Summary Report

Stakeholder Meeting #3 – Summary Report

June 15, 2022 9:00 AM – 3:45 PM

The following is a summary report for the Stakeholder Meeting #3 held June 15, 2022.

A. Stakeholder Meeting #3 Welcome and Introductions

Michelle Leonard, Senior Vice President with SCS Engineers (SCS) welcomed all participants and introduced the rest of the project consultant team (Christine Collier and Jeff Phillips with SCS and Karen Luken with Economic Environmental Solutions International). Michelle then welcomed Amie Davidson, Bureau Chief of Land Quality for the Iowa Department of Natural Resources (DNR).

Amie welcomed everyone and thanked them for their time. It is recognized that this has been a long process and participants commitment has been greatly appreciated. The DNR is excited to see how this moves forward and is anxious to continue to work with everyone.

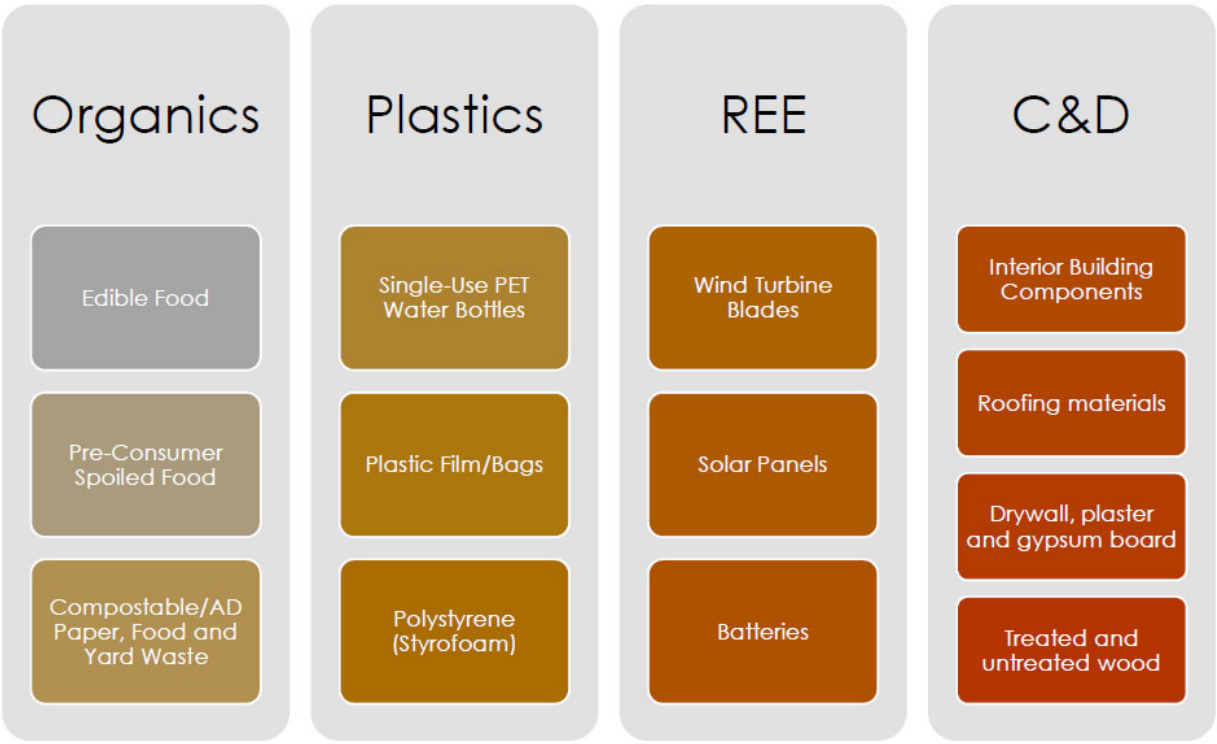
The project consultant team reviewed the Stakeholder Meeting #3 agenda. The agenda and slides for the entire Stakeholder Meeting #3 are located in Attachment A.

Michelle stated the expectations and the purpose of the meeting are to engage everyone. We need stakeholder ideas and opinions so at the end of the day we can arrive at a modified consensus and move forward.

The project consultant team reviewed information from previous stakeholder meetings so the group does not lose site of the goal, including touching on what sustainable material management (SMM) is. The role of the stakeholders was reviewed and includes providing input and perspectives of the process and recommendations; providing ongoing guidance; and considering and endorsing what the subcommittees are recommending for strategies and timelines.

A recap of the first two stakeholders meetings was provided. The first stakeholder group meeting narrowed down and selected the four primary material categories (organics and fiber, construction and demolition debris, renewable energy equipment, and plastics).

The second stakeholder group meeting reviewed the process that the subcommittees had been working on to develop the material types within the primary categories. The subcommittees selected the following material types to focus on.

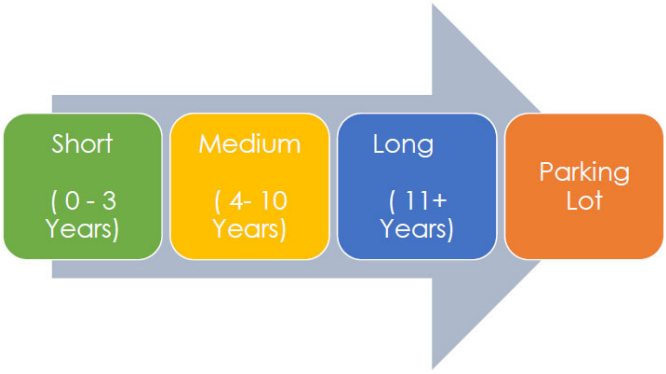


The subcommittees then began to develop strategies for the material types and categories. As the project consultant team worked through this process with the subcommittees, we realized there are a lot of potential strategies being discussed. In fact, the project consultant team realized we cannot take them all on at once. Therefore, the project consultant team talked about how to organize them and within what timeframe. Short, medium, and long-term strategies were developed and then the subcommittees started to identify how the strategies would be implemented and by whom.

Michelle showed the list of the initial strategies discussed at Stakeholder Meeting #2. This was a launching point for establishing objectives within each subcommittee and categorizing the developed strategies under the appropriate objectives. The strategies within each objective were then prioritized by both what would make impacts based on the resources we have and what items are the most important to do now. Strategies that would be most appropriate in a medium/long-term phase where placed within those timeframes.

B. Strategies Updates

The project consultant team reviewed the short, medium, and long term timeframe in addition to the "parking lot" (i.e., potentially consider in the future).



As part of the process for developing a timeframe, the subcommittees considered where strategies fit in the schedule and whether we incorporate them or leave them in the parking lot for future discussion. The objectives, strategies, and implementation timeframes were then discussed for each subcommittee.

Subcommittee members were recognized and thanked at the beginning of each discussion; their role in this process was vital. The project consultant team also thanked the DNR staff for their role in participating in all of the subcommittee meetings as well as providing background on what is happening via state programs.

Below is a summary of the presented information and discussions for each of the four subcommittees.

Organics and Fibers

Karen Luken, member of the project consultant team, noted that one of the biggest challenges of SMM is end of life management. We'll always have end of life management. But we are trying to impact upstream minimization. This led to the developed objectives for the organic's subcommittee.

Objectives

1. Upstream Minimization
2. Reshape Consumer Habits
3. Strengthen Food Recovery
4. Recycle Anything Remaining

These are in-line with and similar to ReFED, which has been discussed in previous stakeholder and subcommittee meetings. Karen proceeded to present the objectives and strategies developed by the subcommittee members, with stakeholder input and discussion.

1. Upstream Minimization

Short Term (0-3 years)	Medium Term (4-10 years)	Long Term (11+ years)
• Provide stores and restaurants documentation on how to reduce food waste • Meet with entities such as Iowa State University and EPA to find gaps and reassess how to expand programs already in play in Iowa	• Find investors for post-harvest collection • Encourage schools to purchase imperfect foods • Educate industry on other options such as compost and AD when temperatures are exceeded rather than relying on landfill disposal	• None at this time

In the short term we are focusing on providing resources to regarding prevent food waste and minimize wasted food from customers (i.e., menu changes, smaller portions, etc.). We should also talk to universities, the USEPA, and others with food waste reduction programs to determine who is doing what, what success they have had, and what we can do to support and expand those programs in Iowa.

In the medium term we are looking at strategies to keep and transport food to prevent spoilage, work with schools to purchase “ugly” foods, and educate industry about disposal alternatives.

No strategies are currently placed in the long term.

2. Reshape Consumer Habits

Short Term (0-3 years)	Medium Term (4-10 years)	Long Term (11+ years)
• Institute advocacy campaigns to create food waste awareness • Promote food labeling policies if national legislation is passed	• Work with K-12 institutions to create smaller size options for menu items • Inventory what agencies are doing what with educational and institutional food waste • Institute advocacy campaigns to create awareness about food waste recovery facilities • Assess if Iowa needs legislation about food labeling	• None at this time

In the short term we are looking at strategies for consumers to think about their consumption and disposal habits, including what these habits are costing their family and the impact these decisions have on the environment. We are also looking at food labeling policies at a national level to standardize this system with a focus on "spoil by" rather than "best used by".

In the medium term we have four strategies including having smaller plates or size options of food in K-12 institutions. This would entail working with the United Stated Department of Agriculture (USDA); there is not much that can be done on a state level. Food sharing tables were also discussed. Prior to COVID, progress was made with these efforts, but COVID had a definite impact in reducing or limiting the number of food sharing programs active in schools. We want to see what has already being done and what has worked well. We also want to determine if labeling is needed at a state level.

No strategies are currently placed in the long term.

Parking Lot
• Promote pre-measured food kits • Establish campaigns to reduce plate waste at buffets. • Once compost and AD infrastructure is in place, make sure buffets are aware of food donation, compost, and AD options • Encourage restaurants to create smaller size options • Optimize food packaging design for complete consumption

Several items were placed in the Parking Lot due in general to the feeling that these strategies were not the best place to spend efforts at this time. Reasons discussed included:

- Not enough information;
- Have not discussed enough to really put into a strategy;
- With food kits we'd be generating more packaging waste;
- Not likely that restaurants are going to change their plate size for buffets since that is part of their business model; and
- We did not feel like we had enough influence on food packaging design.

3. Strengthen Food Recovery

In the short term we are looking at how other states gather information on programs and organizations. We also identified that the biggest barriers to food recovery is that perishable food has to be kept at required temperatures. There is a need for resources and infrastructure to meet this requirement. We also identified that we are throwing away food – but have people that are food insecure. We need to improve how we manage and distribute edible food. Part of doing better includes educating stores and food donation centers so they are aware of what the food labels mean and what is safe/unsafe to eat. Finally, in the short term, although many businesses donate food, the challenge is that the collection is done by volunteers. This is not sustainable. We want the businesses to be recognized for donating but also let them know the costs and benefits of getting the food to where it is needed. Donating food minimizes disposal costs that the business has already allocated for the management of unsold or used food products. It is possible that a percentage of the avoided disposal costs could financially support the collection and distribution of donated foods.

No strategies are currently placed in the medium term.

In the long term we discussed that California has robust regulations which include a mandate to recover 20% of edible food by 2025. Our goal is to improve without legislative changes, but they may be needed.

Parking Lot
• Require businesses to have a food recovery plan (not submitted to anyone) • Facilitate a pilot to gather information on how businesses are recovering food • Increase storage donation handling and capacity (to include storage bins, shelving, etc.)

Several strategies were placed in the parking lot. We felt that with not requiring the food recovery plan to be submitted to anyone, there really is not a way to enforce this strategy. The quality of food donation is also questioned if you force businesses to donate. It does not seem to be the time to have a core group of businesses collecting information to see how much food is recovered and to provide information to others. Related to increasing storage donation handling and capacity, the DNR has already provided a number of grants for food storage and we are not sure how much of an issue this is at this time.

4. Recycle Anything Remaining

Short Term (0-3 years)
• Determine what information wastewater treatment plants currently submit • Evaluate if a rule/code is required to obtain the necessary information from wastewater treatment plants • Include people from the wastewater world in this conversation • Institutionalize Iowa co-digestion successes/challenges • Inventory compost facilities

Short Term (0-3 years)
• Analyze food waste reduction strategies in other states/national • Research what other states require for government organic-content procurement • Estimate what would it cost to divert organics from landfills to Iowa composting facilities and digesters • Create a Food Recovery Master Plan

Medium Term (4-10 years)	Long Term (11+ years)
• Implement food waste recovery plan • Begin creating multi-county organic waste sheds • Require the State to procure organic-content products • Develop regulations that define compostable and biodegradable • Establish compost standards • Create a robust compost/AD facility data base	• Provide food waste collection to all residents • Adopt food waste to livestock regulations

Karen explained that composting is when you take organics such as yard waste and food waste, and put it in windrows or in-vessels with an out product of compost or fertilizer - soil amendment – depending on the quality. Anaerobic digestion (AD) puts food and yard waste into highly sophisticated systems and the output is biogas that gets converted to energy. Publicly owned treatment works (POTW's) often use AD systems which generate biogas from human waste and electricity to operate their system.

Therefore, in the short term, we are looking to determine what capacity POTWs have, what expansion plans they might have in the future, if they would be interested in taking additional material instead of building new AD plants. If the information is not readily available, efforts would need to be made to acquire the necessary information. Potential barriers that POTWs may have to accepting additional materials would also need to be determined. We are also looking at compost facilities to determine what kind of fees compost facilities charge, if they could take more organics, and what operational, regulatory, or market needs they may have. We don't want to send more volume to facilities if they do not have the capacity to manage it.

Short term strategies also include institutionalizing stories of successes and challenges for co-digestion in Iowa along with researching other states to determine what they have done to be the leader in purchasing organic materials. We also need to estimate costs to divert organics from landfills to compost facilities and AD facilities, realizing that collection cost is 70% and operations is 30%. So additional transportation could be expensive. It is possible that a shorter distance to an alternative management option versus going to the landfill can be seen as a cost savings. The summary of the information gathered would be packaged into a Food Recovery Master Plan.

