Project Update
October 4, 2022

What is Sustainable Materials Management

- SMM seeks the most productive use of resources through the entire life cycle

Sustainable Material Management's Life-cycle Perspective. US EPA. 2018, August 14) https://www.epa.gov/smm/sustainable-materials-management-basics.

Project Phases

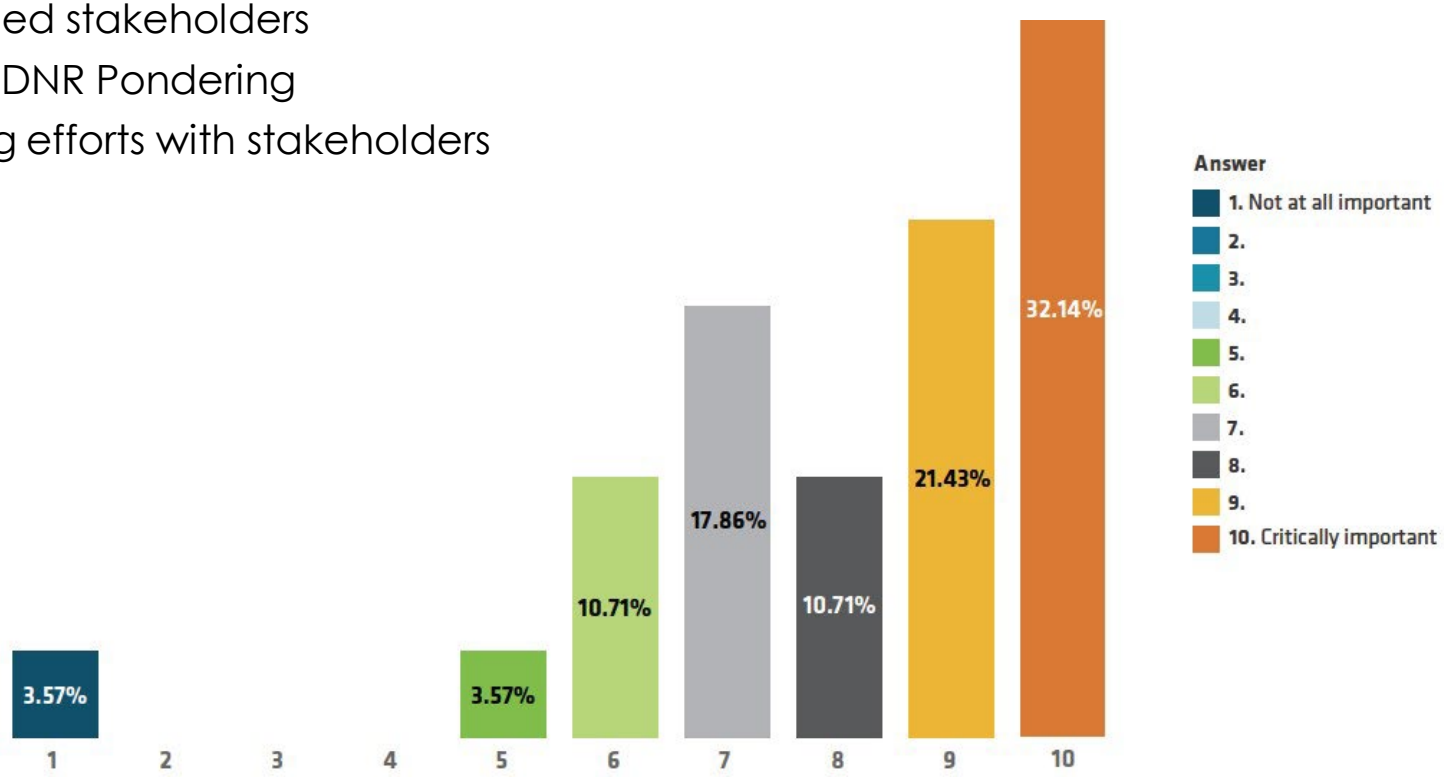
Phase I (Completed): What is SMM and should we do it?

