

Nebraska Climate Pollution Reduction Plan Stakeholder Engagement Notes

Date/Time: Wednesday, December 18th, 2023; 2:00-3:30 PM (Central)

Sector: Energy Production (Round 2)

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 noted the difference between incentives for voluntary energy conservation actions that would not require equipment (e.g., turning the thermostat down) and funding to utilities to expand energy efficiency initiatives for residential and commercial customers.
 - Randy noted that the measures were presented in random order.
 - NDEE has not had a chance to dive into Idea Forms and recommendations sent via email.
 - Has NDEE mapped out measures against the Notice of Funding Opportunity (NOFO) examples?
 - NDEE is steering clear of the policy and permitting side of things but has looked at the NOFO examples.

Breakout Room One:

Poll Results:

- 14 participants responded to a poll ranking the measures (from highest priority to lowest) as follows:
 - Funding for solar projects on unused/contaminated land, ag facilities, and parking lot/feedlot solar canopies.
 - Funding to utilities to expand energy efficiency initiatives for residential and commercial customers.
 - Funding for agrivolatics projects.
 - Funding for battery storage and alternative energy storage projects (e.g. liquid air).
 - Funding for microgrids supporting critical infrastructure (water/wastewater treatment plants).
 - Promote/incentivize wind generation.
 - Incentives for electricity generation program from biomass (ag waste).
 - Incentives for expanding use of/access to renewable natural gas.
 - Incentives for voluntary energy conservation actions (not equipment).

- Planning for small modular nuclear reactors.

Discussion of Priority Measures:

- Justice 40- not every measure has to have 40%. It's overall. For something like the CPRG, we can look at the state as a whole and look at it on a proportional basis
- Discussed funding for solar projects and wanted to make sure that was biased against agrivoltaics.
- The top three measures, as polled (above), play to Nebraska's strengths, which is good.
- Could add schools and churches to the list
 - Note that this has been discussed in the Buildings, Housing, & Communities sector meetings.
- From the perspective of writing a competitive grant, it would make sense to have at least some measures that align with the recommendations in the NOFO. So if we are going to avoid anything policy-oriented, that would still leave the following options: "1) installation of renewable energy and energy storage systems on municipal facilities; 2) programs to support smart-grid and/or behind-the-meter technologies to reduce power losses, reduce peak demand, and enable consumer participation in distributed generation; 3) targeted incentives for installation of renewable energy and energy storage systems on commercial and residential buildings, such as net metering, tax credits, and rebates; 4) development of distributed or community-scale renewable energy generation, microgrids, or vehicle-to-grid infrastructure in disadvantaged communities, including remote and rural regions" --- which I think there is some overlap in what has already been suggested and would encourage that we increase the alignment of our goals to what the NOFO is asking for.
 - Good mix of things they are looking for and things we have strength in the top 5 measures.
- If we are focusing on voluntary actions, green banks and on-bill financing would be relatively easy and helpful.
 - Green banks will likely come up in the Buildings, Housing, and Communities sector.
 - On-bill financing is when you pay for solar over time on your utility bill until you pay off the solar. Covers upfront costs.
- Battery at the personal level was emphasized. As more EVs are a part of the fleet, we still have a lot of fossil fuel power. Helping people update their power would make EVs even more clean.
- One reason there hasn't been much battery storage is cost issues. Funding to support battery storage in connection with microgrids in low-income areas could check a lot of boxes.
- Geothermal projects were discussed. It was asked if there was any space for pilot projects or investigative activities in this area.
 - Geothermal projects are worth discussion but are probably more long-term.
 - It was noted that you have to go about 8,000 ft deep and have material to stand the high heat.
- In the ag sessions, there was a lot of discussion on digesters and putting renewable natural gas for resale in pipelines. Any incentives we might provide on the state level from electricity generation from biomass would help move the needle on projects in terms of more efficiently using ag waste.
 - Not sure what those incentives would look like- maybe some type of subsidy

- On incentives of voluntary energy reduction, there have been utilities that put how you compare with people in comparable sized houses in your area on your bill and even give a smiley or frowny face. This kind of feedback reduces energy use in the grid by anywhere from 2-10%.
- Discussed aligning measures to the examples in the NOFO. Also discussed that NDEE will go through the measures across sectors and combine them as appropriate.

Discussion of NDEE's Preliminary Priority Categories:

- NDEE shared its preliminary priority categories, which are as follows:
 - High priority
 - Funding to utilities to expand energy efficiency initiatives for residential and commercial customers
 - Funding for microgrids supporting critical infrastructure
 - Funding for solar projects on unused/contaminated land, ag facilities, and parking lot/feedlot solar canopies
 - Has potential-longer term
 - Funding for agrivoltaics projects
 - Incentives for expanding use of /access to renewable natural gas
 - Incentives for electricity generation from biomass
 - Funding for battery storage and alternative energy storage projects
 - Lower impact/ higher difficulty
 - Incentives for voluntary energy conservation actions (not equipment)
 - Promote/incentivize wind generation
 - Planning for small modular nuclear reactors
- There is a fair bit of alignment between the polls and preliminary categories.
- When thinking about energy efficiency for customers, it would need to be clear what energy efficiency initiatives are supported and what those incentives look like, which may be a bit of work.
- Discussed if utilities are willing to accept another load of money to administer their programs. More money means more adoption.