In the medium term, the Food Recovery Master Plan would be implemented. Waste sheds for compost and AD facilities would be created to realize economy of scale with counties sharing a facility so that the capital and operating costs can be spread out to keep user fees down. We need to understand what facilities are accepting so we aren't creating additional contaminants (i.e., sending products labeled biodegradable to a compost facility that doesn't accept these products). Establishing compost standards may help build a market for the material and ensure the quality is understood/guaranteed. With the

establishment of new facilities, creating a robust compost/AD facility database will help to keep the material out of the landfill. Regulations would be clarified to define products claiming they are compostable and biodegradable.

Long term strategies include providing food waste collection to all residents. This would be great but we realize this would be a large cost. We need to understand what this is and what the impacts/benefits would be. Also included in long term is adopting food waste to livestock regulations. Iowa Department of Agriculture and Land Stewardship (IDALS) currently has concerns about feeding any waste to animals.

Organics and Fibers Objectives Wrap-Up

After presentation of the objectives and short, medium and long term strategies, Karen was asked to elaborate on legislation on food waste. Karen explained some states are putting in legislation that restaurants and grocery stores must divert a certain percent of edible food to food recovery organizations. We are looking to learn from other states on how they encourage restaurants and businesses to recover food. If we don't need the legislation, great. Michelle gave an example of regulations in California that include penalties and fines if businesses intentionally destroy edible food. Businesses must also establish agreements with organizations to ensure the food is being provided for human consumption.

No other questions were asked at this time.

Plastics:

Michelle discussed the process as we looked at the long list of potential strategies and realizing they overlapped and connected to/supported an individual objective. The following three common themes came during discussions and suggested that we didn't have enough information on plastics:

- how plastics are manufactured,
- where they are sent for processing,
- how plastics could be processed.

There is a lot of research being done in Iowa to transfer plastics into energy or other consumer products. Many of the strategies that were proposed were to support this research and to support the development of these processes to make new products and/or energy.

This led to the objectives listed below.

Objectives

1. Conduct Research and Education on Plastics
2. Implement Policies and Programs to Reduce Plastic Waste in Iowa
3. Support Plastics Recycling, Processing, and Manufacturing Technologies and Facilities

Short Term (0-3 years)	Medium Term (4-10 years)	Long Term (11+ years)
• Conduct education and awareness campaigns on littering and recycling contamination • Conduct public opinion survey regarding bans, fees, and incentives • Identify problematic packaging and options for recycling and composting	• Inventory recycling methods and facilities throughout State • Research opportunities for PCR content purchasing for state and local agencies • Monitor EPR policy framework for packaging in other states	• None at this time

1. Conduct Research and Education on Plastics

In the short term we have three strategies. Littering is still an issue in many states, including Iowa. A large percentage of the litter is plastic. Also, plastic is a prevalent contaminant in the commingled recyclables stream. Cleaner plastic streams may help improve processing and allow materials to be accepted in recycling programs.

The short term also includes looking at bans, fees and incentives to reduce plastic wastes. A number of states have implemented plastic bag bans, bans on packaging, fees on other plastics and incentives to not use other plastic materials. We are not sure if this will be accepted by public, legislature, etc. so we need to see what the public attitude is for banning materials. Or if there is interest in establishing fees or incentives for not generating the materials.

The final short term strategy under this objective is to determine what packaging is a problem in Iowa and what are the options for those hard to handle items. We need to work to determine what we can do with the material now, what we want to do, and what facilities we have that accept plastics labeled compostable.

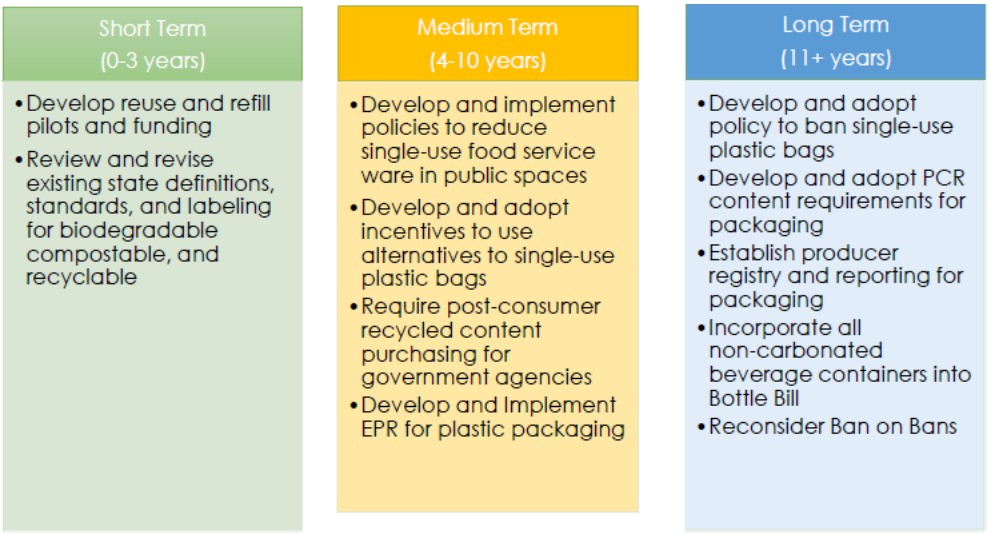
In the medium term, we are looking to inventory recycling methods and facilities throughout the State. We know there is a lot of recycling going on in Iowa, but we do not have a good idea of the methods, facilities, volumes, etc. We need to get an understanding of capacity to recycle plastics. We also are looking to research opportunities for post-consumer recyclables (PCR) content purchasing at the state and local agency level. There has been lots of discussion of requiring PCR content in government purchased materials; however, we do not know what the expenses would be and what is available in Iowa.

Also within the medium term is to monitor extended producer responsibility (EPR) in other State that have adopted these policies. These policies could be evaluated to determine if they been effective and if similar policies could work in Iowa. EPR takes a variety of forms but basically puts the responsibility on the manufacturer to take back the material or fund the recycling and reprocessing of the material. Within the last few months there has been legislation in Colorado, Maine, and Oregon and these EPR

policies look like they will be effective/successful. These policies tend to focus on public/private partnership. We want to monitor and see how they may be relevant to the infrastructure in Iowa.

No strategies are currently placed in the long term.

2. Implement Policies and Programs to Reduce Plastic Waste in Iowa



In the short term we are looking at developing reuse and refill pilots and funding to address reducing plastic waste. We know there are a variety of existing programs that we could expand (replacing disposable food service ware with reusable/refill, etc.). Prior to COVID, this was gaining ground – but has taken a back seat.

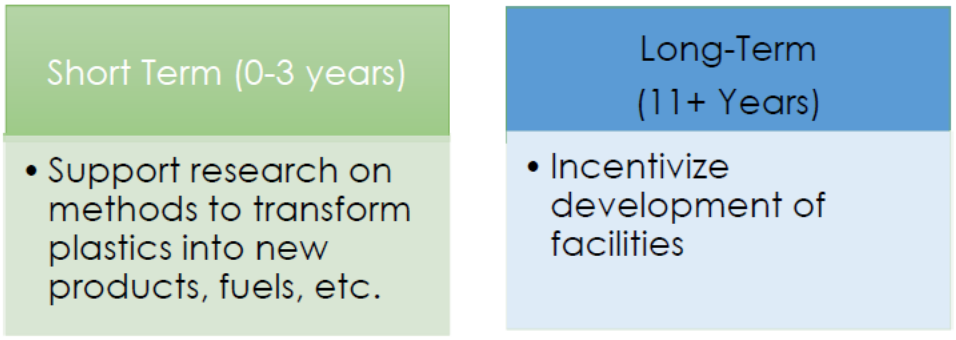
Also in the short term is reviewing and revising existing state definitions, standards, and labeling to more clearly define what is biodegradable, what is compostable, and what is recyclable. We need to standardize the definitions, regulations, and make sure they are appropriate and up to date as we move forward so that they are clearly understood by producers, manufacturers, consumers, and processing facilities.

Within the medium term we had a lot of strategies that focused on replacing single use food service ware. We lumped them into one strategy to focus these efforts via policies. We also looked at developing and adopting incentives for single-use plastic bags, evaluating what incentives we can provide for people to use reusable bags (discount on purchase, fees for using a plastic bag, signs to encourage people to bring in reusable bags). We have another medium term strategy of requiring PCR content for government agencies who can lead by example. They can also support the market with their purchasing power. There may be the potential to require government purchases to have a minimum recycled percentage in their items. Related to EPR, the strategy is to develop and implement EPR for plastic packaging.

Proposed long term strategies included following the public and legislation opinion poll related to a ban on single-use plastic bags. Long term strategies also include implementing government procurement for PCR and then establishing requirements for packaging to include PCR. There are examples of PCR programs that include plastic bottles which could provide guidance in establishing similar programs in Iowa. Having this out in the long term will help facilitate our understanding of PCR programs and allow us to learn from other successes and challenges in regards to implementing these policies.

Within the long term, establishing a producer registry would help track progress on which implemented strategies are affecting/making a positive difference. Considering adding all non-carbonated beverage containers to the Bottle Bill is presented as a long term strategy. After we implement the presented strategies, we can then focus on minimizing disposal of other plastic materials.

3. Support Plastics Recycling, Processing, and Manufacturing Technologies and Facilities



In the short term, we are looking to support research efforts that are occurring at universities in Iowa and across the United States. Providing grants and getting involved by providing material for research, etc., having producers/manufacturers and processors provide materials for the research to be conducted will be important in supporting continued research.

No strategies are currently placed in the medium term.

In the long term, we are looking to incentivize the development of facilities that can process plastics within Iowa. Incentives to encourage establishing such facilities could potentially include financial, legislative, or other strategies.

Plastics Objectives Wrap-Up

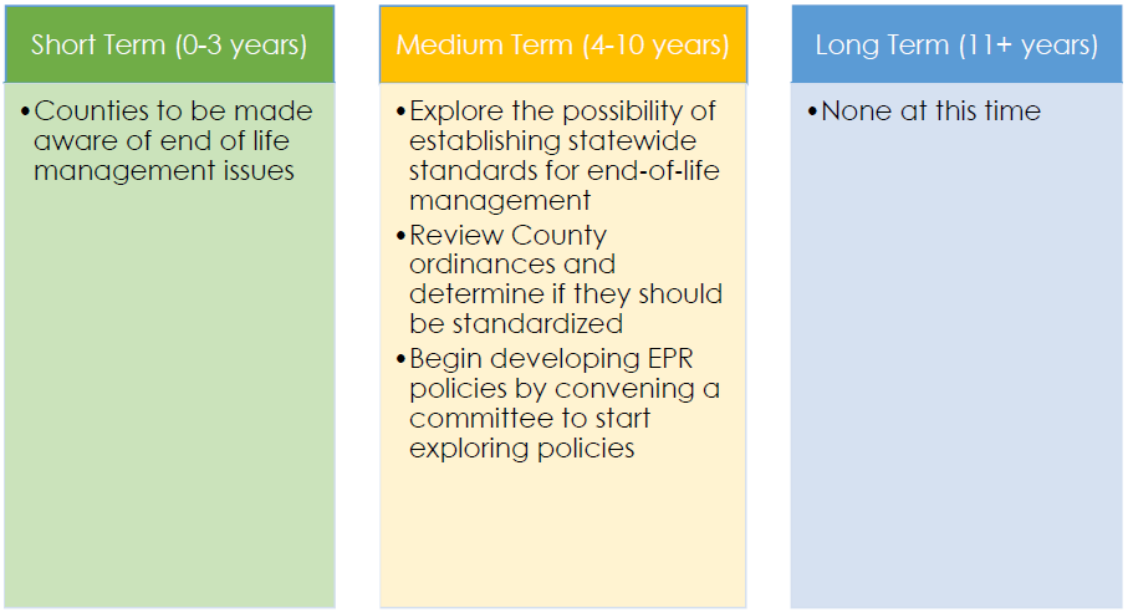
After presenting the objectives and short, medium and long term strategies, Michelle was asked what the appetite was for moving up some of the strategies if the opportunity presents itself to speed up the timeline. Michelle noted that we will be asking stakeholders this afternoon to get their opinion to determine if any of the strategies need to be moved up or back according to the current timeline. And as these would be implemented in the state, things will change over time. Amie Davidson also noted that as infrastructure law and funding opportunities arise the strategy timeline may change because of funding goals.

Renewable Energy Equipment (REE):

Karen summarized the process used for the renewable energy equipment (REE). The first thing we did was to identify the materials disposed in landfills and which ones we want to focus on first. When looking at REE, there are 16,000 wind turbines in Iowa. We are second to Kansas for the amount of wind energy generated. If they are all going to reach end of life within 5-years, this would impact landfill space. This becomes a challenge for recycling processors as there are not a lot of wind turbines that have reached end-of-life and need to be managed. Therefore, the necessary recycling/re-processing infrastructure is not currently established due to these low volumes.

Related to solar panels, the State of Washington passed EPR legislation in 2017 but it has been extended four times and may be implemented by 2026. This legislation requires manufactures to oversee/support collection and recycling of solar panels.

With these lead times prior to large scale end-of-life of REE in Iowa, the subcommittee has been more conservative with the strategies.



In the short term we discussed making sure counties are aware of end-of-life management issues and understanding who will ultimately be responsible. Preference would be given to recycling, then disposal, but not knowing what the industry will be at that time we do not know what these costs would be.

In the medium term, we considered the possibility of statewide standards for end-of-life management with recycling and purchasing equipment that has a greater opportunity to be recycled. We also discussed considering if county ordinances should be standardized since we heard from utilities that everyone wants renewable energy but everyone has different standards. In order to prepare for the influx of REE to be managed, we also considered beginning to develop EPR policies by convening a

committee. This would start with observing other states that have EPR policies. Washington started their committee in 2012 so it can take some time to develop strategies.

No strategies are currently placed in the long term.