Phase II (Active): Prioritization and timing of what we should do and how we should accomplish it

Next Steps: Ongoing Implementation

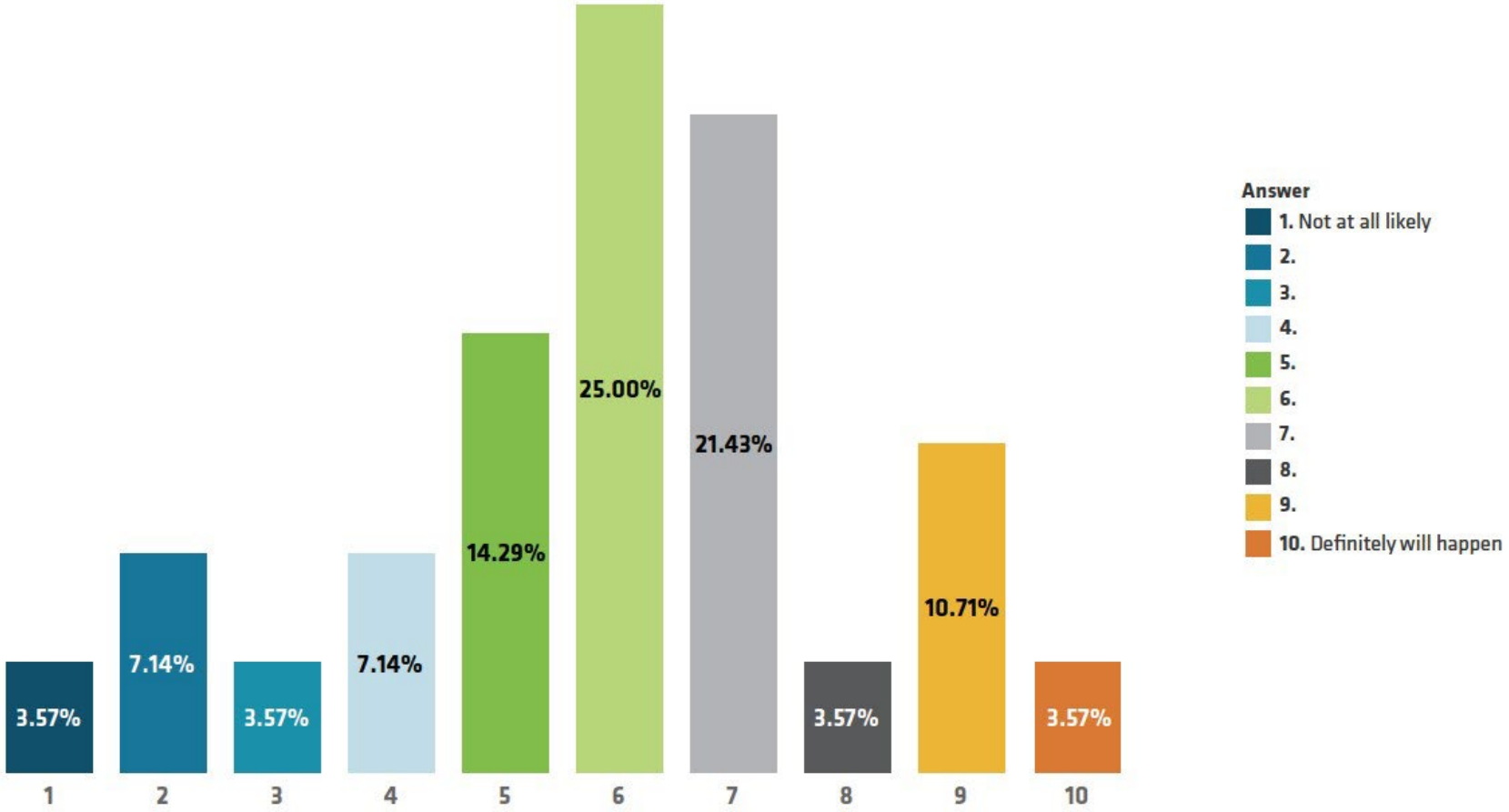
Phase I- Visioning

- Convened stakeholders
- Internal DNR Pondering
- Visioning efforts with stakeholders
- Surveys



