a good idea.
- Reinvestment recovery dollars from 2009- I wonder (at least in Omaha) if that would be a pattern. Something we could look to, or lessons learned from that in terms of impact from dollars spent compared to this project?
- Investing in empty lots or other incentives past commercial buildings? Can these dollars be related to how taxation works? Can just see the development community paying attention to that.
 - City planning is a city function, so it is up to them to take action. Whether the state can provide incentives, we could talk about it.
 - Anything requiring legislative action would not be on the priority list due to the time frame, and I am unsure if it would be passed. It can be added to our long-term plan.

Discussion of NDEE's Preliminary Priority Categories:

- NDEE shared their preliminary priority categories as follows:
 - High Priority:
 - Subsidies for parking lot solar to supply electricity to commercial buildings.

- Electrification/weatherization programs for commercial buildings.
 - Has Potential- Longer Term:
 - Incentives for high-performance commercial buildings new/upgrades.
 - Funding for solar- commercial, retail, and non-profits, particularly in low-income communities.
 - Lower Impact/Higher Difficulty:
 - City planning for more walkable cities, reducing empty spaces.
 - Community-level ground source heating/cooling for multiple buildings or business districts.
 - Expand eligibility for specific programs – e.g., the LES sustainability program.
- Funding for low-income, because that is a priority mentioned several times, would be higher than rated right now. Some things could be done to communities already experiencing high pollution. Would push to make low-income a higher priority.
- Most of these items could be accomplished in low-income communities, and would prioritize those. Confused about some of these items. Agree with rankings. Expanding eligibility programs when they already exist seems wise. Electrification/weatherization should be done with the utilities as partners. The easy way to go is talking to utilities.
 - Out energy staff meets quarterly with LES, MPPD, and OPPD. Staff in their energy efficiency program/sustainability programs. Utilities talk together and talk to us, so we do and will have consultations with utilities specifically on what we propose and design.
 - Need more clarity on expanding eligibility. I talked yesterday about this, and I think they ranked the item higher. For a lot of these, we are looking for more specifics about setting up programs or other programs in mind to help us prioritize and figure out where they fit.
- Subsidies for parking lot solar and incentives for high-performance commercial buildings, in the high and potential categories, could be coupled together.
- NIFA funding is tied to sustainability requirements. But they are not that ambitious and could be applied with more rigor. Could tie into those programs as well as NDEE programs tied to requirements. Possibility for that tie-in.
- Want to support utility programs and putting them in the category that they're lower impact or difficult doesn't seem right. Would suggest taking that off as a separate measure and maybe adding it to the other ones. If we're talking weatherization, I hope that we're talking about something substantial. I like to see the work electrification since I don't want to replace lower efficient furnaces, but changing from gas to electric is a better measure.
 - Personally, I would not have put expand eligibility in that low of a category, as it ranks higher in the energy production sector.
- One way to continue the discussion would be grid optimization. Buildings offer opportunities to interact with the grid in new ways. I would guess since they're regulated, the utilities could tell us the impact of these different strategies and what their appetite is for working with commercial buildings, solar, and other incentivization.
- Could see unplugging gas being very popular if incentivized. Incentivize buying new appliances.
- Lots of commercial buildings with large rooftops could be good opportunities for solar energy.

Large Group Discussion:

Residential Breakout Room Summary:

- Train folks with heat pumps and GHG emissions
- Focusing on hot water heaters to replace. Easier to work with than other upgrades/pre-weatherization activities.
- Reductions and varying the thermal load using new construction to modify.
- Tree planting: There is quite a bit of money available for tree planting, but never enough.
- Thermal loops. Large communities to multi-family or other smaller loops for residential.
- How can we best use GHG reduction funds with other programs? Can we get the list of funds we have that have already been allocated? Maybe that would help us pick which idea or concept to go after.
 - At least for NDEE, we have a list on the front page of our website. Fed funding we've applied for or are in the process. We don't track what other agencies are doing, and we are not sure if the state has overall tracking. We can look into that. During these conversations, folks have brought up other funding.
- Tactic: partner with utilities on application to estimate potential GWP reduction with grid optimization strategies (PV on buildings, battery on buildings to reduce peaked plant hours)
- Rental financing could have a large impact if it is implemented correctly. Create financing mechanisms for efficiency upgrades in the "Has Potential-Longer Term" box.
- Put in a plug for passive solar (e.g., windows, overhangs, awnings on the south side) in conjunction with weatherization and repairs to residential and commercial. Also, I'd like to recommend skylights for big boxes/large commercial buildings to reduce the need for lighting in the building's interiors. Goodwill did a study in California and found skylights had a very short payback in energy savings.
- Idea: lump-sum grant for homes that disconnect from gas service
- NIFA's green building standards and residential funding could go a long way to supporting these priorities.
- Any critique of priority assignments?
 - Thought Weatherization was difficult to implement.
- The conversation about coordinating with utilities?

Commercial Breakout Room Summary:

- Weatherization for commercial/non-profits. Commercial are eligible for tax credits, but non-profits are not.
- The agency should check with the city of Omaha & economic development funds from the legislation. Leverage funds for better energy efficiency.
- Look back at activities from 2009-2012. What programs did our agency implement with those funds? Lessons learned? Emissions lowered?
- Suggestion to increase priority to low-income disadvantaged communities. Many could benefit both those and other communities.

- Expand eligibility ended up in the lowest priority category. I pointed out those are already in place, and providing funds to utilities to expand would be relatively easy and efficient. Will have discussions with the utilities. Ongoing discussions quarterly.
- Generally, conversation related to synergy of efforts. Whether with the utilities or other agencies.
- Maybe some priorities aren't mutually exclusive and could be bundled in other ways.
- Tax credits are much more complicated than direct pay, no direct pay for energy efficiency.
- Overlap of categories.
- Overlap in categories- ex: buildings with solar that also have EV charge and how those can work together

General Discussion:

- in the Phase II Implementation grant application, NDEE will be required to describe what other funding mechanisms are available and have been considered for the specific measure. This doesn't mean the measurement would be down-graded if additional funding is available. Rather - quite the opposite, the EPA is looking to leverage other existing funding for a more significant impact across the geographic area covered. NDEE folks - please correct me if I've misinterpreted.
 - Guidance from EPA says if there is already funding, it must explain why that funding is not sufficient. Can't use funds from two different grants to pay for projects.
- Got an email from OPPD recently advertising home energy audits. They involve an analysis of air leaks, energy use, health hazards, etc. Perhaps that's something that could be subsidized. <https://oppdthewire.com/does-your-home-need-an-energy-audit/>
- Enterprise Green Communities is the gold standard for new construction
- Are you aware of Enroads, a model put together by MIT? It shows the impact of various measures to reduce carbon pollution. Much as I like tree planting, it doesn't make a huge difference in reducing carbon compared to other efforts.
- 2018 IECC also calls for blower door tests for new residential construction, yet many homes go untested in NE due to a gap in trained professionals, perhaps workforce training could be subsidized as well.
- Is there a deadline for the ideas submitted? What is the deadline for making decisions in terms of topics?
 - Would like to have ideas by the end of January, preferably earlier.
 - Proposals by mid-January. The more information we have, the less research we have to use to investigate. Limited time and staff resources.
- Clarifying question: Money can't go to existing projects already funded with federal dollars. Could you fund an efficiency component? It would be a new element, something to reduce greenhouse gas emissions.
 - It would require NDEE research and discussion on grant requirements with agencies.