Renewable Energy Equipment Objectives Wrap-Up

After presenting these strategies, a question was raised regarding batteries being a part of the materials within this subcommittee - but no discussion on batteries being included. Karen noted that the subcommittee felt that batteries could be managed similar to electronics. Significant discussion ensued. The intent this subcommittee was to focus on large scale energy storage batteries. The batteries that are causing issues at landfills, transfer stations, and material recovery facilities (MRF's) are typically small lithium batteries and covered under state and local household hazardous materials (HHM) programs. The State has programs and education in place for these that facilities can take advantage of. The issue facilities are having with insurance coverage was noted by several facilities.

Comments were also made on:

- Needing long term planning for batteries from e-vehicles.
- The point on fires at facilities due to lithium batteries is the most important thing to come out of this meeting. Batteries are burning MRFs. Insurance provides have recognized this issue nationally. We are 10 days away from not being able to be insured due to increase policy costs and unwillingness of insurance companies providing policies. Our facility insurance costs went from $35,000 per year to a now quoted $400,000 per year - but it is suspected that the insurance company will not honor the policy anyway. Self-insuring is not an option anymore and if MRF's cannot get insurance, then we are out of business. Any rechargeable batteries are an issue.
- There is a successful wind turbine blade recycling operation in Marengo, Iowa. The facility process the wind turbine blades and generates 2 to 3 semi-trailers of ground material per week which are transported to a facility in Buffalo, Iowa for waste to energy through Vesta Energy.
- This is an emerging opportunity for new types of recycling businesses. We need to find ways to support these market creating businesses so they come to Iowa instead of others states.
- Medium term on wind turbine and solar panel recycling is too late. If we wait we will be behind the 8 ball.
- Regarding wind turbine blade recycling it needs to be considered if it is possible, at what cost, and what is the fate of the material. Also, does incineration really equal recycling?
- Solar panel recycling needs to ensure the materials are being managed appropriately. The glass gets recycled. But the other materials may contain precious metals.
- Is there a role for Iowa Utility Board (IUB) in regulating renewable energy generators that generate less than 25MW? It is premature to look at decommissioning plans at this point. We need to see what it would take to encourage recycling companies to come to Iowa. The ordinances and decommissioning would help support volume generation and direct the material to these processors.

- Potentially add to short term strategies what it is going to take to have recycling facilities come to Iowa to generate markets.

Construction and Demolition (C&D) Debris

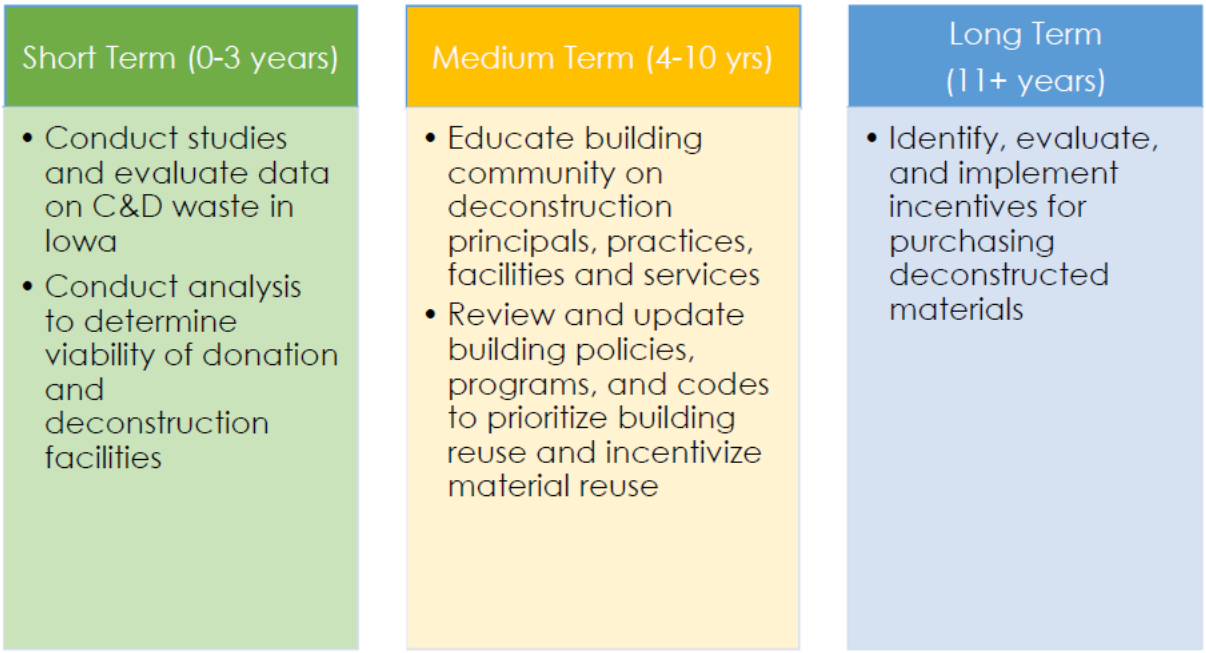
Michelle noted that we had a lot of strategies and discussion on reuse of materials and the markets for these materials, methods that could be used to reduce quantities of materials generated, and some of the challenges that have occurred in the past for facilities to accept and process these materials.

This led to the objectives listed below.

Objectives

1. Develop Deconstruction and Reuse Industry in Iowa
2. Support Use of Green Building Practices
3. Support C&D Processing in Iowa

1. Develop Deconstruction and Reuse Industry in Iowa



In the short term we discussed collecting data to understand the types and quantities of materials that are in C&D waste and how much is being generated. Previous statewide waste characterization studies did not look at this material type. This material is included in the current study and this data will help provide a better understanding of what is in C&D waste. We also discussed that there are existing donation and deconstruction facilities and programs in Iowa but we need to understand if this is a viable industry in Iowa.

In the medium term we discussed providing education to the building community as there are lots of resources on a national and state level but we need to make sure it is shared. We also discussed reviewing current building policies, programs, and codes to prioritize reusing materials in construction of new buildings and prioritize reusing existing buildings.

In the long term we discussed looking at incentives to promote purchasing of reused materials to support this practice.

2. Support Use of Green Building Practices

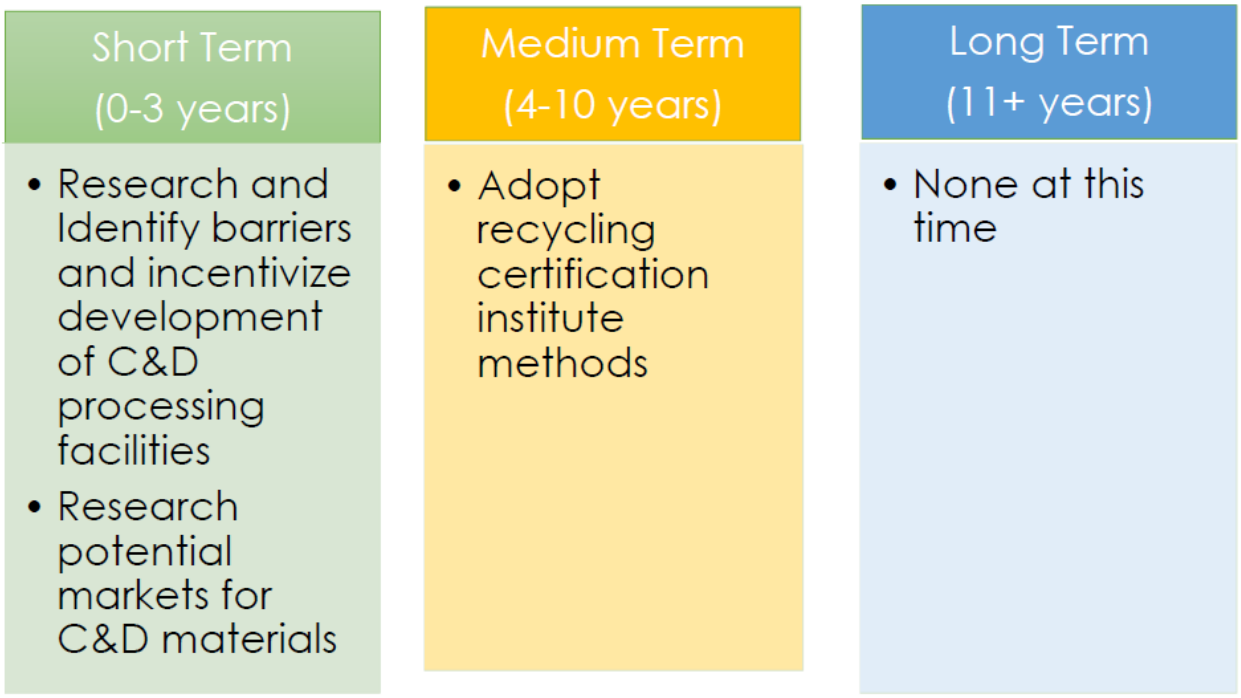
Short Term (0-3 years)	Medium Term (4-10 years)	Long Term (11+ years)
• Develop sample project bid language supporting green building practices • Review and update local building policies, programs, and codes to implement green building practices	• Adopt builder/ contractor certification program (National program standards)	• None at this time

In the short term we discussed developing sample project bid language. This is often times a barrier for green building projects because typical bid language may not reference and may even penalize green building practices. We also discussed the need to review local building policies, programs, and codes to implement green building practices. We want to make sure that local building codes allow for that and do not prohibit green building policies.

In the medium term we discussed adopting a builder/contractor certification program. There are national program standards and we could adopt them within the state so that this is the typical practice to certify contractors.

No strategies are currently placed in the long term.

3. Support C&D Processing in Iowa



In the short term we are looking at researching and identifying barriers to C&D processing facilities in Iowa. There had been facilities that were developed and were not successful. It will be important to understand what barriers may be in place (land use, tax, siting, etc.,) preventing the development of these facilities. Another challenge that we discussed are the potential end markets for C&D materials. We need to make sure there is a market for these materials being processed.

In the medium term we discussed adopting recycling certification institute methods.

No strategies are currently placed in the long term.

<u>Construction and Demolition (C&D) Debris Objectives Wrap-Up</u>

After presenting these strategies, a statement by a stakeholder was made that we talked about updating building policies, code, etc. This needs to happen at the state level as this is a decade at least behind and would allow communities that want to adopt more stringent policies to do so.

C. DNR Short Term Strategy Consolidation

Michelle continued with discussing a session that the project consultant team had with the DNR staff to talk about what are realistic strategies to implement in the short term. Many of the strategies would involve the DNR and their resources. We do not want to overburden the resources and we need to know who we could collaborate with to support the effort. We did further refinement with the DNR and asked stakeholders to look at the revised short term strategies and then asked them to prioritize the strategies. A handout was provided to stakeholders (see Attachment B) that walks through the process

and contains the final list of proposed short term strategies with a description of what each strategy entails.

Karen walked the stakeholders through the process used with the DNR staff which entailed prioritizing material categories and consolidating strategies. Criteria used to prioritize the material categories included:

- Potential to influence entire lifecycle
- Stakeholder support for change
- Overall impact on GHGs and landfill diversion within five years

The material category prioritization by the DNR was as follows (from highest to lowest):

- Organics and Fibers
- Plastics
- Construction and Demolition Debris
- Renewable Energy Equipment

The consolidated short term strategies are provided below.

Organics and Fibers:

- Involve Wastewater Treatment Facilities
- Assess Compost Facility Capacity
- Research Other States
- Develop Organics Infrastructure Master Plan
- Enhance Food Waste Campaigns
- Help Create a Sustainable Food Recovery Plan in Iowa

Plastics:

- Identify Problematic Packaging
- Review State Definitions
- Review and Research Reuse and Refill Pilots and Funding
- Assess Public Opinion
- Support Studies to Convert Plastics into Fuels

Construction and Demolition Debris:

- Conduct Studies on C&D Waste in Iowa
- Determine Viability of Donation and Deconstruction Facilities
- Develop a Green Building Toolkit
- Research and Identify Barriers and Opportunities to Develop C&D Recycling

Renewable Energy Equipment:

- REE – To make people aware of end of life management and opportunities.

After presenting these condensed short term strategies a question was asked if we were monitoring the new EPR legislation passed last week in Colorado to see how it could work in Iowa. Michelle responded that this will likely be a signature EPR framework for packaging and paper. It involves the stakeholders and the funding mechanism incentivizes the recycled content and reduction of generation of materials through eco modulation and incorporating existing infrastructure. Previous EPRs may not have incorporated all of these items. We'll continue to follow and see how it can be applied in Iowa.

D. Work Session

Michelle went through each of the short, medium, and long term strategies for each objective to see if stakeholders had any changes. The results of these discussions are summarized below for each objective.

Organics and Fibers

1. Upstream Minimization – No Changes.

2. Reshape Consumer Habits – Short/Medium/Long Term: The comment was made that when dealing with food labeling and packaging, Iowa is not a large enough market to have influence here. It was clarified that this would be if national legislation was passed.

Parking Lot – The comment was made that Iowa is in dire need of compost facilities. We can continue to reshape consumer habits all you want, but we still need a place to go with the organic waste – end use markets. We also need to reshape packaging. The two largest generators of plastic in this state (in Red Oak and Story City) are producing film rolls that are two to three types of plastics. We need to reshape the packaging process to reshape consumer habits. Michelle noted that we address packaging in plastics.

It was also noted that it should be considered that the depackaging and repackaging of food waste takes a lot of time and resources. This is a problem that one of the nonprofits in Des Moines has that it takes a large number of time and resources to unpack and repackage food.