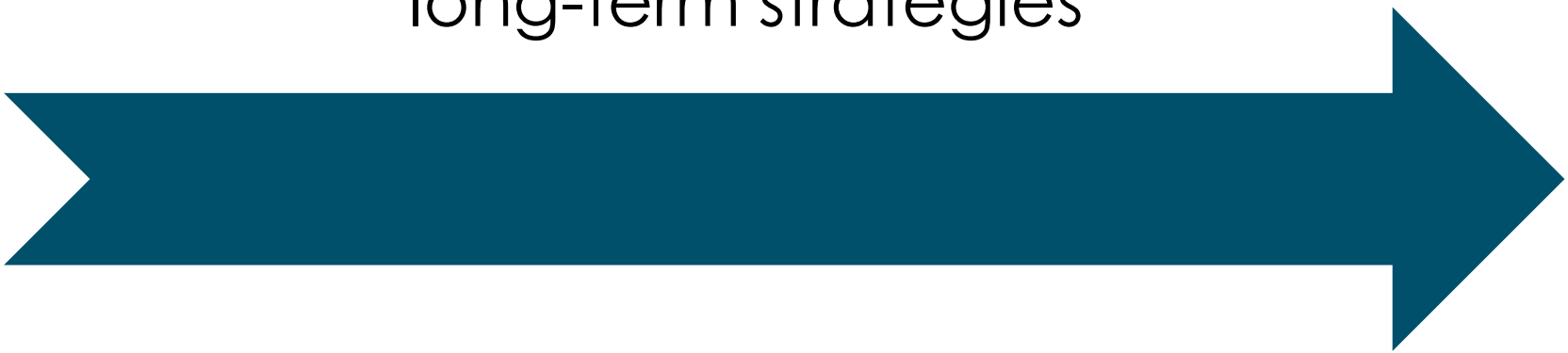
How important do you think it is for Iowa to transition from an integrated solid waste management policy to a sustainable materials management policy? (Aiming for the highest and best use of discarded materials and improved environmental protection)

