# #1 Organics & Fibers | Subcommittee Meeting #1 Summary – Organics & Fibers June 9, 2021 9AM-11AM

Subcommittee meeting #1 of the Organics & Fibers Subcommittee (#1-Organics & Fibers) was convened virtually via Zoom on June 9, 2021 from 9AM-11 AM, CST. Committee membership and attendance for #1-Organics & Fibers is provided in Table 1.

Table 1. #1 Organics & Fibers Subcommittee Membership and Attendance

| Name | Company | Attended 6/9/21 |
|---|---|---|
| Karen Rodekamp | ISU Dining, Iowa State University | Present |
| Michelle Hurd | Iowa Grocery Industry Association | Present |
| Beth MacKenzie | University of Iowa | Present |
| Rich Stephens | Archer Daniels Midland Company | Present |
| Jennifer Trent | Iowa Waste Reduction Center | Present |
| Aubrey Alvarez | Eat Greater Des Moines | Present |
| Jennifer Jordan | City of Iowa City Landfill and Recycling Center | Present |
| Jon Koch | City of Muscatine | Present |
| Scott Amendt | GreenRU, LLC & Chamness Technology, Inc. | Present |
| Kathy Morris | Waste Commission of Scott County | Present |
| Doyle Smith | City of Cedar Falls | Present |
| Alan Schumacher | Quincy Recycle Paper/Iowa Recycling Association | Absent |
| Theresa Stiner | DNR Internal SMM Team | Present |
| Reid Bermel | DNR Internal SMM Team | Present |
| Laurie Rasmus | DNR Internal SMM Team | Present |
| Mike Sullivan | DNR Internal SMM Team | Absent |
| Tom Anderson | DNR Internal SMM Team | Present |
| Jennifer Wright | DNR Internal SMM Team | Present |
| Jennifer Reutzel Vaughn | DNR Internal SMM Team | Present |
| Michelle Leonard | Consultant – SCS Engineers | Present |
| Christine Collier | Consultant – SCS Engineers | Present |
| Karen Luken | Sub-Consultant – EESI* | Present |

* Economic Environmental Solutions International

## A. Subcommittee #1-Organics & Fibers Summary

The meeting began with introductions of the Iowa Department of Natural Resources (DNR) staff and their role, the consulting team, and the Organics & Fibers Subcommittee members. One was absent as noted in Table 1. The subcommittee meeting purpose and goals were then introduced, in addition to the decision making process to be utilized for these meetings. Modified consensus will be utilized for decisions to the extent possible, with members agreeing that although a decision may not be their personal highest choice, they can live with what has been selected. When this method fails, a vote will be taken with a quorum (majority of the total members, not just those present) required. In order for a vote to pass, a majority of the members must vote in its favor.

Background on both sustainable materials management (SMM) and the results of Stakeholder Meeting #1 were then presented. Additional detail on information presented in the Subcommittee Meeting #1- Organics & Fibers meeting is provided in the agenda (Attachment A) and PowerPoint presentation (Attachment B). Initial research was completed on subcategories and materials resulting from Stakeholder Meeting #1. Results of this research were presented to the subcommittee prior to taking a brief break.

Subcommittee members shared their perspectives on issues, challenges, and opportunities in the area of organics and fibers.

WASTE REDUCTION/RECOVERY

- Focusing on waste reduction part in addition to the composting aspect. Need to educate people that wasted food is wasted money. Food waste reduction is key.
- Based on extrapolation of data in K-12 there is 150,000 pounds food and beverage waste daily throughout Iowa.
- Understanding that yard waste and landscape waste are needed as a carbon source at food waste compost facilities is important.
- In general, universal support for rescuing food for human consumption but not for animal feed within Iowa.
- Need to have an overall strategy and work together on driving diversion and what that looks like. Must be cohesive, not piecemeal.
- Lots of food is discarded due to labelling as Best Buy, Expired, Use By… lots of different moving pieces. Standardization of labels is essential.
- There is a large amount of edible food and food waste recovery throughout the state but infrastructure, funding, legislation/mandates are lacking.

