

## Nebraska Climate Pollution Reduction Plan Stakeholder Engagement Notetaking Template

**Date/Time:** Tuesday, December 5, 2023

**Sector:** Industry / Waste and Wastewater (Round 1)

### Attendance:

#### Welcome & CPRP Presentation:

- Welcome & Ground Rules
- NCPRP Presentation
- Short Q&A
  - Is there a breakdown of emissions for each sector? Noted that there is a breakdown of emissions for each section and that 85% of emissions are tied to the agriculture sector, specifically cattle production
  - Is NDEE's slide deck be available? Noted that NDEE will send out a slide deck with notes.

#### Key Question 1: Poll

*Of the 4 example measures, how would you prioritize them? Do you have others to propose?*

- Twenty-nine participants responded to the poll. Participants ranked the priorities in the following order (highest to lowest):
  - Promote reduction of food waste and increased recycling of organic materials to reduce landfill methane.
  - Funding to expand energy efficiency incentives for industrial customers.
  - Funding for energy efficiency and renewable energy practices at wastewater treatment plants.
  - Financial incentives for heat pumps for low and medium-temperature industrial processes
  - Other
- Other responses included:
  - Go beyond promotion and actually implement food waste recovery, fund the implementation of food recovery from grocery stores like other programs- e.g., Saving Grace
  - Consider grants to help municipal wastewater plants move to create methane gas from high-concentration food processing wastewater, potentially as part of a larger CHP type systems. This is especially true for dual food processors and municipal wastewater plants located in disadvantaged census tracts.

- Composting and linking this (use of compost) to improve soil conditions
  - For context, we have a residential compost drop-off program in Omaha with 1,500 households. <https://www.hillside.solutions/compostclub>
- Addressing stormwater runoff, which is part of the “organics recovery/diversion” promotion item.
- The food waste issue is related to 1) not producing more than is needed for consumption, 2) intentionally consuming what is produced, 3) providing to food insecure populations, 4) considering anaerobic digestion, 5) composting and lastly, putting into the waste stream headed for the landfill.

### **Breakout Room Stakeholder Discussion & Proposals:**

#### **Ag Processing Breakout Room:**

##### Breakout Group Discussion of Proposals:

- Carbon in soil and farmer flexibility to deal with the carbon in their soil.
- Quantifying feedstock
- Biochar, removing and transporting red cedar for biochar.
  - Red cedar is a low-value wood product and is considered an invasive species.
  - Farmers have little control over the spread.
  - Wood waste costs money to dispose of
  - Biochar turns it into high value for the farm and has economic benefits
    - It will increase ranch and not lose carbon.
    - Improving grazing management

#### **Waste (Room 1)**

##### Breakout Group Discussion of Proposals:

- A big factor to consider is yard waste, in addition to food waste. Omaha allows yard waste in landfills because of methane capture. Questioning how effective that is?
  - Omaha has to meet certain requirements in order to accept yard waste.
- Conservation Nebraska focuses on education (e.g., how to store food longer)
- Pipeline in Grand Island with carbon sequestering? Transporting carbon (methane?) in a liquid state
- There is no clear-cut answer to options for organics before they go to the landfill. If you put it in a truck, you’re generating emissions by the transportation of waste. The objective should be not to put it in the car, to begin with, so we need to start with only producing the waste we need and working to stop overproducing.
  - Find food-insecure populations and make overproduction available to them.
  - Transporting waste adds to greenhouse gas emissions.

- Another organic in significant quantities goes to landfills – paper and cardboard. There should be some effort toward figuring out how to get communities to work together to collect papers in the most efficient way to develop a system for recycling papers. There's an economic reason to develop a system to collect paper products.
- Biochar program and anaerobic digestion are recommended.
- Recognize that even if we shut off all the organics going into the landfill tomorrow, there's still everything in the landfills, and there are regulations for disposing of the emissions.
  - If we can get back to reducing the amount of stuff we have to deal with, that will help.
  - Hub and spoke method.
  - Use what we've already got in terms of infrastructure.
- Would like to see an overall breakdown of waste management in general and where specifically all the emissions are coming from – break it down further to look at landfills vs transportation systems, etc.
  - A few waste refuse trucks in Lincoln are running on compressed natural gas.
  - Want to take landfill emissions and clean them up to use standards and use that to power vehicles?
  - There are some programs doing replacement of diesel refuse trucks – that kind of thing has a fairly immediate impact.
- Community and at-home composting – develop programs in churches with property and with parks & and rec.
- There's an upcoming food waste and characterization study from DEE.