Phase I (Completed) Feasibility Results



Phase II 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

Stakeholders Reviewed Material Categories


Plastics


Metals


Fibers


Organics


Glass

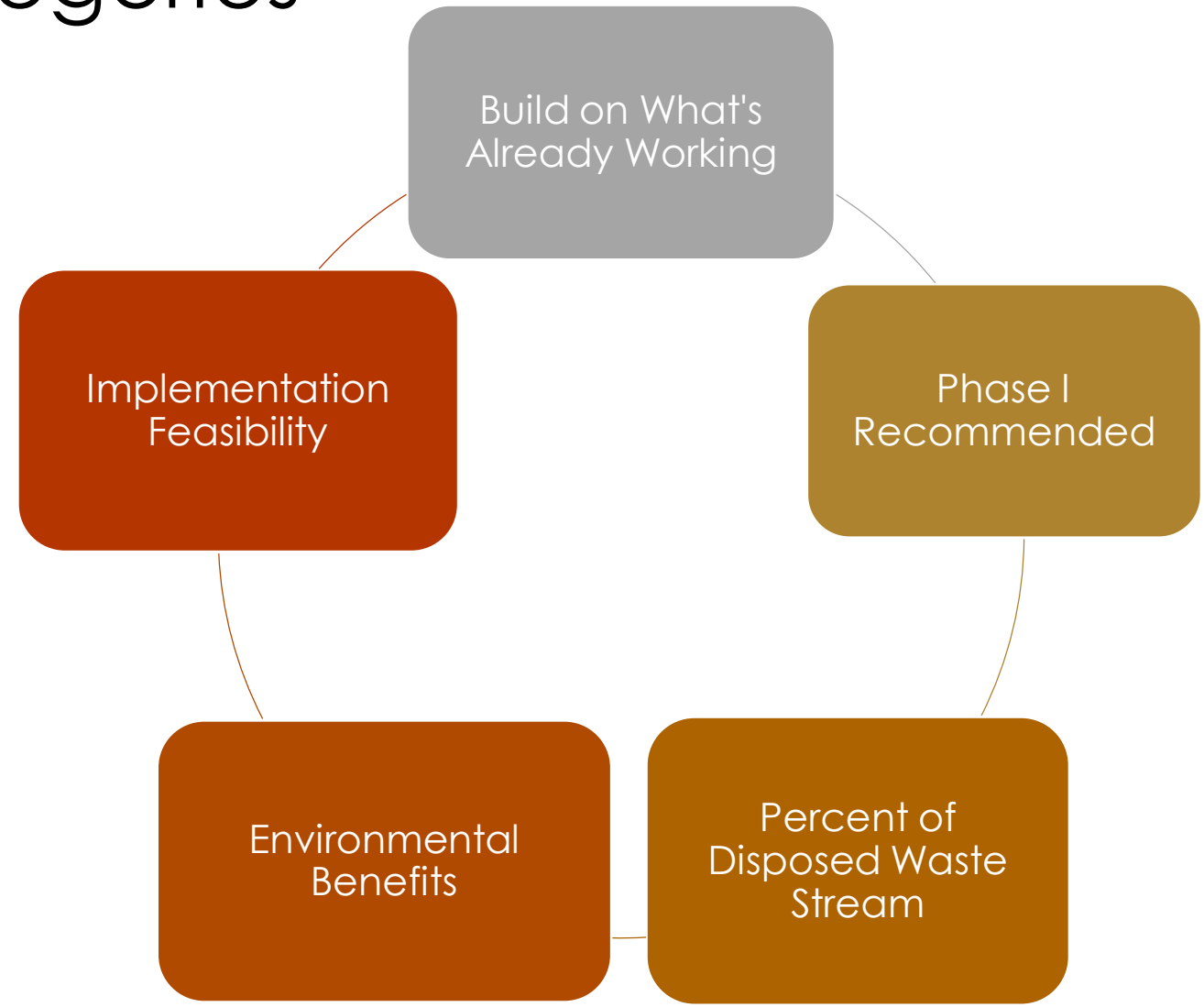

Construction and Demolition Debris


Household Hazardous Materials/Universal Wastes


Durable Goods


Renewable Energy Equipment

Criteria for Selection of Materials Categories



Materials Selected

Organics & Fibers

- Edible Food
- Pre-Consumer Spoiled Food
- Compostable/AD Paper, Food and Yard Waste

Plastics

- Single-Use PET Water Bottles
- Plastic Film/Bags
- Polystyrene (Styrofoam)

Renewable Energy Equipment

- Wind Turbines
- Solar Panels
- Storage Batteries

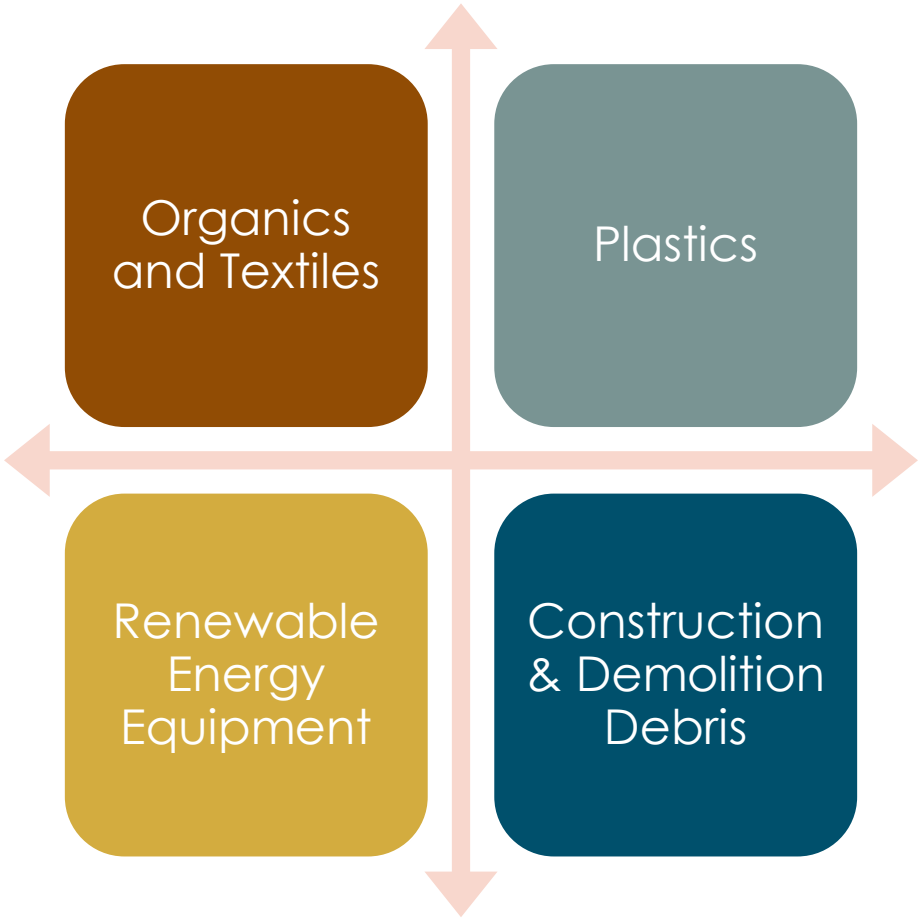
Construction & Demolition

- Interior Building Components
- Roofing Materials
- Drywall, Plaster and Gypsum Board
- Treated and Untreated Wood