INFRASTRUCTURE

- Compost infrastructure severely lacking. None in the western part of the state.
- Infrastructure and access to programs are biggest obstacles. Smaller communities have more challenges.
- Only 25% of grocers and convenience stores participate in food recovery programs due to lack of reliable collection and transportation. To make big changes, businesses need consistency and to know that it's going to be picked up and that it will go where it needs to go safely. No one puts out a recycling can and hopes someone picks it up.
- Businesses need to pay for transportation to ensure reliable collection.
- Digester capacity is an issue.
- Clean wood materials (crates, pallets, construction forms, etc.) fill up dumpsters…. Challenged in not having a place other than the landfill for these materials to go. Land application would be an option if more space available.

COLLECTION AND PROCESSING

- Collection is a barrier. Yard waste only collected over 9-10 months. Need to expand to year-round to have enough carbon to compost food waste. Some compost facilities in eastern part of

the state don't receive commercial yard waste as it goes to Illinois. It is difficult to regulate where commercial waste goes or encourage business to divert organics from the landfill.

- We can manage and compost the food waste generated and discarded at the dining halls, and contamination is not much of a problem. However, once students take food from the dining halls or purchase it at convenience stores, recovery rates decrease and contamination rates increase.
- Campuses could invest in locating compost containers outside of dining halls, but preventing contamination will be a problem. Programs and education need to be similar between the campus and local community, and among Iowa colleges/universities.
- Some compostable packaging and service ware is available, but that causes confusion on the correct bin for materials.
- Saw significant drop in contamination during the dining hall food waste recovery pilot program where new compost bins were designed and purchased for two dining areas last year but to expand to whole campus and maintain low contamination rate is really difficult. Students demanding compostable service ware. However, it is challenging to educate on whether service ware is compostable or not. Packaging problem an issue for public space composting.
- Hospitals use meal forecasting software, campus does as well. This has significantly decreased pre-consumer food waste.
- Food waste collection… need to know if it's going to AD or compost. Different needs between the two.
- There's a cost to collections. Pay drivers, fuel, trucks, maintenance, etc.
- Employees find it easier to put in to garbage rather than going outside to food bin. How do we incentivize employees taking the extra step?
- Least amount of contamination in pre-consumer. Can work with employees and management staff much easier than post-consumer food waste.
- Need to be liberal on contamination, can't stick to 2 -5% or would lose customers.
- A big portion of our waste sort was food waste and if we can capture this material in with our yard waste collection we can reduce what is sent to the landfill.
- I am also a little cautious on wanting to accept compostable material in with our yard waste program due to contamination potential and when residents drop off their yard waste if they see "paper" in with the brush pile or yard waste pile they will assume that "anything" can go in there.

EDUCATION

- Biodegrable versus compostable… understand the difference because there is one. Need education. General public apathy. Contamination… plastics is the biggest contaminant. Need ongoing education… education never stops.
- Edible food at top. Biggest challenge is engagement.

FUNDING

- Infrastructure isn't there so funding isn't there so all falls on non-profit to raise funds to get vehicles, etc. Need to share funding, there's a cost to it. Easiest option isn't to throw it in the garbage but there are other options to use.

- Iowa DNR has offered grants for food banks and food pantries – refrigeration options. Refrigerated truck allows mobile cold storage. Food recovery is daily, not one time a week. What does it take to scale this up?
- Need to have grants and mandates to get this done.

GENERAL

- Engagement with convenience stores and grocery stores is a challenge, in part because reliable and safe food transportation needs to be well established to increase food recovery from convenience stores.
- Different kinds of food waste… first to people, non-edible to compost/AD. Identify which food is best for which strategy. If doing food waste in composting then have to have yard waste. Food waste to animals in Iowa is an issue.
- Feeding animals in Iowa is a challenge that requires further attention. Need to understand how Minnesota does this so Iowa can look at doing it. Need to have state veterinarian and agriculture as part of this process as it proceeds.
- Categorize type of food waste so it can be used best. Iowa Department of Land Stewardship may also have a role in this.
- Contamination is a challenge.

Reoccurring points throughout the discussion included determining the best and highest use of food wastes [source reduction, feeding humans, feeding animals, industrial uses, composting, anaerobic digestion (AD), landfill] and working cohesively throughout the state and with organizations to determine the best use of different food wastes. Reducing food waste in the first place should be a goal but there will regardless always be waste to manage so having the infrastructure, funding, and programs in place to do so is key.