## **Waste- Room 2**

### Breakout Group Discussion of Proposals:

- The City of Omaha offering year-round yard waste compostables sidewalk pickup – open to grants/partnerships to achieve that.
  - Already know where in town there is need.
  - Would also be interested in a campaign for DIY composting.
  - The benefit is reduced landfill tonnage in the city.
  - The commercial sector is growing interest in going zero-waste and landfill usage reduction.
  - Businesses could use tax credit because it is more expensive to be zero-waste.
- There's also a compost drop-off program in Omaha.
  - Expanding residential waste pickup outside of Omaha in smaller communities?

- Distance restricts picking up waste for industrial composting in Omaha. Getting more industrial composters is inevitable, so how do you move that process forward?
- Hub-and-spoke proposal for composters – preventing material from being in landfills.
  - Make sure transportation costs for rural communities do not outweigh the benefits of centralized recycling.
  - Yard waste also produces methane gas.
- Title 132 restrictions on yard waste in municipal landfills are extant – there are exemptions.
- Is the concern with getting recycling set up an upfront cost thing or more of a long-term financial commitment?
  - If the grant is four years, would setting up recycling facilities fit into that time frame?
- Is the ultimate benefit capturing the gas or preventing the gas from being there to begin with? New EPA guidance
- Many factors are involved in sustainability with grant funding, and it will take more research into costs for rural communities.
- Would be curious if there are local uses for recyclable materials without shipping them far away.
- Recycling markets are up and down – don't want to create a problem somewhere else by fixing one here.
- Green fiber is an excellent example of products made in Nebraska from recycled products.
- What are people's thoughts on waste-to-energy? Getting small businesses off fossil fuels?
- Digester biogas production using food waste.
- Lincoln's cardboard ban in landfills – could be coupled with grants to begin some recycling efforts.
  - No one is monitoring SIDs for waste disposal/recycling – it is cheaper to send everything to the landfill.
  - How does this get appropriately implemented? Regulatory or incentives?
  - Lincoln cardboard ban increased recycling since 2018 – can educate all you want, but the behavior did not change until regulations were put in place – every five years, they do a waste characterization study to look at what materials are going into the landfill.
  - Major component – some things do need landfills, so we need to use them as efficiently as possible -Lincoln hit the 20-year fill mark and had to do something. Hence the cardboard ban – we need to divert more but need a policy in place.
- Alternative uses for wastewater biosolids when digesters aren't in place or called for. Small communities may not have the funding or expertise to handle a digester. Most of

these are lagoon or packaged systems. Facilities can choose to landfill the solids or treat them with heat or pH to turn them into a soil amendment.

- Lincoln will have to build a new landfill – investment costs for infrastructure are tens of millions of dollars – what can we help substantiate in terms of reductions in greenhouse gas emissions?
- Eventually, there are going to be more restrictions – Bellevue has a pay-to-play model; you can get larger bins, but they cost more and are also attached to utility bills.

## **Industry**

### Breakout Group Discussion of Proposals:

- Discussed incentivizing public and private sectors to adopt more energy-efficient equipment.
  - Ensure the incentives, such as tax credits, are in place long enough- e.g., through implementation phases of retiring/adopting equipment and not just planning phases.
- Look at the geology of Nebraska for carbon capture/carbon sequestration and storage, and possibly fund a study to look at Southern Nebraska's geology
  - geology is promising, there is storage space out there, and ethanol and CCS are a good pair for reducing emissions
  - the barrier is the regulatory process and funding
- Right of Way is very limiting, and many carbon sequestration projects get stuck at the EPA permit process, which can take 3+ years.
  - How can NDEE help facilitate a way for more pipelines to be built more efficiently to get over some of the regulatory hurdles?
  - What could happen, from a regulatory standpoint, to streamline the process and facilitate pipeline projects?
- Further, explore Nebraska as a hydrogen hub (although it was not selected, and Minnesota is the closest)
- Discussed that there is no real limit to the amount of renewable natural gas you can blend into fossil gas.
  - there are not many barriers besides surrounding pipelines having a specific place to go with it (which is more significant in rural areas/ Western Nebraska)
- Make CI scores more influential, put them on a common platform, and expand education/understanding of CI scores and how to pursue reduction
  - there are established programs for certified natural gas providers where they can offset a percentage of renewable gas and a program for residential folks called the Green Forward program where houses can buy credits/blocks of credits, but it doesn't affect the bill
- Incentives for heat pumps for large industrial facilities.