3. Strengthen Food Recovery – No modifications.

4. Recycle Anything Remaining – No modifications.

It was asked if there was any sense from the POTW perspectives about concerns with accepting additional volumes and/or types of materials, and/or Nutrient Reduction Strategies and PFAS concerns. DNR staff responded that several years ago Iowa Economic Development Authority (IEDA) was looking to help POTWs look at this to support them in providing these services to increase revenue, but at the time there may have been financial and permitting hurdles. But it's possible there is an opportunity now with additional financial resources. DNR wastewater staff responded that they have 60 waste water treatment communities with AD already functioning, processing waste water sludges. We need to know

what information we need from these facilities. Capacity concerns are valid. All are designed to process a certain amount – any additional amounts will need to be evaluated for loading and reliability. Concern from DNR is that sludge keeps on producing so bringing in other wastes cannot interfere with their operations. There are 4-5 large successful AD facilities in Iowa: Muscatine, Dubuque, DSM WRA, Sioux City. Storage will need to be evaluated as this is a concern when taking more materials because you cannot apply biosolids during bad weather – so 180 days of sludge storage would be needed. Whatever is added will go through treatment so it adds to their system. The question should be what would it take for the facility to take on additional loads. Muscatine is looking at segregating all of their organic waste into a separate AD system to maximize renewable identification number (RIN) credits. DNR shared the two links below and noted that AD takes careful planning and thoughtful consideration.

- https://www.iowaeda.com/UserDocs/IowaAnaerobicDigesterResourceGuide2021.pdf
- https://www.waterrf.org/system/files/resource/2019-12/DRPT-4792.pdf

A stakeholder noted that it may not be possible to integrate AD with waste water treatment plants (WWTP) in the short term but it should be looked at to see what it would cost to upgrade AD and WWTP so they can co-digest food waste. The stakeholder noted they had been working with a client for the last year to implement a fermentation in vessel system so there is no possibility of contamination and then they are putting that into a pyrolysis system to make biochar. This is also technology we can consider.

We need to be sure we are looking at the RINS D5 or D3; the feedstock can impact the RINs. On this level, it has to be on an industrial and commercial level not a residential level as the input needs to be steady without interruptions. WWTPs will be looking at high solids.

The question was asked why it was a barrier to feeding food waste to livestock when there are several industrial feeding operations. This is pre-consumer food waste and is not the issue. This is a non-starter for IDALS which is why it is on the long-term. A number of DNR and stakeholders have talked with the various stakeholders and they are not willing to change their position. Current rules prevent feeing food waste to swine. There are limitations but opportunities for feeding food waste to cattle. There are different rules for both swine and cattle.

Plastics

1. Conduct Research and Education on Plastics

A stakeholder suggested to move the “Inventory recycling methods and facilities throughout the State” (in addition to the compost facility inventory) to the short term to determine what current baseline and capacities are for organics and plastics.

A stakeholder suggested to add questions into the public opinion survey to further define and implement the education and awareness campaigns on littering and recycling contamination.

A stakeholder suggested to move “Monitor EPR policy framework for packaging in other states” to short term to allow for the development and implementation in the medium term.

A stakeholder suggested to add EPR education for general public and legislators to "Conduct education and awareness campaigns on littering and recycling contamination."

2. Implement Policies and Programs to Reduce Plastics Waste in Iowa

No modifications to Short Term.

Stakeholder comment to move "Reconsider Ban on Bans" to the medium term.

Stakeholder comment to the "Require post-consumer recycled content purchasing for government agencies" the encouragement to for policies to encourage environmental preferable purchase policies.

No modifications to Long Term.

3. Support Plastics Recycling, Processing, and Manufacturing Technologies and Facilities – No modifications.

A stakeholder asked if "Incentivize development of facilities" could move up depending on infrastructure law money. DNR staff explained that in general any of these could move up depending on what is appropriate and eligible. The money is split up into very specific grant areas, so we would re-prioritize when the money is fitting something we want to do. DNR staff further explained that part of the reason we set up timelines is not so that we could not be flexible. We did this so we could be realistic with what we can work on and accomplish. We realize that things will move up or back based on changes (legislative, societal changes, etc.). The project consultants clarified that there are people here that have not been on any subcommittee or previous stakeholder meetings so we wanted to give people an opportunity to review the strategies and timelines to get buy in and realize that priorities can change based on many factors.

DNR staff noted that the DNR has a limited capacity – but if there is something that stakeholders think needs to be done sooner, you can work together with your resources and connections to make it happen with DNR support. But this is not a solely lead/run SMM program by the DNR.

The project consultants added that this plan can help local and regional boards with their initiatives by pointing out that this is part of the state's SMM plan.

Renewable Energy Equipment

A stakeholder commented that this subcommittee missed the mark. The first stakeholder meeting discussed how important batteries are and there is nothing included for batteries in the priorities. The stakeholder noted that priorities seemed to be very protective and that they are passing the issue on concerning the counties. This is inappropriate and this should go back to the concept EPR. Objectives for batteries need to be discussed, and solar and wind are more difficult. The project consultant team clarified that we were not addressing rechargeable batteries, as the focus was on storage batteries for solar and wind farms.

Several REE subcommittee members noted that additional strategies needed to be added and/or moved up in priority with structure for management of wind turbine blades and solar panels. Consideration of electric vehicle batteries should also come forward.

A stakeholder commented that the subcommittee needs to go back and develop a plan to address windmills, panels, and batteries.

A stakeholder commented that with "Counties to be made aware of end of life management issues", was a suggestion to develop a standardized list of tasks to develop a wind farm and if followed, that would take away the right for the county to say no to a wind farm. We should not take that right away. If citizens do not want a wind farm, they should have the right to say no. DNR clarified that this is not to take responsibilities away from counties or to force them to accept wind farms and associated wastes. The ordinance question came up from Johnston County. A comment was made that Johnson County is currently the only county that has a large battery ordinance. In county ordinance you can stipulate decommissioning requirements. But it does not do anything for what exists for decommissioning options. The ordinances can recommend what happens but their needs to be a market to support these efforts.

An REE subcommittee member noted that batteries were not being ignored. When looking at SMM, batteries are already being managed. The subcommittee was looking specifically at larger/utility sized batteries.

The final stakeholder recommendation was to:

- Wordsmith the objectives and strategies to be more specific about materials being discussed in some cases or reword to make sure they are bringing across the original desired intent for the subcommittee.
- Move all medium strategies to short term strategies:
    - Explore the possibility of establishing statewide standards for end-of-life management
    - Review county ordinances and determine if they should be standardized
    - Begin developing EPR policies by convening a committee to start exploring policies

Construction and Demolition Debris

1. Develop Deconstruction and Reuse Industry in Iowa – No modifications.

2. Support Use of Green Building Practices – No modifications.

A stakeholder questioned how a national certification program gets selected and how we get the developers/builders to move in this direction. The project consultants noted that this would be a big part of the next steps of looking at these strategies on who would be involved in the implementation and develop of policy or program, incorporating input from stakeholders and municipalities, and looking at funding and resources. These will be the next steps.

3. Support C&D Processing in Iowa – No modifications.

E. Work Session – Prioritization Discussion

Michelle facilitated a discussion that asked stakeholders for input on prioritizing the material categories and the consolidation of strategies performed by DNR. Modifications identified from previous discussions during this meeting were incorporated into the discussion.

Criteria to prioritize material categories were reviewed. Discussion also occurred on the meaning of priorities within the material categories and what the vote means, realizing that a stakeholder may support a material category but not the way implementation is determined down the road. The project consultant team explained that some material categories have more support than others. With limited resources, understanding where the greatest stakeholder interest is, and understanding if there is a priority, would help focus and direct efforts.

Michelle then explained the criteria that will be used to prioritize the consolidated short term strategies that are falling within 0-3 years.

Organics and Fibers Short Term Strategies:

The following consolidated are the short term strategies for organics and fibers. Additional descriptions are found in Appendix C. Stakeholder comments are included below the strategies where applicable.

- Involve Waste Water Treatment Industry
- Assess Compost Facility Capacity
    - Needs a market assessment added to the detailed implementation plan.
- Research Other States
- Develop Organics Infrastructure Master Plan
- Enhance Food Waste Awareness Campaigns
- Create a Sustainable Food Recovery System
    - Add inventory of food recovery organizations to share with businesses. It was further shared that Iowa Waste Reduction Center has a start of this information on a map but it is not current.

A stakeholder asked if flow control for organic waste was being considered. The DNR stated that it could be on the table but would require legislative change. The project consultant team stated that the Organics Infrastructure Master Plan could talk about pros and cons, benefits, of a variety of strategies.

A stakeholder commented that supporting infrastructure for collection and transportation of food donations should be included. The project consultant team noted that databases are a challenge and only as good as they are maintained/data that is put into them. However, California is going through this process with recent legislation changes and is showing that applications and databases can work and is a good check/balance with what is happening and what activities entities are performing.

Plastics Short Term:

The following consolidated short term strategies are for plastics. Additional descriptions are found in Appendix C. Stakeholder comments are included below strategies where applicable.

- Problematic Packaging (include EPR education as well based on the earlier discussion)
- State Definitions
- Refill Pilots and Funding
- Public Opinion About Progressing Plastics SMM
    - Stakeholder discussed adding research programs and policies in other states
- Plastics to Fuel
- Inventory of Recycling Facilities

A stakeholder asked Michelle to expand on "Review and research reuse and refill pilots and funding." Michelle explained that there are projects that encourage consumers to bring back their containers for refilling for shampoo and other products, including beverages. This would review existing programs, determine what is successful, and determine potential pilot projects.

Construction and Demolition Debris Short Term:

The following consolidated short term strategies are for C&D. Additional descriptions are found in Appendix C. Stakeholder comments are included below strategies where applicable.

- Conduct Studies on C&D Waste in Iowa
- Determine Viability of Donation and Deconstruction Facilities
- Develop a Green Building Toolkit
- Research and Identify Barriers and Opportunities to Develop C&D Recycling

REE Short Term:

No votes will be taken today due to the earlier conversations regarding the objectives and strategies for REE. Comments received from stakeholders will be presented to the REE subcommittee for consideration and additional work.

F. Material and Strategy Prioritization Voting

Michelle explained the process and reasoning for prioritizing the material categories and short term implementation strategies. Stakeholders present went through the voting process. Results were briefly reviewed with the stakeholders. Full results will be discussed in Stakeholder Meeting #4 to be held late fall of 2022.

A summary of the priority voting results from stakeholder meeting #3 are presented below.

Category ranking results from highest priority to lowest were:

1. Organics and Fibers
2. Plastics
3. Renewable Energy Equipment
4. Construction & Demolition Debris

Organics and Fibers - Short Term Strategy priorities from highest priority to lowest were:

1. Compost Facility Capacity
2. Research Other States
3. Enhance Food Waste Campaigns
4. Waste Water Treatment Plant Co-Digestion
5. Create Sustainable Food Recovery System
6. Organics Processing Infrastructure Master Plan

Plastics - Short Term Strategy results from highest priority to lowest were:

1. Inventory Recycling Methods and Facilities in Iowa
2. Review Existing Regulations
3. Support Plastics Reduction and Recovery Research
4. Conduct Public Opinion Survey
5. Monitor EPR Policies for Packaging in Other States
6. Plastics Packaging
7. Reuse and Refill Programs

Construction and Demolition Debris - Short Term Strategy results from highest priority to lowest were:

1. C&D Waste Evaluation
2. C&D Processing Facilities and Markets
3. Existing Building Policies and Practices
4. Donation and Deconstruction Facilities
5. Green Building Toolkit

G. Next Steps

Michelle noted that these results would be provided to stakeholders. There is additional work in further vetting out the short term strategies related to who is going to do the work, what it is going to cost, timelines, and how this will move forward. Subcommittees will be reconvened and there will be a final stakeholder meeting scheduled for late fall 2022.

DNR thanked all for their attendance and assistance in this important day in moving the SMM initiative forward.

H. Stakeholder Meeting #3 Materials & Data

- Attachment A – Stakeholder Meeting #3 Agenda and Presentation Slides
- Attachment B – Stakeholder Meeting #3 Handout – DNR Short Term Strategy Presentation
- Attachment C – Stakeholder Meeting #3 – Meeting Attendees

ATTACHMENT A

STAKEHOLDER MEETING #3 AGENDA AND PRESENTATION SLIDES

AGENDA

Stakeholder Meeting #3

June 15, 2022 (9:00 AM – 4:00 PM)

AGENDA ITEMS:

Welcome and Introductions (9:00 – 9:30 AM)

A. Stakeholders, Staff and Consultants
B. Meeting Expectations

Subcommittee Updates (9:30 – 11:00 AM*)

A. Organics & Fibers
B. Plastics
C. Renewable Energy Equipment
D. Construction & Demolition Materials

DNR Short Term Strategy Consolidation (11:00 – 11:30 AM)

A. Discussion
B. Results

Lunch Break (11:30 – 12:30 PM)

Breakout Session (12:30 -2:00 PM)

A. Discussion on Strategies and Timelines of Subcommittees
   1. Organics & Fibers
   2. Plastics
   3. Renewable Energy Equipment
   4. Construction & Demolition Materials

Break (2:00 – 2:15 PM)

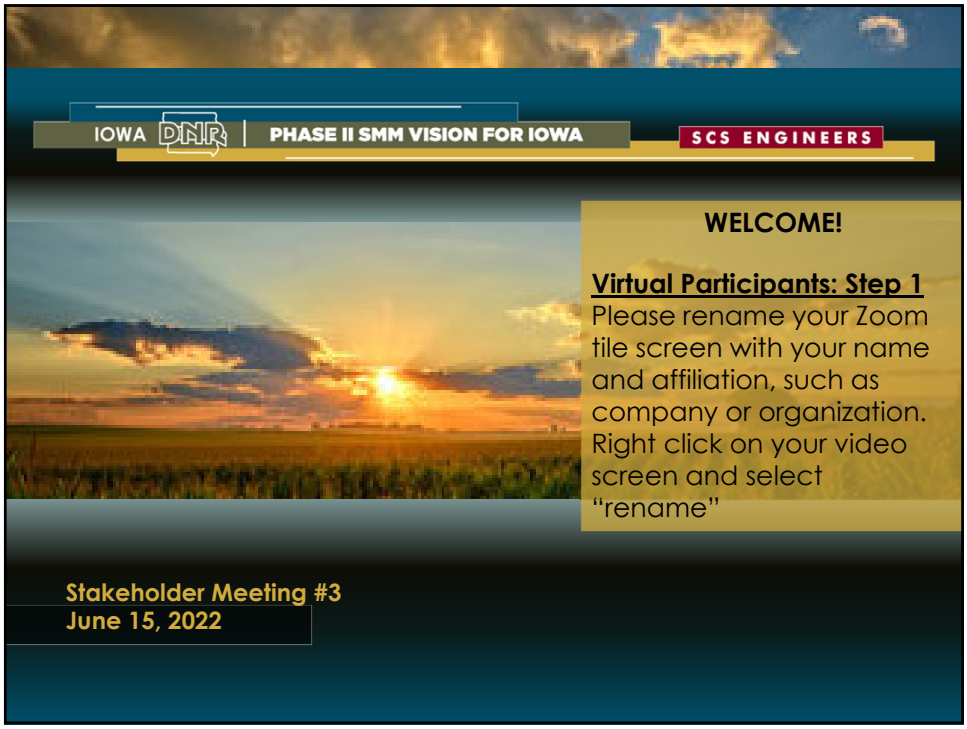
Breakout Session Results (2:15 – 3:30 PM)

A. Discuss Results
B. Individual Votes on Strategies

Next Steps (3:30 – 4:00 PM)

A. Summary of Breakout Sessions
B. Discussion on Next Steps

*Note: Breaks will be taken in these sessions as needed.