Also, the organics accepted by programs/facilities vary. For example, acidic foods can throw off the AD process so those are potentially better handled through compost. And you're not going to put yard waste in AD. So understanding which management is best for which materials is essential.

Education was also discussed throughout the meeting as an important aspect of any future efforts.

## B. Recommendations

Based on the discussion during the Subcommittee #1-Organics & Fibers meeting, the following organics have been recommended to be further evaluated for increased sustainability options:

- Edible food
- Pre-consumer Spoiled Food
- Post-Consumer Food Scraps/Compostable Paper/Yard Trimmings

## C. Research Request List

Through the discussions and in follow up discussions, various topics have been identified for further research. These are provided below, divided by responsibility.

**Iowa Waste Reduction Center Topics:**

- Solutions on campuses for managing food waste once out of dining facilities.
- Details (funding, vehicles, employees, etc.) on successful food recovery to feed humans programs from:
    - Grocery stores
    - Convenience stores
    - College campuses
- Minnesota, Nevada or other states that allow feeding of food waste to animals. What are the regulations and overall history/success on where it is at? Are there any LCA's for this? Spend limited time on this topic.
- Statewide AD and compost programs
    - Who operates?
    - Public or private?
    - What footprint do they cover?
    - Education?
    - Statewide standards for compost grades?
    - Municipal collection program information

**Research Topics to be Completed by Others**

- Solutions on campuses for collecting food from convenience stores and safely transporting for humans or open packages for composting.
- Current status of food packaging labeling
- Check in to having the state veterinarian and/or Iowa Department of Land Stewardship (IDALS) on the next call to discuss their viewpoint on feeding animals with edible food waste.

## D. Other Notes

Other items of note from the #1-Organics & Fibers meeting are as follows:

- Aubrey Alvarez, Eat Greater Des Moines, accepted the role of Subcommittee Chair and will represent the Organics & Fiber subcommittee at Stakeholder Meeting #2 in September.
- Next Organics & Fibers subcommittee meeting dates and times are:
    - July 28, 2021, 9AM – 11 AM CST
    - September 1, 2021, 9AM – 11 AM CST
- Second Stakeholder Meeting will be held on September 30, 2021. Subcommittee members in addition to other interested parties are invited and encouraged to attend.