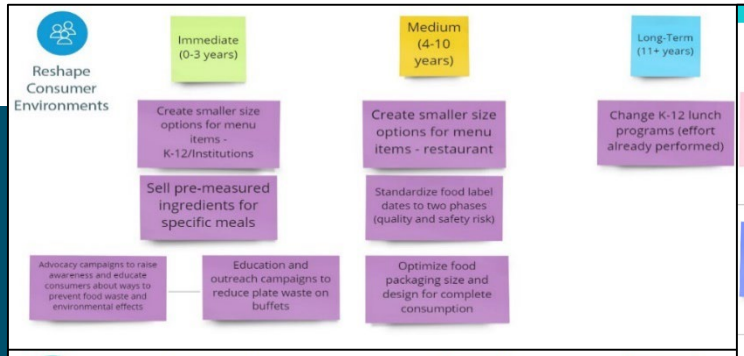
Progress To Date

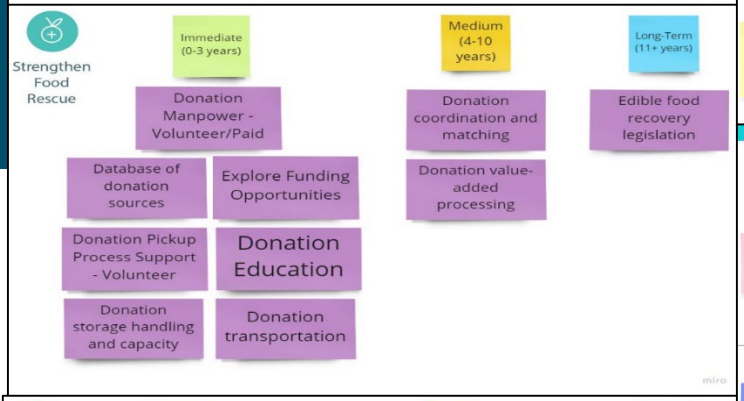
- Three stakeholders meetings
- Twenty nine subcommittee meetings
- One Visioning Meeting with DNR
- Research on existing Life Cycle Assessments
- Focus on development of implementation strategies
- Short, medium, and long term time frames
- Review, discuss, revise, review, discuss, revise
- Short term implementation strategy