IOWA DNR | PHASE II SMM VISION FOR IOWA
SCS ENGINEERS
WELCOME!
Virtual Participants: Step 1
Please rename your Zoom tile screen with your name and affiliation, such as company or organization. Right click on your video screen and select "rename"
Stakeholder Meeting #3
June 15, 2022


Welcome
IOWA DEPARTMENT OF NATURAL RESOURCES
SCS ENGINEERS
IOWA DNR | PHASE II SMM VISION FOR IOWA
SCS ENGINEERS

Agenda

- **Introduction and Meeting Expectations**
- **Subcommittee Updates**
  - Organics and Fibers
  - Plastics
  - Renewable Energy Equipment
  - Construction and Demolition Debris
- **DNR Short Term Strategy Consolidation**
- **Lunch Break (*1 hour*)**
- **Breakout Session – Group A and Group B**
- **Breakout Session Results Discussion**
- **Stakeholder Short Term Strategy Vote**
- **Summary**

Breaks will be taken throughout the presentations as needed

Meeting Expectations

Provide feedback and input

Listen with open minds

Suggest changes as needed

Modified consensus to move forward

What is SMM?

"Sustainable materials management is an approach to using and reusing materials most productively throughout their entire life cycles"

It represents a change in how our society thinks about the use of natural resources and environmental protection

Source: USEPA

Stakeholder Group Role

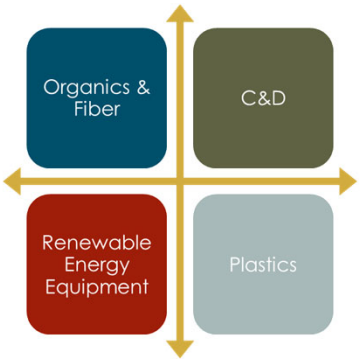
Provide various perspectives on how SMM can be adopted and implemented in Iowa

Provide on-going guidance to subcommittees

Consider and endorse subcommittee suggested strategies and timelines

Recap

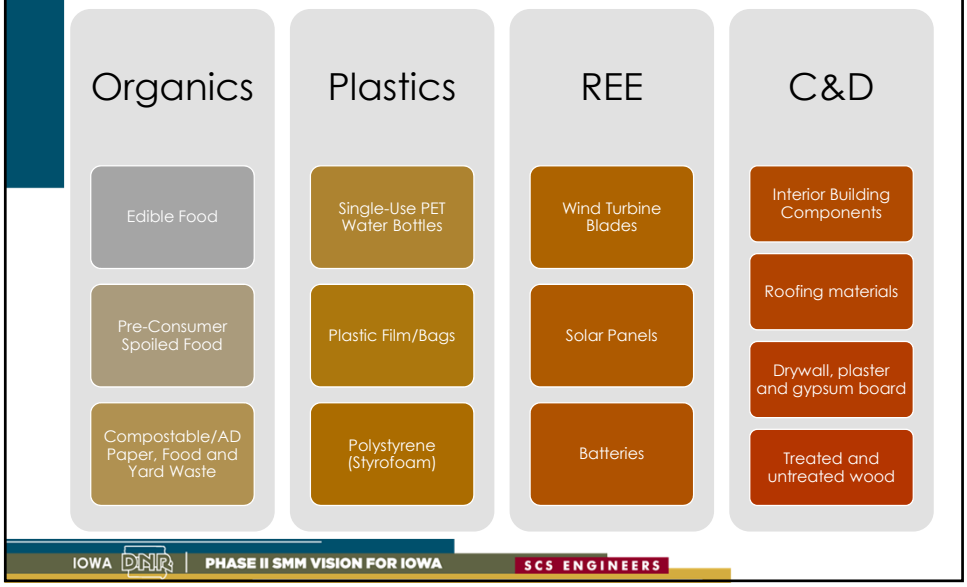
- Stakeholder Meeting #1
  - March 25, 2021
  - Selected 4 Material Categories



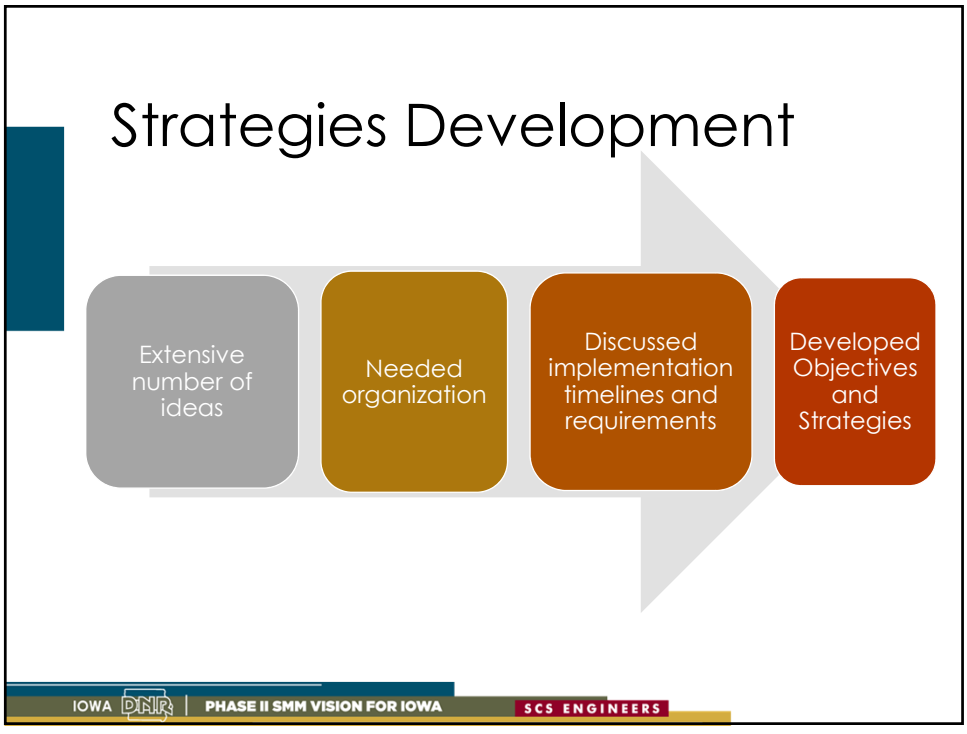
Recap

- Stakeholder Meeting #2
  - September 30, 2021
  - Reviewed Subcommittee Progress selecting materials and developing strategies

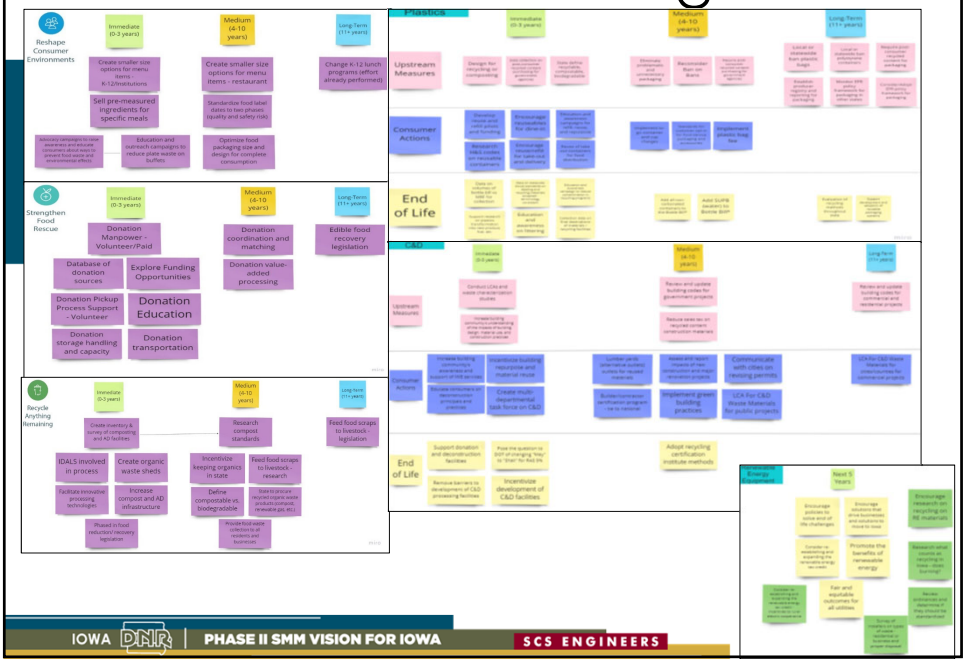
Material Types Selected



Strategies Development

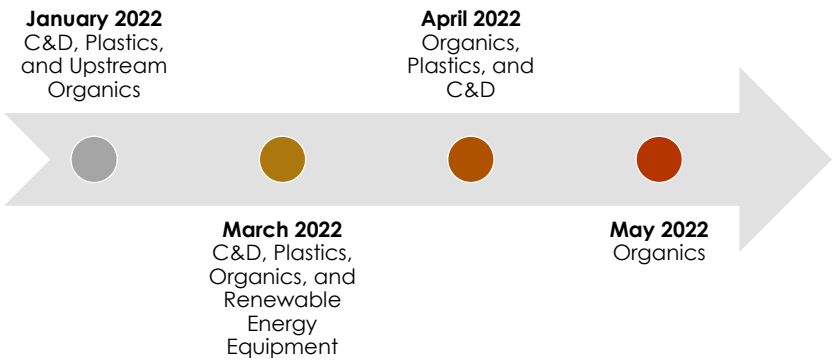


Initial List of Strategies



Very Large "Play List" to Organize and Prioritize

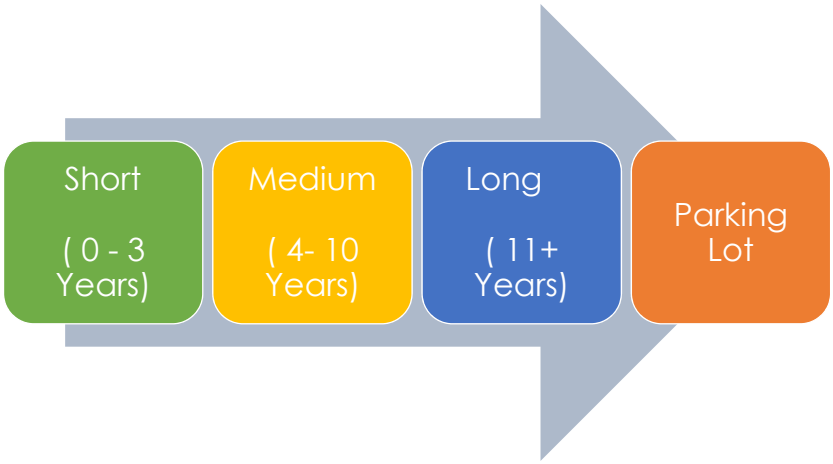
Subcommittee Work Post SH#2



Subcommittee Presentations

- Organics & Fibers
- Plastics
- Renewable Energy Equipment
- Construction & Demolition Debris

Strategy Implementation Schedule



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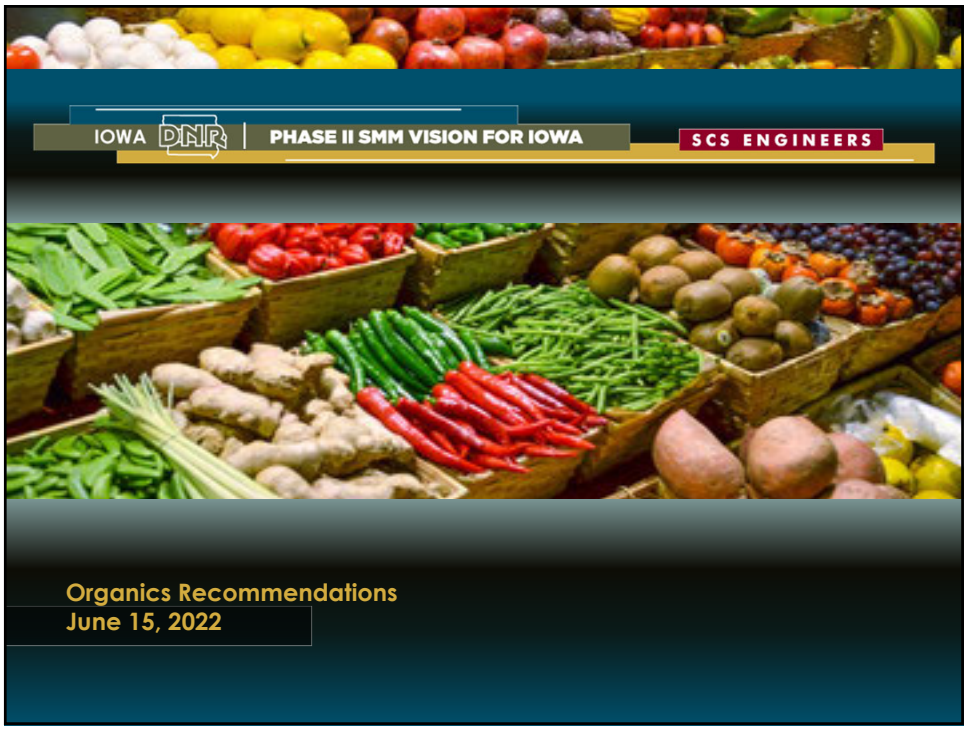


Subcommittee Members Thank You!