**Attachments:**

Attachment A: Agenda

Attachment B: PowerPoint Presentation

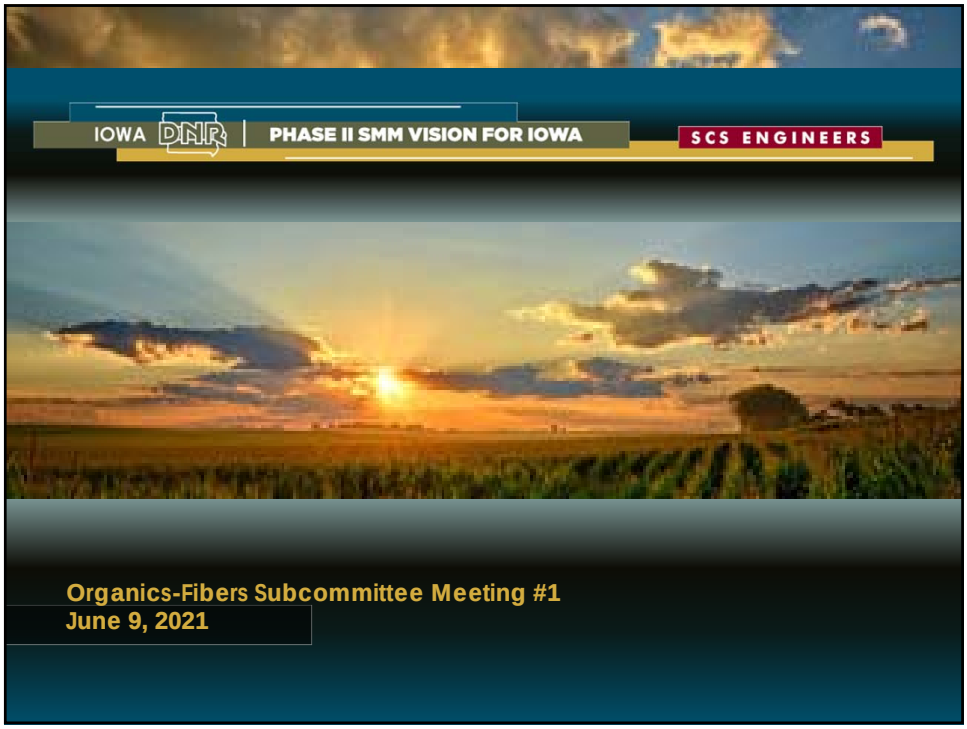
# Attachment A
# Agenda

# Subcommittee Meetings #1

**June 9-10, 2021**

1. Introductions
    a. Project Team
    b. Subcommittee Members
2. Subcommittee Meetings Purpose and Goals
3. Decision Making Process
4. Background
    a. Sustainable Materials Management
    b. Stakeholder Meeting #1
5. Material Category Research Conducted to Date
6. Prioritizing Materials
7. Next Steps
    a. Selecting a spokesperson
    b. Future meetings dates and logistics

# Attachment B
# PowerPoint Presentation


IOWA DNR | PHASE II SMM VISION FOR IOWA
SCS ENGINEERS
Organics-Fibers Subcommittee Meeting #1
June 9, 2021


WELCOME
IOWA DNR | PHASE II SMM VISION FOR IOWA
SCS ENGINEERS

# Agenda

- **Introductions**
  - Project Team
  - Subcommittee Members
- **Subcommittee Meetings Purpose and Goals**
- **Decision Making Process**
- **Background**
  - Sustainable Materials Management
  - Stakeholder Meeting #1
- **Material Category Research Conducted to Date**
- **Prioritizing Materials**
- **Next Steps**
  - Selecting a spokesperson
  - Future meetings dates and logistics



# Introductions

DNR

SCS ENGINEERS
www.scsengineers.com

# Committee Introductions

- Name/Nickname
- Organization
- Your Experience with Organics/Fibers



# Expectations

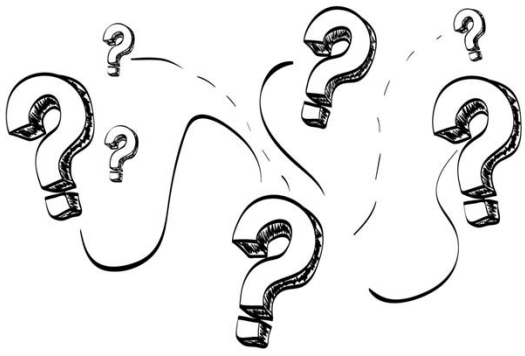
- Share your expertise
- Ask a lot of questions
- Be open to new ideas and concepts
- Share information and solicit input from your co-workers, friends, and family
- Please keep participating

# Communication Styles

| Director | Expresser |
|---|---|
| • Goal oriented<br>• Tells it like it is<br>• Makes decisions quickly<br>• Always on the go<br>• Speaks crisply<br>• May be insensitive, intimidating | • People oriented<br>• Animated, easily excited<br>• Makes expressive gestures<br>• Entertaining<br>• Thinks out loud<br>• Speaks rapidly<br>• May be imprecise |
| **Thinker** | **Harmonizer** |
| • Task oriented<br>• Makes lists<br>• Does things "by the book"<br>• Speaks deliberately<br>• Believes there's a right way and a wrong way<br>• May procrastinate | • Relationship oriented<br>• Sensitive to others<br>• Dedicated, loyal<br>• Speaks softly<br>• Avoids conflict<br>• May over-commit |

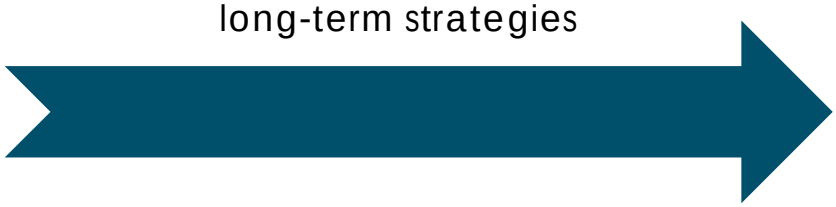


# Communication Assessment



# Goal

Establish a clear direction for implementing an SMM system with immediate, medium and long-term strategies





# Process

Select specific material types within each category

Define specific strategies
- Legislation
- Policies
- Programs
- Infrastructure
- Funding mechanism