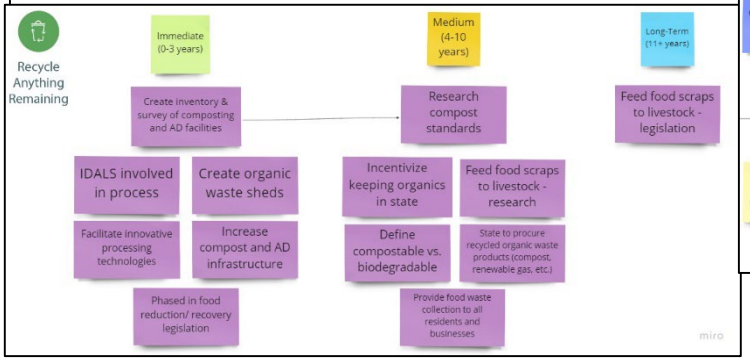
Implementation Strategies

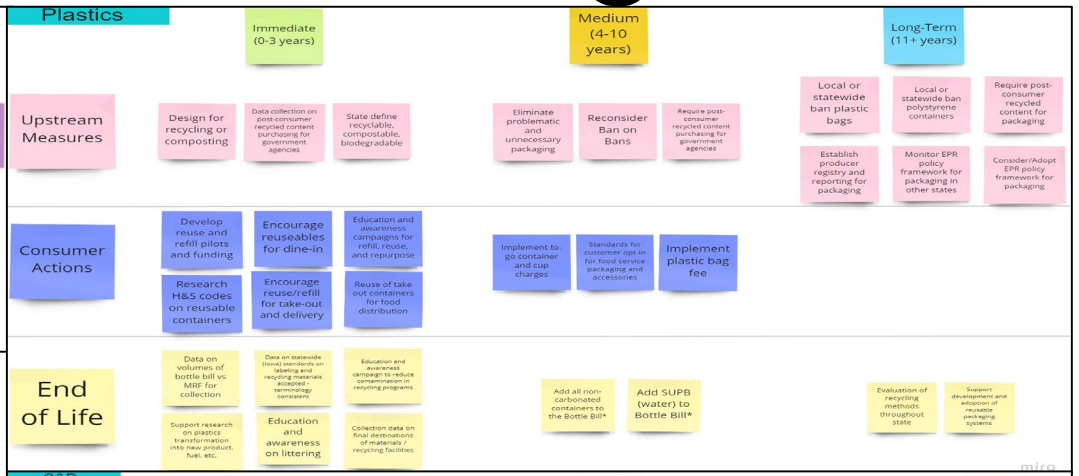


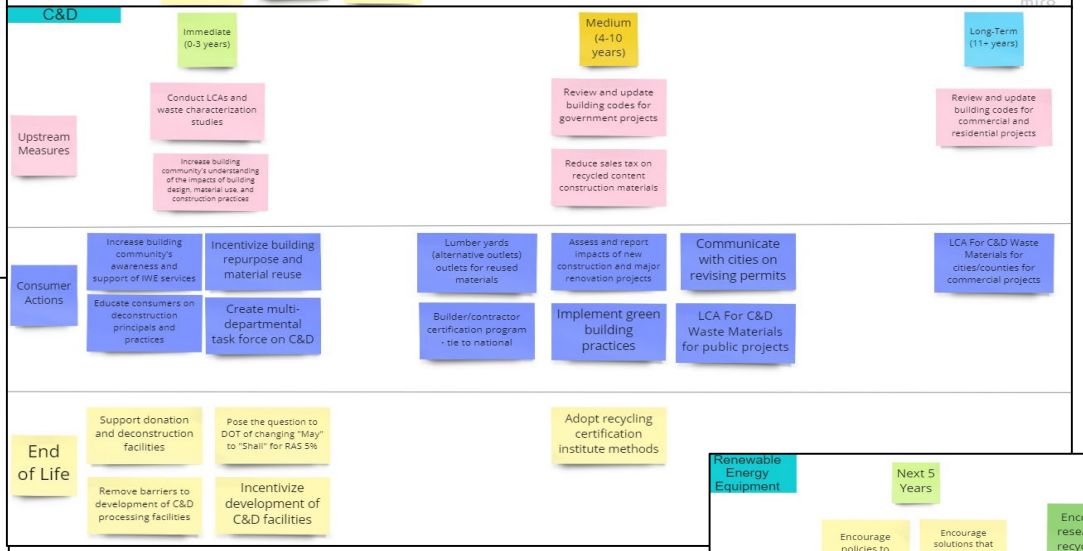
Initial List of Strategies

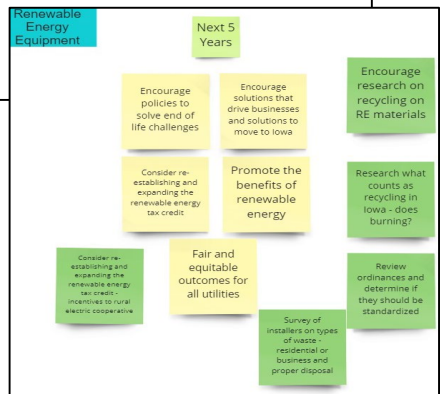






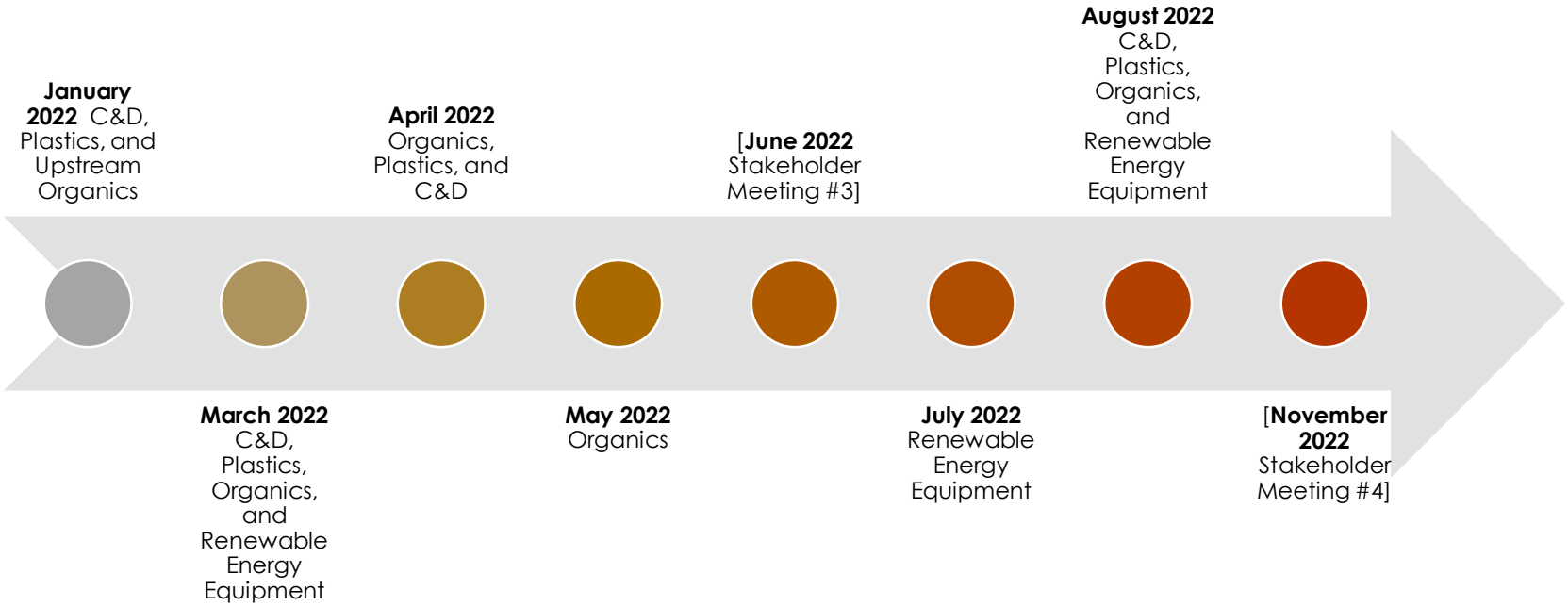




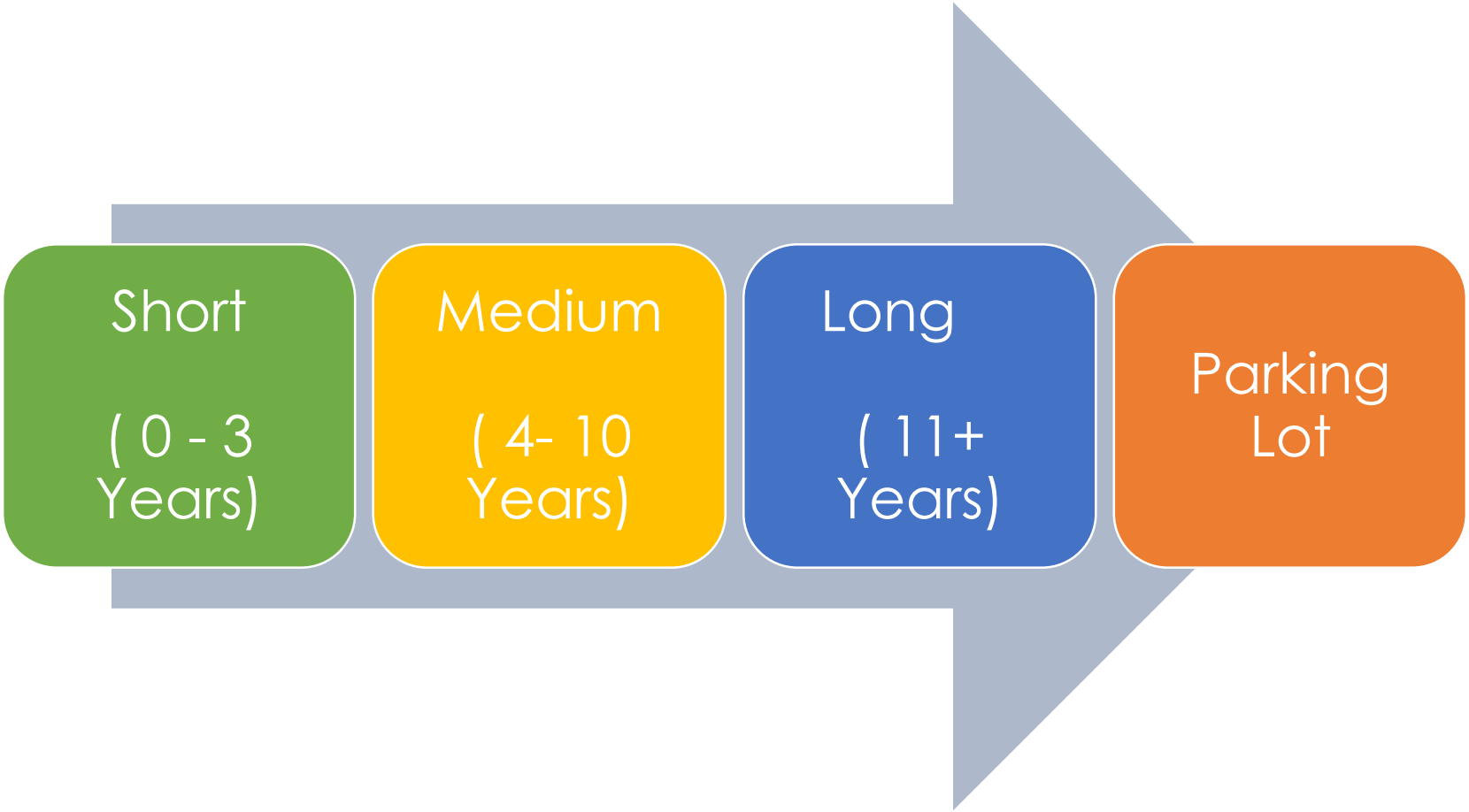


Very Large "Play List" to Organize and Prioritize

Subcommittee Work Post 2021 Fall Conference



Strategy Implementation Schedule



Organics and Fibers 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 passes	• 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)

- 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

Long Term (11+ years)

- Provide food waste collection to all residents
- Adopt food waste to livestock regulations

Plastics 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)

- Conduct education and awareness campaigns on littering, recycling contamination, and EPR
- Identify problematic packaging and options for recycling and composting

Short Term (0-3 years)

- 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

Long Term (11+ years)

- Conduct public opinion survey regarding bans, fees, and incentives

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

Short Term (0-3 years)