Name	Representing
Aaron Holt	Iowa Restaurant Association
Alan Schumacher	Quincy Recycle Paper/Iowa Recycling Association
Aubrey Alvarez	Eat Greater Des Moines
Beth MacKenzie	University of Iowa
Doyle Smith	City of Cedar Falls
Jennifer Jordan	City of Iowa City Landfill and Recycling Center
Jennifer Trent	Iowa Waste Reduction Center
Jon Koch	City of Muscatine
Karen Rodekamp	ISU Dining, Iowa State University
Kathy Morris	Waste Commission of Scott County
Michelle Hurd	Iowa Grocery Industry Association
Rich Stephens	Archer Daniels Midland Company
Scott Amendt	GreenRU, LLC & Chamness Technology, Inc.
Brian Sievers	Sievers Family Farm
Christine Hradek	Nutrition Education Program Manager
Tim Woods	Woods Development LLC
Kaveh Mostafavi	EcoCare Supplies and the Compost Ninja
Joe Harms	Perishable Distributors of Iowa
Satya Chennupati	DNR Wastewater Engineering Section Supervisor

Objectives

1. Upstream Minimization
2. Reshape Consumer Habits
3. Strengthen Food Recovery
4. Recycle Anything Remaining

1. Upstream Minimization

Short Term (0-3 years)	Medium Term (4-10 years)	Long Term (11+ years)
• Provide stores and restaurants documentation on how to reduce food waste • Meet with entities such as Iowa State University and EPA to find gaps and reassess how to expand programs already in play in Iowa	• Find investors for post-harvest collection • Encourage schools to purchase imperfect foods • Educate industry on other options such as compost and AD when temperatures are exceeded rather than relying on landfill disposal	• None at this time

2. Reshape Consumer Habits

Short Term (0-3 years)	Medium Term (4-10 years)	Long Term (11+ years)
• Institute advocacy campaigns to create food waste awareness • Promote food labeling policies if national legislation is passed	• Work with K-12 institutions to create smaller size options for menu items • Inventory what agencies are doing what with educational and institutional food waste • Institute advocacy campaigns to create awareness about food waste recovery facilities • Assess if Iowa needs legislation about food labeling	• None at this time

2. Reshape Consumer Habits

Parking Lot

- Promote pre-measured food kits
- Establish campaigns to reduce plate waste at buffets.
- Once compost and AD infrastructure is in place, make sure buffets are aware of food donation, compost, and AD options
- Encourage restaurants to create smaller size options
- Optimize food packaging design for complete consumption

3. Strengthen Food Recovery

Short Term (0-3 years)	Medium Term (4-10 years)	Long Term (11+ years)
• Evaluate how other states gather local or infrastructure information • Increase storage donation handling and capacity • Institute advocacy campaigns to create food waste awareness • Promote food labeling policies if national legislation is passed • Educate businesses on the costs associated food donation collection and awareness of options for food recovery organizations	• None at this time	• Adopt food recovery legislation

3. Strengthen Food Recovery

Parking Lot

- Require businesses to have a food recovery plan (not submitted to anyone)
- Facilitate a pilot to gather information on how businesses are recovering food
- Increase storage donation handling and capacity (to include storage bins, shelving, etc.)

4. Recycle Anything Remaining

Short Term (0-3 years)

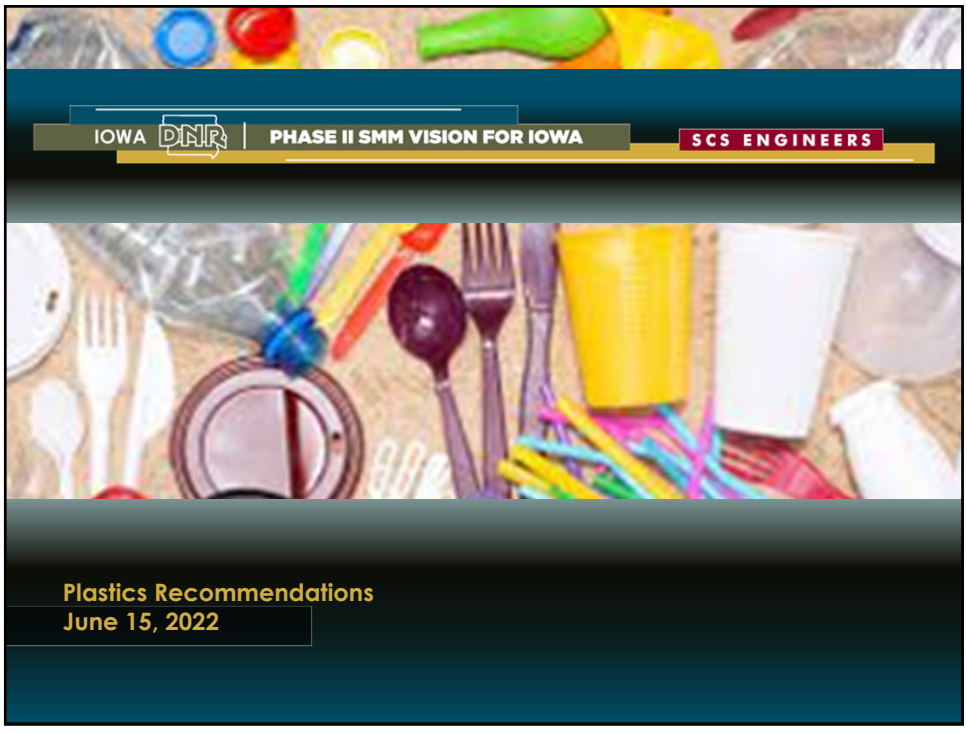
- Determine what information wastewater treatment plants currently submit
- Evaluate if a rule/code is required to obtain the necessary information from wastewater treatment plants
- Include people from the wastewater world in this conversation
- Institutionalize Iowa co-digestion successes/challenges
- Inventory compost facilities

Short Term (0-3 years)

- Analyze food waste reduction strategies in other states/national
- Research what other states require for government organic-content procurement
- Estimate what would it cost to divert organics from landfills to Iowa composting facilities and digesters
- Create a Food Recovery Master Plan

4. Recycle Anything Remaining

Medium Term (4-10 years)	Long Term (11+ years)
• Implement food waste recovery plan • Begin creating multi-county organic waste sheds • Require the State to procure organic-content products • Develop regulations that define compostable and biodegradable • Establish compost standards • Create a robust compost/AD facility data base	• Provide food waste collection to all residents • Adopt food waste to livestock regulations



Subcommittee Members Thank You!

Name	Representing
Bryce Stalcup	Waste Commission of Scott County
Harlan Buxbaum	Dee Zee, Inc.
Jennifer Horner	That's Not Trash, LLC
Joe Bolick	Iowa Waste Reduction Center
Julie Ketchum	Waste Management
Merry Rankin	Iowa State University
Michele Boney	West Liberty Foods
Mick Barry	Mid America Recycling
Nicole Crain	Iowa Association of Business and Industry
Scott Vander Sluis	Van's Sanitation and Recycling
Sue Waters	Plastics Recycling of Iowa Falls, Inc.
Troy Willard	Can Shed LLC/ Iowa Recycling Association
Marcus Branstad	American Chemistry Council
Halil Ceylan	ISU
Gabe Claypool	Des Moines Industrial
Madeline Schmitt	IA DOT
Samuel Sturtz	IA DOT

Objectives

1. Conduct Research and Education on Plastics
2. Implement Policies and Programs to Reduce Plastic Waste in Iowa
3. Support Plastics Recycling, Processing, and Manufacturing Technologies and Facilities

1. Conduct Research and Education on Plastics

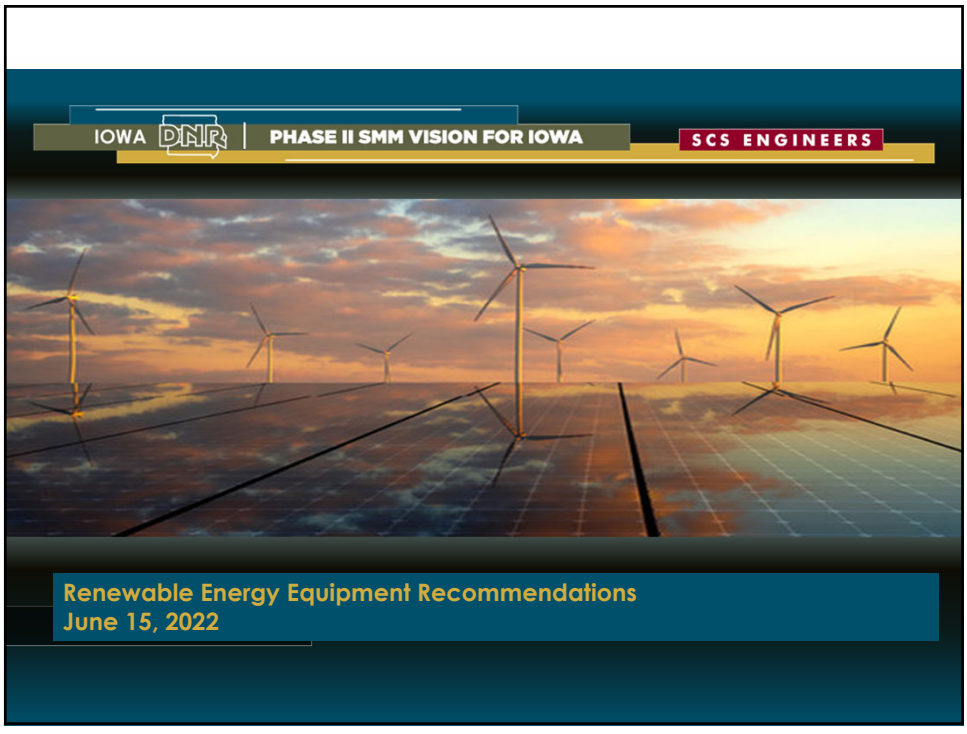
Short Term (0-3 years)	Medium Term (4-10 years)	Long Term (11+ years)
• Conduct education and awareness campaigns on littering and recycling contamination • Conduct public opinion survey regarding bans, fees, and incentives • Identify problematic packaging and options for recycling and composting	• Inventory recycling methods and facilities throughout State • Research opportunities for PCR content purchasing for state and local agencies • Monitor EPR policy framework for packaging in other states	• None at this time

2. Implement Policies and Programs to Reduce Plastic Waste in Iowa

Short Term (0-3 years)	Medium Term (4-10 years)	Long Term (11+ years)
• Develop reuse and refill pilots and funding • Review and revise existing state definitions, standards, and labeling for biodegradable compostable, and recyclable	• Develop and implement policies to reduce single-use food service ware in public spaces • Develop and adopt incentives to use alternatives to single-use plastic bags • Require post-consumer recycled content purchasing for government agencies • Develop and Implement EPR for plastic packaging	• Develop and adopt policy to ban single-use plastic bags • Develop and adopt PCR content requirements for packaging • Establish producer registry and reporting for packaging • Incorporate all non-carbonated beverage containers into Bottle Bill • Reconsider Ban on Bans

3. Support Plastics Recycling, Processing, and Manufacturing Technologies and Facilities

Short Term (0-3 years)	Long-Term (11+ Years)
• Support research on methods to transform plastics into new products, fuels, etc.	• Incentivize development of facilities

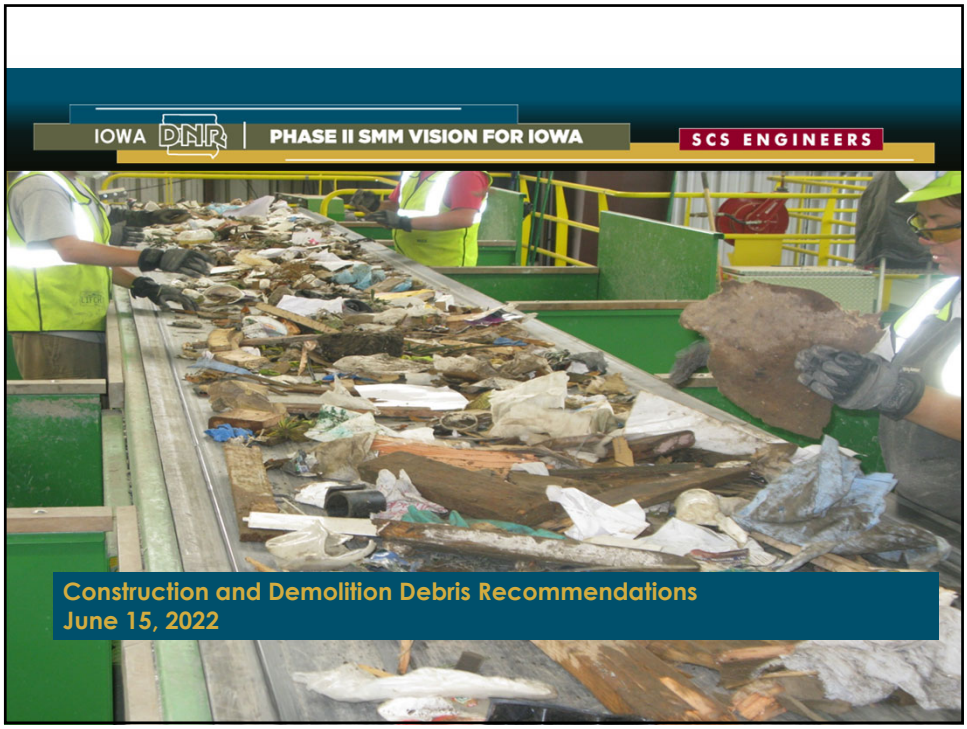


Subcommittee Members Thank You!