Identify implementation timeline, responsible party, and performance metrics

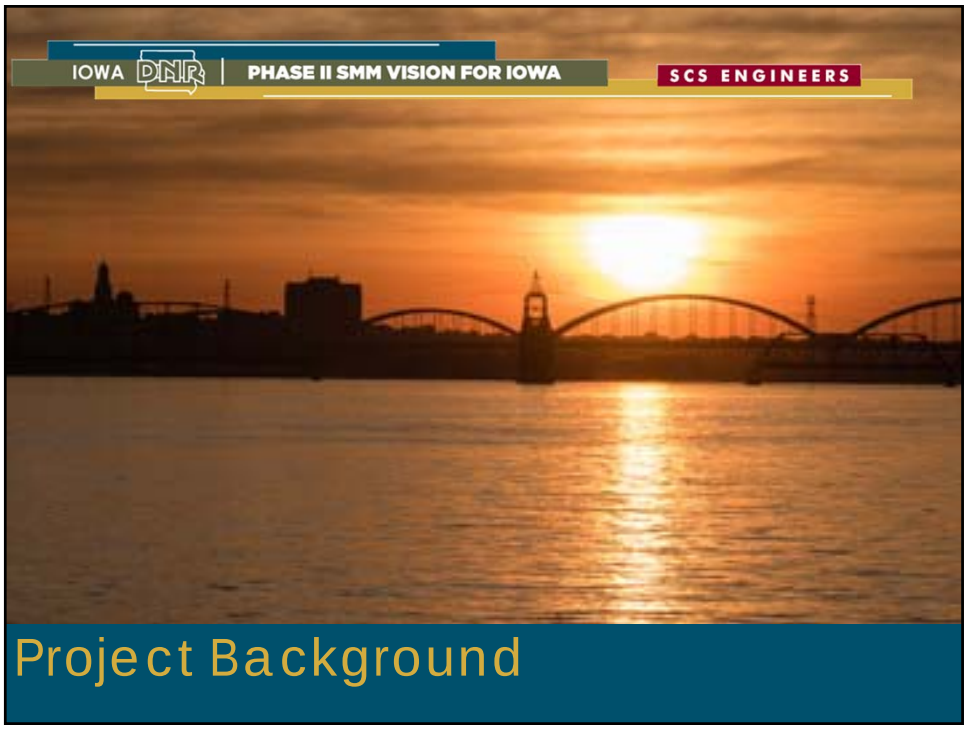

## Decision-Making Options

- Absolute Consensus
- Consultative Decision Making
- Modified Consensus
- Voting

# Administrative

- We will convene two more times before the next Stakeholder meeting
  - July 28
  - September 1
- Subcommittee will elect a chair
  - Represents the subcommittee at Stakeholder meetings

- A quorum is the majority of members
- A quorum is required to conduct a vote
- Only subcommittee members can vote
- All motions will require a second and a vote of the subcommittee