Breakout Room Two (Jason):

Attendance:

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- Incentives for expanding the use of/access to renewable natural.
 - Some agree with fossil fuels being at the bottom, in line with research.
 - “By 2050, we find that nearly 60 percent of oil and fossil methane gas, and 90 percent of coal must remain unextracted to keep within a 1.5 °C carbon budget.”
<https://www.nature.com/articles/s41586-021-03821-8>
 - Something about home solar?
 - Decided to focus on bigger impacts, community-based ones.
 - Also, discuss the Solar for All grant could provide residential solar
 - Don’t want to replicate efforts made elsewhere.
 - Solar for All is directed only at low-income households. Additional solar programs would be needed to address other audiences: median income, industry, business, etc.
 - solar panel backlog will not allow anything in the next couple of years either, so that is a 3-5 year window also
 - RNG helps Neb Ag too economically
 - what’s the source of the backlog? Can we do anything with this program to address it?
 - have not established a U.S.-based solar production yet to support significant solar buildout in the short term
 - Looking at immediate greenhouse gas reduction, think looking at the bottom options would be more ideal. Others are adding additional generations. What are we doing in

- the near term? Solar is only on during the daytime. How do we get a reduction by not looking at the bottom options?
- The biggest bang for the buck would be on the utilities scale if displacing fossil fuel resources.
 - Two-part plan? Utility-based vs. agricultural-based? All lumped into one.
 - Part of our discussions today is about what other opportunities are out there. Might have rooftop solar on larger ag facilities and could have community solar in smaller rural areas.
 - Folks who support top options argue against talking about the lower ones.
 - Caution against financing anything for small modular nuclear reactors since it isn't proven, and we are looking for shorter-term solutions. Anything related to fossil fuels would make it less competitive.
 - Getting to the point where intermittent wind and solar are on the electrical grid. The only thing reliably there when those aren't is geothermal generation, often with natural gas. If we used renewable natural gas to replace natural gas. Benefit to greenhouse gas reduction until batteries are deployed at a much larger scale.
 - Recognizing the storage piece, my concern is that once the investment is made, it is hard to move away from it. It might reduce more quickly in the short-term but could block us out of longer-term goals. Best science.
 - Back to EPA scoring criteria for reduction measures, thinking of low-income communities, top options offer better benefits to them. Therefore, it is something we should prioritize.
 - Funding utilities to expand energy efficiency initiatives for residential and commercial- what are you thinking in regards to that? What measures?
 - Last time, someone proposed expanding the type of activities. Not specific about the activities.
 - In the building discussions, weatherization was discussed in regard to efficiency. It could be something to consider. Usually, the least cost-intensive and fastest implementation
 - weatherization only funds low/moderate-income
 - Buildings and communities sector working on these thoughts
 - Anything missing from the list?
 - Still broad categories with different directions to go. Any strong gut feelings on what to be done soon?
 - Thoughts on microgrids? Lower than the previous meeting.
 - Possibly less knowledge on microgrids in this meeting?
 - What is a microgrid?
 - The basic idea is a small solar array that provides power to wastewater treatment plants, either on the grid or off the grid. Paired with battery storage. Increase resiliency in case of a power outage or critical infrastructure failure.
 - Solar electrification for schools

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- Insight into how the envisioned microgrid would require legislative regulations? Is it feasible under the current metering system?
 - Microgrids appear to be more utility-level, but I'm not sure if they are applicable.
 - Would disagree. In terms of microgrids and the small range of 20-100 megawatts, there is potential for bigger microgrids.
- Why determine wind projects as having to be implemented?
 - Wind farms spread out over larger areas than most solar usually. Gotta work with multiple landowners. Politically, there is resistance to wind power. Some to solar, too, but less now.
 - High impact indicated with wind projects, but tougher to get
- Why do you think the natural gas impact would be easier?
 - The scale of wind installations could cross counties and multiple jurisdictions. I am not familiar with renewable natural gas as opposed to wind, so I am looking for guidance.
 - The majority of counties put restrictions on zoning. Few wind sites even entered into a queue.
 - Been talking about energy efficiencies since the 70s. What is different now?
 - Seeing more on the commercial side, even lighting with older ag facilities is an issue brought up and would have a payoff.
 - Skylights to replace fluorescents

Large Group Discussion:

Breakout Room Two Summary:

- Talked about those vs what was lower on the list
- Discussed what would be the best options for a GHG standpoint
- Two-part plan? Utilities vs. Ag or all lumped into one
- Microgrids
- Solar electrification for schools

- Skylights to replace lights in facilities
- Renewable natural gas ranked too high
- Impact difficulty of promoting/incentivizing wind- should it be higher
- What would all be in the expanding energy initiatives?
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Breakout Room One Summary:

- Similar polling
- Discussed Green banks, on-bill financing
- Personal power and battery storage on-site
- Solar fields
- Kanas City solar fields
- Geothermal discussion- far down, longer-term measure probably
- Incentives for voluntary compliance- comparing energy usage to your neighbor
- Microgrids
- Playing to Nebraska's strengths
- Match up with NOFO
- High-priority measures may be difficult to plan for, particularly the expanded energy efficiency initiatives.

General Discussion:

- In regard to methane natural gas, three developments that we need to look at the ability to either take the carbon dioxide and store it or use the methane and break it out as hydrogen and carbon.
- Renewable natural gas projects are really kind of confined to either a location or city, and we use existing infrastructure. Any facility producing renewable natural gas should have some ability to tie into existing gas infrastructure.
- Discussed low-income communities and how many in Nebraska are rural counties. Benefiting low-income and disadvantaged communities shouldn't be thought of as secondary but should be a primary thought.