Name	Representing
Brad Hartkopf	Iowa Association of Business and Industry
Chaz Allen	Iowa Utility Association
Dan Nickey	Iowa Waste Reduction Center
Dustin Miller	American Clean Power Association
Jeff Maxted	Alliant Energy
Jenny Coughlin	MidAmerican Energy Company
Jerry Brown	Collins Aerospace
Joshua Syhlman	TPI Composites
Kenneth Sulma	Iowa Utilities Board
Mary Wittry	Carroll County Solid Waste Management Commission
Rick Hurt	South Central Iowa Solid Waste Association
Sally Buck	Valmont Industries, Inc., Coatings Division
Shelene Codner	Region XII Council of Governments - Iowa Waste Exchange
Shelly Peterson	Iowa Economic Development Authority
Steve Guyer	Iowa Environmental Council
Regi Goodale	Iowa Association of Electrical Cooperatives
Jeff Gorrie	Iowa Association of Municipal Utilities

Recommendations

Short Term (0-3 years)	Medium Term (4-10 years)	Long Term (11+ years)
• Counties to be made aware of end of life management issues	• Explore the possibility of establishing statewide standards for end-of-life management • Review County ordinances and determine if they should be standardized • Begin developing EPR policies by convening a committee to start exploring policies	• None at this time



Subcommittee Members Thank You!

Name	Representing
Becky Soglin	Johnson County Planning, Development and Sustainability
Brian Seals	Waste Commission of Scott County
Cindy Kuhn	Habitat for Humanity Restore in QCA
Damion Sadd	Continental Cement Co.
Hal Morton	Independent
Kerry Dixon	Engie North America
Les Stohs	Greater Des Moines Habitat for Humanity/Re-Store
Nick Wylie	J Pettiecord
Seth Shannon	SCHEMMER
Tim Ruth	Home Builders Association of Iowa and Iowa City
Mike Bahr	Turner Construction Company
Ashley Buss	Iowa DOT
Chris Brakke	Iowa DOT
Jay Iverson	Home Builders Association of Iowa
Jamie Courtney	Home Crafters, Inc.
Chaden Halfhil	Iowa Crafters, Inc.

Objectives

1. Develop Deconstruction and Reuse Industry in Iowa
2. Support Use of Green Building Practices
3. Support C&D Processing in Iowa

1. Develop Deconstruction and Reuse Industry in Iowa

Short Term (0-3 years)	Medium Term (4-10 yrs)	Long Term (11+ years)
• Conduct studies and evaluate data on C&D waste in Iowa • Conduct analysis to determine viability of donation and deconstruction facilities	• Educate building community on deconstruction principals, practices, facilities and services • Review and update building policies, programs, and codes to prioritize building reuse and incentivize material reuse	• Identify, evaluate, and implement incentives for purchasing deconstructed materials

2. Support Use of Green Building Practices

Short Term (0-3 years)	Medium Term (4-10 years)	Long Term (11+ years)
• Develop sample project bid language supporting green building practices • Review and update local building policies, programs, and codes to implement green building practices	• Adopt builder/ contractor certification program (National program standards)	• None at this time

3. Support C&D Processing in Iowa

Short Term (0-3 years)	Medium Term (4-10 years)	Long Term (11+ years)
• Research and Identify barriers and incentivize development of C&D processing facilities • Research potential markets for C&D materials	• Adopt recycling certification institute methods	• None at this time

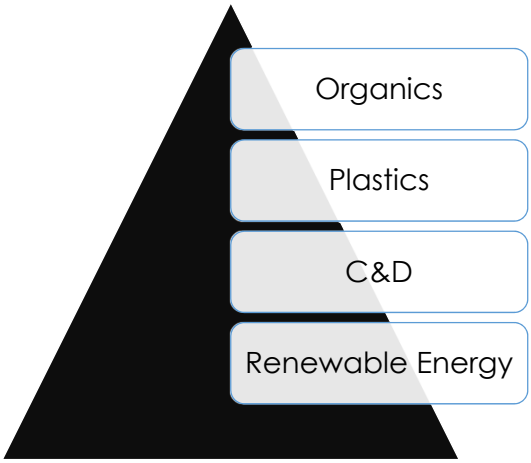
Work Session Process

- Prioritize material categories
- Consolidate strategies

Criteria to Prioritize Material Categories

- Potential to influence entire lifecycle
- Stakeholder support for change
- Overall impact on GHGs and landfill diversion within five years

Prioritized Material Categories



Consolidated Organics Strategies

- Involve Wastewater Treatment Facilities
- Assess Compost Facility Capacity
- Research Other States
- Develop Organics Infrastructure Master Plan
- Enhance Food Waste Campaigns
- Help Create a Sustainable Food Recovery Plan in Iowa

Consolidated Plastics Strategies

- Identify Problematic Packaging
- Review State Definitions
- Review and Research Reuse and Refill Pilots and Funding
- Assess Public Opinion
- Support Studies to Convert Plastics into Fuels

Consolidated C&D Strategies

- Conduct Studies on C&D Waste in Iowa
- Determine Viability of Donation and Deconstruction Facilities
- Develop a Green Building Toolkit
- Research and Identify Barriers and Opportunities to Develop C&D Recycling

LUNCH BREAK (60 Minutes)

Breakout Groups

Process

- Discuss prioritized material categories
- Review consolidated strategies
- Prioritize strategies
- Vote on material categories and strategies*
- Discuss prioritization*

Break-Out Groups

- **2 Break-Out Groups**
  - One virtual group
  - One in-person group
- **Remember:**
  - We want your input
  - Respect different viewpoints
  - This is your future – your insights are important!

Material Categories

- Renewable Energy Equipment
- Construction & Demolition Debris
- Plastics
- Organics & Fibers

Criteria to Prioritize Material Categories

- Potential to influence entire lifecycle
- Stakeholder support for change
- Overall impact on GHGs and landfill diversion within five years

Criteria to Prioritize Strategies

- Measurable progress within five years
- Relevant, successful examples
- Legislative/policy changes
- New funding requirements
- Staff time impacts
- Need for outside support or partners

Consolidated Organics Strategies

- Involve Wastewater Treatment Facilities
- Assess Compost Facility Capacity
- Research Other States
- Develop Organics Infrastructure Master Plan
- Enhance Food Waste Campaigns
- Help Create a Sustainable Food Recovery Plan in Iowa

Involve Waste Water Treatment Industry

- Evaluate the potential for wastewater treatment plants to co-digest food waste.
  - Communicating with individuals in the wastewater industry
  - Determining what information wastewater treatment plants currently submit
  - Assessing if a rule/code change is required to obtain the necessary information from wastewater treatment plants
  - Institutionalizing Iowa co-digestion successes/challenges.

Assess Compost Facility Capacity

Assess the capacity of compost facilities to accept and process food waste and the development of regional facilities.

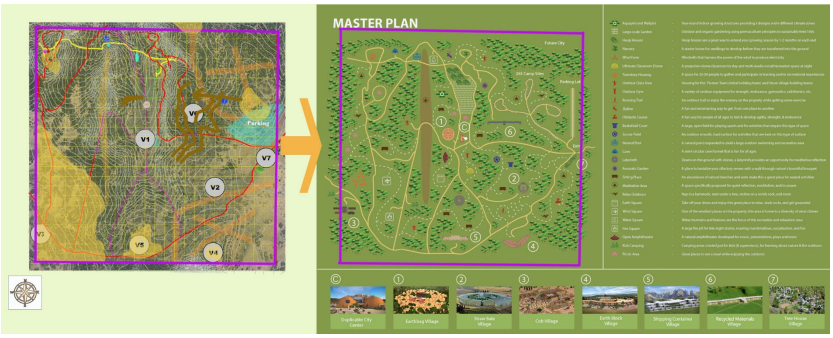
- Current and future processing capacity
- Potential gate fees
- Feedstock specifications
- High-level GHG and financial cost-benefit analysis of diverting organics from a landfill to a compost facility

Research Other States

Research how other states

- Require their government to procure organic-content materials and how this requirement developed
- Gather information on the organic waste management infrastructure
- Establish their food reduction and recovery policies and programs. This will include implementation requirements

Develop Organics Infrastructure Master Plan



Enhance Food Waste Awareness Campaigns

Provide stores and restaurants with documentation on how to reduce food waste,

Work with other agencies such as the cooperative extension to educate consumers on food safety, food prep, and balancing grocery budgets to prevent food waste

Create a Sustainable Food Recovery System

- Informing food recovery organizations of grants available to connect with donors and food recovery organizations
- Provide businesses with guidance on how to select food recovery organizations and information on the costs associated with collecting donated food

Consolidated Plastics Strategies

- Identify Problematic Packaging
- Review State Definitions
- Review and Research Reuse and Refill Pilots and Funding
- Assess Public Opinion
- Support Studies to Convert Plastics into Fuels

Problematic Packaging

- Identify problematic packaging and options for recycling and composting
- Use this information to conduct littering and recycling contamination education campaigns

State Definitions

Review existing state definitions, standards, and labeling for biodegradable, compostable, and recyclable.

Refill Pilots and Funding

- Review and research reuse and refill pilots and funding
- This extends beyond bottles with consumable liquids.
  - research is short term and implementation is medium-term.

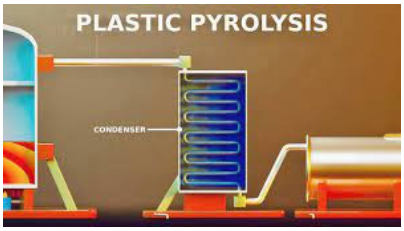
Public Opinion About Progressing Plastic SMM

Assess public opinion on

- Bans
- Fees
- Incentives

Plastics-to-Fuel

Support studies to convert plastics to fuel



Consolidated C&D Strategies

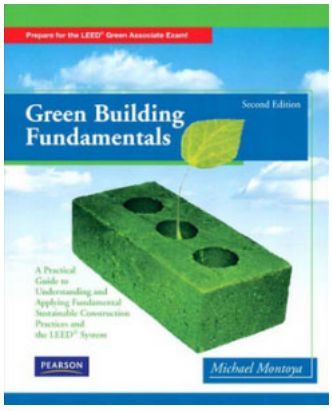
- Conduct Studies on C&D Waste in Iowa
- Determine Viability of Donation and Deconstruction Facilities
- Develop a Green Building Toolkit
- Research and Identify Barriers and Opportunities to Develop C&D Recycling

C&D Studies

- Identify
  - Quantity
  - Composition
  - Waste Flows
  - Markets
  - Specifications
  - Local Building Codes

C&D Donation and Deconstruction Facilities

Green Building Toolkit



- For local government
- May include best practices, zoning language, and procurement provisions

Renewable Energy Equipment

- Facilitate awareness of end-of-life management

BREAK

Prioritization Process

- Material Categories
- Strategies

Prioritization Process

Image: Freepik.com

Material and Strategy Prioritization

- **Two Ways to Participate:**
  - In-Person - Prioritization Sheet
  - Digitally - Slido
- **In-Person**
  - Handouts provided. Just list the item priority (either write out the item or just the number of the item) and rank by priority

Material and Strategy Prioritization

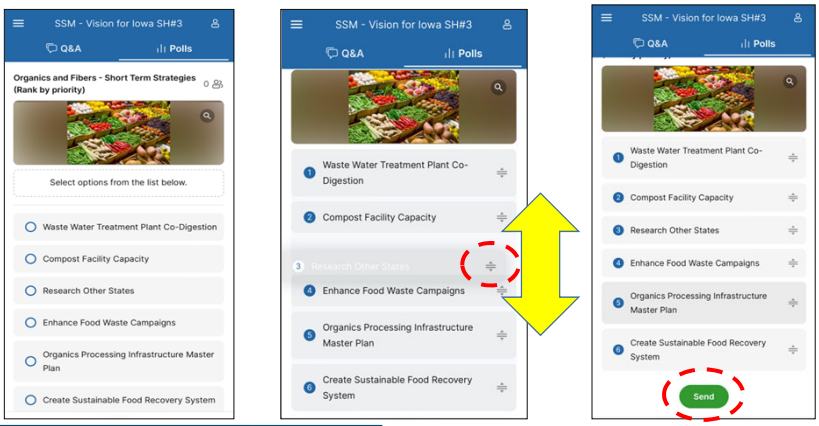
- **Slido**
  - Go to: Slido.com
  - Type In: Type in: 3798149
- **Priority**
  - 1 being the highest priority
- We'll open & complete each poll by category

Material and Strategy Prioritization

Select items in order of priority

You can adjust order if needed

submit your selection



Material and Strategy Prioritization

OK – Let's Get Started!