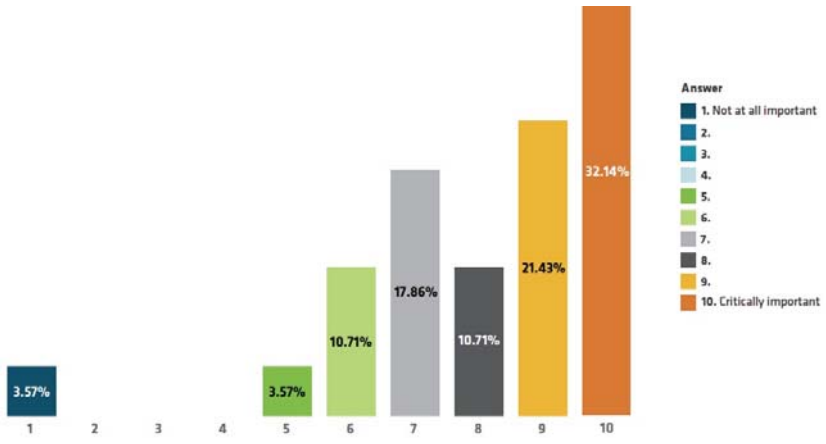


# Phase I

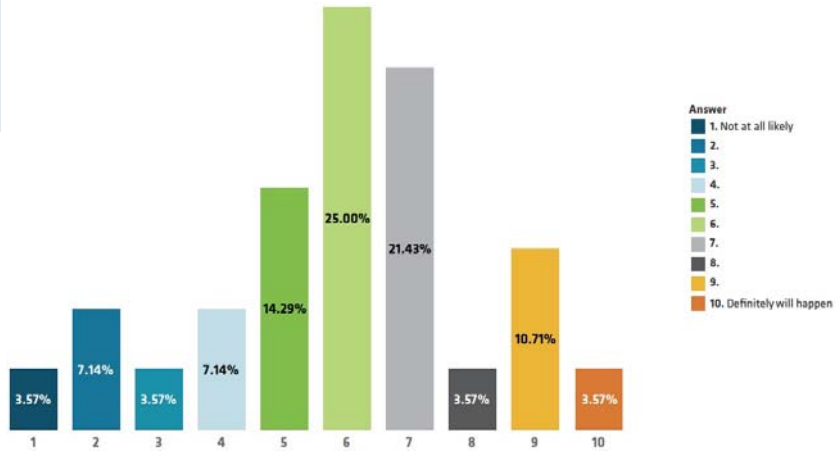
- Occurred between November 2018 and October 2019
- Included:
  - Initial strategy meeting
  - Planning meetings
  - Benchmarking study
  - Vision for Iowa Think-Tank
  - Surveys
  - Focus groups
  - Think Tank Report
  - SMM Vision Report



# Visioning Results- SMM Importance



# Visioning Results- Feasibility






# 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

# What Isn't SMM?

- Product Bans without LCA on alternative products
- Landfill diversion requirements without:
  - Strategies to reduce generation
  - Sufficient infrastructure and funding to collect and process
  - Assessment of impact on greenhouse gas emissions; especially at landfills with landfill gas to energy systems
  - Assessing the impact of GHG emissions from transporting recyclables across country/world
  - Viable off-take markets



# SMM Need


Global raw material use rose during the 20th century at about twice the rate of population growth


For every 1 percent increase in gross domestic product, raw material use has risen by 0.4 percent

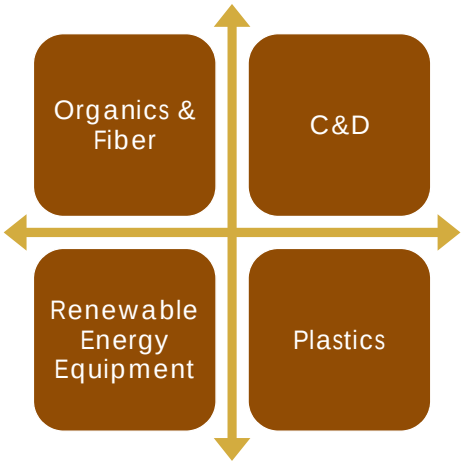
# Phase II

- Began in late 2020
- Will end in 2022
- Contents
  - Stakeholder Workshops
  - Subcommittee Work Sessions
- First Stakeholder Workshop held on 3-25-21
- Approximately 50 Participated via Zoom
  - Business, waste industry, education, municipalities, consulting, and state government



# Stakeholders Reviewed Material Categories for Iowa SMM

# Material Categories Selected






# Materials

## Organics

- Yard trimmings
- Agricultural waste
- Edible food
- Pre-consumer spoiled food
- Post-consumer food scraps
- Biosolids
- Manure

## Fibers

- Office paper
- Newspaper
- Magazines
- Corrugated cardboard
- Packaging
- Fiberboard
- Junk mail


## Research

## Phase I Benchmarking

| State | Sustainable Materials Planning Document | Material Life Cycle Analysis | Recycling Market Development | Food Waste Management | Sustainable Materials Stakeholder (SMM) Education | Container Deposit Laws | Materials Stewardship |
|---|---|---|---|---|---|---|---|
| Minnesota | √ | √ | √ | √ | √ | | √ |
| Vermont | √ | √ | √ | √ | √ | √ | √ |
| Maine | √ | √ | | √ | √ | √ | √ |
| Oregon | √ | √ | √ | √ | √ | √ | √ |
| Tennessee | √ | | | √ | √ | | |

# Phase I Benchmarking Conclusions

Many statewide SMM programs linked to waste reduction and diversion goals

State funding mechanisms not likely sustainable in the long-term

States transitioning to SMM system prioritize increased organics diversion and fostering materials stewardship