## **Large Group Discussion of Proposals:**

### **Waste (Room 1) Summary:**

- Starts with a paradigm shift in waste management, specifically how to address organics before they are sent to the landfills instead of after- which is important in the discussion of methane production
- Change the fuel source of transportation
- Hub and Spoke to collect different organic material
- Biochar and anaerobic digestion and how that could feed into potential pipelines
- Focus on food and yard waste and try to reduce that before it gets to landfill or composting sites themselves
- Also, focus on paper waste, as it is a bigger percentage of waste, and there will be more people inclined to recycle paper than food

### **Waste (Room 2) Summary:**

- Hillside programs in Omaha
- Hub and Spoke in rural communities hopefully, all communities have industrial composting.
- Transportation - e.g., alternate fuel, electric
- Digestors
- Yard waste in Lincoln
- Resource management in the context of landfills being an asset to the communities, get the most value out of landfills (don't put things in there that don't need to be)
- Pay-to-play situation- individuals pay for a larger trash can, so there is a monetary incentive to waste less
  - Bellevue has a municipal program where the city offers different size trash cans and yard posts, compost, recycling, intensive to landfill less, see how much you pay because it is attached to a utility bill

### **Ag Processes Summary:**

- Reduce fertilizer usage through cover crops
- Create a cyclical value chain around waste in ag
- Use red cedar for biochar
- Improve grazing practices
- Incentivize energy efficiencies at food processing facilities and livestock producers (e.g., LED lighting)
- Digestors and biogas hubs across the state
- Importance of regulation or regulatory aspects that need to be factored into compliance for the GHG reduction piece

### Industry Summary:

- Discussed carbon capture/carbon sequestration
  - Right of Way is a barrier to pipelines
  - Nebraska doesn't have primacy to drill for CO2 wells, so it's left to the EPA, which has a long permit process (3+ years)
  - How can we support de-bottlenecking regulatory barriers, specifically those around the Right-of-Way
  - Education and incentives to promote and move that process along
- Incentivizing energy efficiencies in facilities
  - specifically heat pumps for larger facilities
  - offset capital costs to update equipment
- Bulk up existing programs to make CI scores more obvious and usable

### Other Large Group Discussion:

- The pay-to-play situation for a larger trash can – larger trash cans cost more and incentivize people to waste less
- Biochar is a high-carbon material that's stable.
  - Made by heating up high-carbon materials to 500 degrees Celsius.
  - Used in water filtration, soil amendment in agriculture, etc.
  - What volatiles are driven off during production? Are there any air quality concerns?
    - Very clean, inherently carbon-negative
    - Directly tied to feedstock – what is currently used in Lincoln has very low emissions.
    - Produces sim gases that are burned off to come out as clean as possible.
    - Pyrolysis is an exothermic process to start, but once the process is started, the heat generated is self-sustaining.
- Regulations are important for greenhouse gas emission reduction (focused on agriculture).
  - The political climate has to be taken into account – greenhouse gas emission reductions are not currently accepted across the political spectrum.
  - Shooting for programs with incentives rather than punishment – we have to be careful that there won't be a 'falling off the cliff' effect at the end of the grant. We want to develop self-sustaining programs.
- How does the waste system react to become better when you consider not just the waste but the transportation? We need to evaluate the best way to transport waste, recycling, and organics.
- If we want the biggest impact, let's go for paper products rather than focusing on food waste first.

- Would organics collection facilities be possible in Lincoln? (As of right now, Lincoln has a composting service you can pay for, but only one). Could we do something like what Hillside is doing in Omaha?
  - Uribe has a similar program.
  - Grand Island also doesn't have centralized trash – had a startup doing composting that struggled with permitting, people didn't want to have compost in their backyard, wouldn't take yard waste, etc.