Material Category Prioritization

1. Renewable Energy Equipment
2. Construction & Demolition Debris
3. Organics & Fibers
4. Plastics

Strategy Prioritization by Category

Organics – Short Term Strategies

1. Waste Water Treatment Plant Co-Digestion
2. Compost Facility Capacity
3. Research Other States
4. Enhance Food Waste Campaigns
5. Organics Processing Infrastructure Master Plan:
6. Create Sustainable Food Recovery System

Strategy Prioritization by Category

Plastics – Short Term Strategies

1. Plastics Packaging
2. Review Existing Regulations
3. Reuse and Refill Programs
4. Conduct Public Opinion Survey
5. Support Plastics Reduction and Recovery Research

Strategy Prioritization by Category

C&D – Short Term Strategies

1. C&D Waste Evaluation
2. Donation and Deconstruction Facilities
3. Existing Building Policies and Practices
4. Green Building Toolkit
5. C&D Processing Facilities and Markets

Strategy Prioritization by Category

Renewable Energy Equipment – Short Term Strategies

1. End-of-Life Management

Wrap-Up

- Prioritization Results
- Facilitator Conclusions
- DNR Comments

ATTACHMENT B

STAKEHOLDER MEETING #3 HANDOUT – DNR SHORT TERM STRATEGY PRESENTATION

SH#3 Handout

Short-Term Strategies Development
June 15, 2022

This document contains the following sections to provide a summary of the process of developing the short-term strategies:

A. Strategies developed by Subcommittees
B. Revisions proposed from DNR evaluation
C. Revised short-term strategies for Stakeholder consideration

A. Short-Term Strategies Developed by Subcommittees

Organics & Fibers

- Determine what information wastewater treatment plants currently submit
- Evaluate if a rule/code is required to obtain necessary from wastewater
- Include people from the wastewater world in this conversation
- Institutionalize Iowa co-digestion successes/challenges
- Inventory compost facilities
- What would it cost to direct organics to Iowa composting facilities and digesters
- Research what other states require for government organic-content procurement
- Research how other states gather local solid waste infrastructure information
- Research food waste reduction strategies in other states/national
- Institute advocacy campaigns to create food waste awareness
- Institute campaign on food labeling policies if national legislation is passed
- Create a Food Recovery Master Plan
- Increase vetting/awareness system for food recovery organizations
- Educate businesses on the costs associated food donation collection and awareness of options for food recovery organizations
- Increase storage donation handling capacity
- Provide stores and restaurants documentation on how to reduce food waste
- Meet with entities such as Iowa State University and EPA to find gaps and reassess how to expand programs already in play in Iowa

Plastics

- Conduct education and awareness campaigns on littering and recycling contamination
- Conduct public opinion survey regarding bans, fees, and incentives
- Support research on methods to transform plastics into new products, fuels, etc.
- Identify problematic packaging and options for recycling and composting

- Review and revise existing state definitions, standards, and labeling for biodegradable, compostable, and recyclable
- Develop reuse and refill pilots and funding

Construction & Demolition Debris

- Conduct studies and evaluate data on C&D waste in Iowa
- Conduct analysis to determine viability of donation and deconstruction facilities
- Review and update local building policies, programs, and codes to implement green building practices
- Research and identify barriers and incentivize development of C&D processing facilities
- Research potential markets for C&D materials
- Develop sample project bid language supporting green building practices

Renewable Energy Equipment

- Educate counties on end-of-life management issues

B. Revisions Proposed from DNR Evaluation

Organics & Fibers

Strategies to Combine

- Determine what information wastewater treatment plants currently submit
- Evaluate if a rule/code is required to obtain necessary from wastewater
- Include people from the wastewater world in this conversation
- Institutionalize Iowa co-digestion successes/challenges

Combined Strategy

Evaluate the potential for wastewater treatment plants to co-digest food waste. This evaluation will include communicating with individuals in the wastewater world, determining what information wastewater treatment plants currently submit, assessing if a rule/code change is required to obtain the necessary information from wastewater treatment plants, and institutionalizing Iowa co-digestion successes/challenges.

Strategies to Combine

- Inventory compost facilities
- What would it cost to direct organics to Iowa composting facilities and digesters

Combined Strategy

Assess the capacity of compost facilities to accept and process food waste and the development of regional facilities. This assessment would include current and future processing capacity, potential gate fees, feedstock specifications, and a high-level GHG and financial cost-benefit analysis of diverting

organics from a landfill (w/o LFG management, with LFG flaring and with LFG to energy) to a compost facility.

Strategies to Combine

- Research what other states require for government organic-content procurement
- Research how other states gather local solid waste infrastructure information
- Research food waste reduction strategies in other states/national

Combined Strategy

Research how other states require their government to procure organic-content materials and how this requirement developed, how they gather information on the organic waste management infrastructure, and their food reduction and recovery policies and programs. The latter will include implementation requirements.

Strategies to Combine or Revise

- Institute advocacy campaigns to create food waste awareness
- Provide stores and restaurants documentation on how to reduce food waste
- Institute food labeling policies if national legislation is passed
- Create a Food Recovery Master Plan

Combined Strategy

Enhance campaigns on food waste awareness, provide stores and restaurants with documentation on how to reduce food waste, and work with other agencies such as the cooperative extension to educate consumers on food safety, food prep, and balancing grocery budgets to prevent food waste.

Revised Strategies

- Change "Create a Food Recovery Master Plan" to "Develop an organics processing infrastructure master plan." There would be a master plan specifically designed for each of the four material categories at the end of the 0-3 year periods.
- Institute a campaign on food labeling policies if national legislation is passed (**move to medium term**)

Strategies to Combine or Revise

- Create a database of donation sources
- Increase vetting/awareness system for food recovery organizations
- Educate businesses on the need to pay for food donation collection
- Increase storage donation handling capacity

Combined and Edited Strategies

- Help create a sustainable food recovery system in Iowa by:

- Change "create a database of donation sources" to inform food recovery organizations of grants available to connect with donors and donors to connect with them

- Provide businesses with guidance on how to select food recovery organizations and information on the costs associated with collecting donated food

- Increase storage donation handling capacity (**move to parking lot**)

Plastics

Strategies to Combine or Revise

- Conduct education and awareness campaigns on littering and recycling contamination
- Identify problematic packaging and options for recycling and composting
- Review and revise existing state definitions, standards, and labeling for biodegradable, compostable, and recyclable
- Review and research reuse and refill pilots and funding

Combined or Revised Strategies

- Identify problematic packaging and options for recycling and composting and use this information to conduct littering and recycling contamination education campaigns
- Delete "and revise" from "Review ~~and revise~~ existing state definitions, standards, and labeling for biodegradable, compostable, and recyclable"
- Review and research reuse and refill pilots and funding. This extends beyond bottles with consumable liquids. (research is short term and implementation is medium-term)

Construction & Demolition Debris

Strategies to Combine or Revise

- Review and update local building policies, programs, and codes to implement green building practices
- Develop sample project bid language supporting green building practices

Combined or Revised Strategies

- Delete "and update" from Review and update local building policies, programs, and codes to implement green building practices
- Develop a green building toolkit for local governments that may include best practices, zoning language, and procurement provisions

Strategies to Combine

- Research and identify barriers and incentivize development of C&D processing facilities
- Research potential markets for C&D materials

Combined and Revised Strategies

- Research and identify barriers and opportunities to develop C&D processing facilities, including potential markets for C&D materials.

Renewable Energy Equipment

Strategy to Revise

- Educate counties on end-of-life management

Revised Strategy

- Facilitate awareness of end-of-life management

C. Revised Short-Term Strategies for Stakeholder Consideration

Organics & Fibers

- **Waste Water Treatment Plant Co-Digestion:** Evaluate the potential for wastewater treatment plants to co-digest food waste. This evaluation will include communicating with individuals in the wastewater world, determining what information wastewater treatment plants currently submit, assessing if a rule/code change is required to obtain the necessary information from wastewater treatment plants, and institutionalizing Iowa co-digestion successes/challenges.
- **Compost Facility Capacity**: Assess the capacity of compost facilities to accept and process food waste and the development of regional facilities. This assessment would include current and future processing capacity, potential gate fees, feedstock specifications, and a high-level GHG and financial cost-benefit analysis of diverting organics from a landfill (w/o LFG management, with LFG flaring and with LFG to energy) to a compost facility.
- **Research Other States:** Research how other states require their government to procure organic-content materials and how this requirement developed, how they gather information on the organic waste management infrastructure, and their food reduction and recovery policies and programs. The latter will include implementation requirements.
- **Enhance Food Waste Campaigns:** Enhance campaigns on food waste awareness, provide stores and restaurants with documentation on how to reduce food waste, and work with other agencies such as the cooperative extension to educate consumers on food safety, food prep, and balancing grocery budgets to prevent food waste.
- **Organics Processing Infrastructure Master Plan:** Develop an organics processing infrastructure master plan
- **Create Sustainable Food Recovery System:** Help create a sustainable food recovery system in Iowa by:
  - Informing food recovery organizations of grants available to connect with donors and donors to connect with them

- Provide businesses with guidance on how to select food recovery organizations and information on the costs associated with collecting donated food

Plastics

- **Plastics Packaging:** Identify problematic packaging and options for recycling and composting and use this information to conduct littering and recycling contamination education campaigns
- **Review Existing Regulations:** Review existing state definitions, standards, and labeling for biodegradable, compostable, and recyclable
- **Reuse and Refill Programs:** Review and research reuse and refill pilots and funding. This extends beyond bottles with consumable liquids. (research is short term and implementation is medium-term)
- **Conduct Public Opinion Survey:** Conduct public opinion survey regarding bans, fees, and incentives
- **Support Plastics Reduction and Recovery Research:** Support research on methods to transform plastics into new products, fuels, etc.

Construction & Demolition Debris

- **C&D Waste Evaluation:** Conduct studies and evaluate data on C&D waste in Iowa
- **Donation and Deconstruction Facilities:** Conduct analysis to determine viability of donation and deconstruction facilities
- **Existing Building Policies and Practices:** Review local building policies, programs, and codes to implement green building practices
- **Green Building Toolkit:** Develop a green building toolkit for local governments that may include best practices, zoning language, and procurement provisions
- **C&D Processing Facilities and Markets:** Research and identify barriers and opportunities to develop C&D processing facilities, including potential markets for C&D materials.

Renewable Energy Equipment Short Term

- **End-of-Life Management:** Facilitate awareness of end-of-life management

ATTACHMENT C

STAKEHOLDER MEETING #3 – MEETING ATTENDEES

Stakeholder Meeting #3 - Meeting Attendees
In Person and Virtual
June 15,2022

First Name:	Last Name:	Company:	Job Title:
Chaz	Allen	Iowa Utility Association	Executive Director
Aubrey	Alvarez	Eat Greater Des Moines	Executive Director & Co-Founder
Tom	Anderson	Iowa DNR	Iowa DNR
Dan	Bacehowski	HDR	Waste Practice Lead
Mick	Barry	Mid America Recycling	President
Jeremy	Caron	City of Des Moines	City of Des Moines
Halil	Ceylan	Iowa State University	Professor & Director
Christine	Collier	SCS Engineers	Senior Project Manager
Amie	Davidson	Iowa Department of Natural Resources -	Iowa Department of Natural Resources -
Lori	Dicks	Buena Vista County Solid Waste Commission	Manager
John	Foster	Black Hawk County Solid Waste Managment Commission	Administrator
Chaden	Halfhill	Silent Rivers Design Build	Silent Rivers Design Build
Joe	Harms	PDI	PDI
Joe	Horaney	Cedar Rapids Linn County Solid Waste Agency	Communications Director
Rick	Hurt	South Central Iowa Solid Waste Agency	South Central Iowa Solid Waste Agency
Jennifer	Jordan	Iowa City Landfill and Recycling Center	Resource Management Superintendent
Nathan	Klett	Foth	Sr. Client Manager
Michelle	Leonard	SCS Engineers	SCS Engineers
Karen	Luken	Economic Environmental Solutions International	CEO
Karmin	McShane	Cedar Rapids Linn County Solid Waste Agency	Executive Director
Mike	Miller	SCS Engineers	Vice President
Hal	Morton	retired	recently
Dan	Nickey	Iowa Waste Reduction Center	Associate Director
Mark	Peebler	City of Ames	Assistant Superintendent
Laurie	Rasmus	Iowa DNR	Program Planner
Karen	Rodekamp	ISU Dining	Associate Director, Engagement
William	Rowland	Landfill of North Iowa	Director
Bill	Schmitt	City of Ames	Superintendent
Alan	Schumacher	Quincy Recycle Paper	Quincy Recycle Paper
Brian	Seals	Waste Commission of Scott County	Landfill Operations Manager
Theresa	Stiner	Iowa DNR	Environmental Specialist Senior
Michael	Sullivan	Iowa Department of Natural Resources	Solid Waste and Contaminated Sites Supervisor

Stakeholder Meeting #3 - Meeting Attendees
In Person and Virtual
June 15,2022

First Name:	Last Name:	Company:	Job Title:
Troy	Willard	Can Shed LLC	Owner-Operator
Gina	Wilming	Foth Infrastructure & Environment, LLC	Lead Environmental Scientist
Mary	Wittry	Carroll County Solid Waste Management Commission	Director
Paige	Alesch	Region XII Council of Government	Iowa Waste Exchange Representative
Mike	Bahr	Turner Construction	Sustainability Engineer
Joe	Bolick	Iowa Waste Reduction Center	Director
Chris	Brakke	Iowa DOT	Iowa DOT
Satya	Chennupati	Iowa DNR	Environmental Program Supervisor
Shelene	Codner	Iowa Waste Exchange	Program Coordinator/IWE Area Resource Specialist
Jeff	Fiagle	Iowa DNR	Team Lead
Christine	Hradek	Iowa State University	SNAP-Ed Coordinator
Adam	Jablonski	MidAmerican Energy	Vice President, Resource Development
Darven	Kendell	DMC Regional Waste Commission	Education Coordinator
Julie	Ketchum	waste management	Government Affairs
Josh	Mohr	MidAmerican Energy Company	Sr. Director Environmental Services
Jeff	Phillips	SCS Engineers	Project Manager
Julie	Plummer	Iowa Waste Exchange	Area 5 Resource Specialist
Alicia	Presto	Iowa Waste Exchange	Resource Specialist
Merry	Rankin	Iowa State University	Iowa State University
Jennifer	Reutzel Vaughan	Iowa DNR	Program Planner 3
Alicia	Simmons	Frontier Co-op	CSR Manager
Becky	Soglin	Johnson County Planning, Developmt +Sustainability	Sustainability Coordinator
Kenneth	Sulma	Iowa Utilities Board	Senior Utility Analyst
Jennifer	Trent	IWRC | UNI	Program Manager
Tammy	Turner	Iowa Waste Exchange	IWE Meeting
Amy	Wilken	Iowa Department of Natural Resources	Program Planner II
Jennifer	Wright	Iowa Department of Natural Resources	Iowa Department of Natural Resources
Regi	Goodale	IAEC	Director of Regulatory Affairs
Jon	Koch	City of Muscatine	Water & Resource Recovery Facility (WRRF) Director
5158658809	Unknown	Unknown	Unknown