# Phase II Research

- Iowa products and producers
- Existing LCA's
- State-driven extended producer responsibility
- Campaigns to change consumer behavior

# Background on Organics

## Food Waste

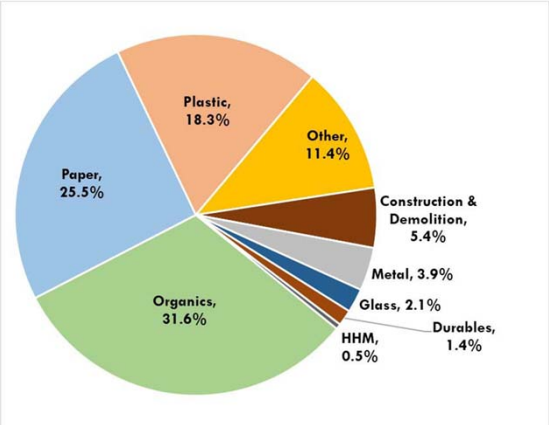



# Background on Organics

## Yard Waste

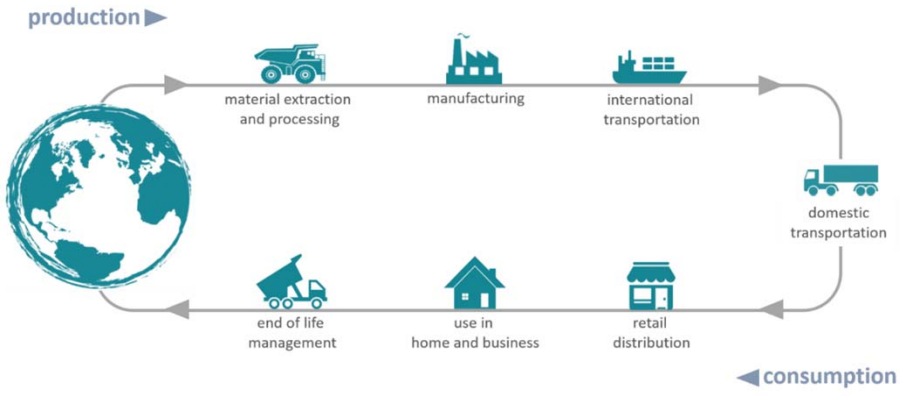
- "Yard waste" means vegetative matter such as grass clippings, leaves, garden waste, brush and trees, and any clean wood waste which is necessary as bulking agent and which is free of coatings and preservatives.
- Iowa bans the burial of yard waste at a landfill; EXCEPT:
  - Landfills with landfill gas to energy systems
  - Yard waste from severe storms or disaster areas
  - To control, eradicate, or prevent the spread of insect pests, tree and plant diseases, or invasive plant species
- Three different levels of compost facility regulation
  - Five, permitted composting facilities in Iowa

# Percent of Disposed Waste Stream






# Life Cycle Assessment




32

# Food and GHG Emissions

- Food accounts for 10-30% of a household's carbon footprint, typically a higher portion in lower-income households. Production accounts for 68% of food emissions, while transportation accounts for 5%
- Food production emissions consist mainly of $CO_2$, $N_2O$, and $CH_4$, which result primarily from agricultural practices
- Meat products have larger carbon footprints per calorie than grain or vegetable products because of the inefficient transformation of plant energy to animal energy, and due to the methane released from manure management.



# Food and GHG Emissions

- Methane is an extremely powerful greenhouse gas, responsible for around 30 percent of warming since the pre-industrial era
- Most human-caused methane emissions come from three sectors: fossil fuels, such as oil and gas processing; landfills and waste; and agriculture, chiefly related to livestock
- "Cutting methane is the strongest lever we have to slow climate change over the next 25 years" – UNEP
- Unlike $CO_2$, which stays in the atmosphere for centuries, methane breaks down quickly and most is gone after a decade, meaning action can rapidly reduce the rate of global warming in the near-term.

# BREAK (10 Minutes)



# Materials

## Organics

- Yard trimmings
- Agricultural waste
- Edible food
- Pre-consumer spoiled food
- Post-consumer food scraps
- Compostable Paper
- Biosolids
- Manure

## Discussion

- Your perspective on organics
  - Challenges
  - Opportunities
  - Material types to add?



## Prioritization Mapping


39