- Develop reuse and refill pilots and funding
- Review and revise existing state definitions, standards, and labeling for biodegradable compostable, and recyclable
- Research H&S Codes regarding reusable containers

Medium Term (4-10 years)

- 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 and policies that encourage environmental preferable purchases
- Incorporate all non-carbonated beverage containers into Bottle Bill
- Develop and Implement EPR for plastic packaging
- Reconsider Ban on Bans

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

Long Term
(11+ years)

- 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

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

Short Term (0-3 years)

- Support research on methods to transform plastics into new products, fuels, etc.
- Incentivize development of facilities

Renewable Energy Equipment

Recommendations

Short Term (0-3 years)

- Monitor technologies for managing (production and end-of-life) wind turbine blades and solar panels that are available and under development worldwide.
- Monitor other states' and national legislation for solar PV and wind turbine end-of-life management.
- Continue/expand the subcommittee work to consider legislation for end-of-life management of renewable energy equipment.
- Collaborate with counties, NGO's, generators, manufacturers and state agencies (affected stakeholders) to review policies and procedures regarding end-of-life management for REE.

Recommendations

Medium Term (4-10 years)

- Coordinate workshop(s) of national and international renewable energy equipment recycling technology providers to share information, policies and procedures.
- Begin working with the Iowa Economic Development Authority to identify opportunities for REE recyclers to locate in Iowa.
- Develop end-of-life management policies/legislation/ordinances for local or statewide consideration.
- Incentivize the use of REE that has the greatest potential for recovery at end of life.

Recommendations

Long Term (11+ years)

- Potentially adopt and implement end-of-life policies/legislation/facilities/programs at local or state level.

Construction and Demolition Debris Objectives

1. Develop Deconstruction and Reuse Industry in Iowa
2. Support Use of Sustainable Construction and Demolition 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; prioritize materials • Implement policies and programs for reduction, recovery, reuse and recycling	• 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

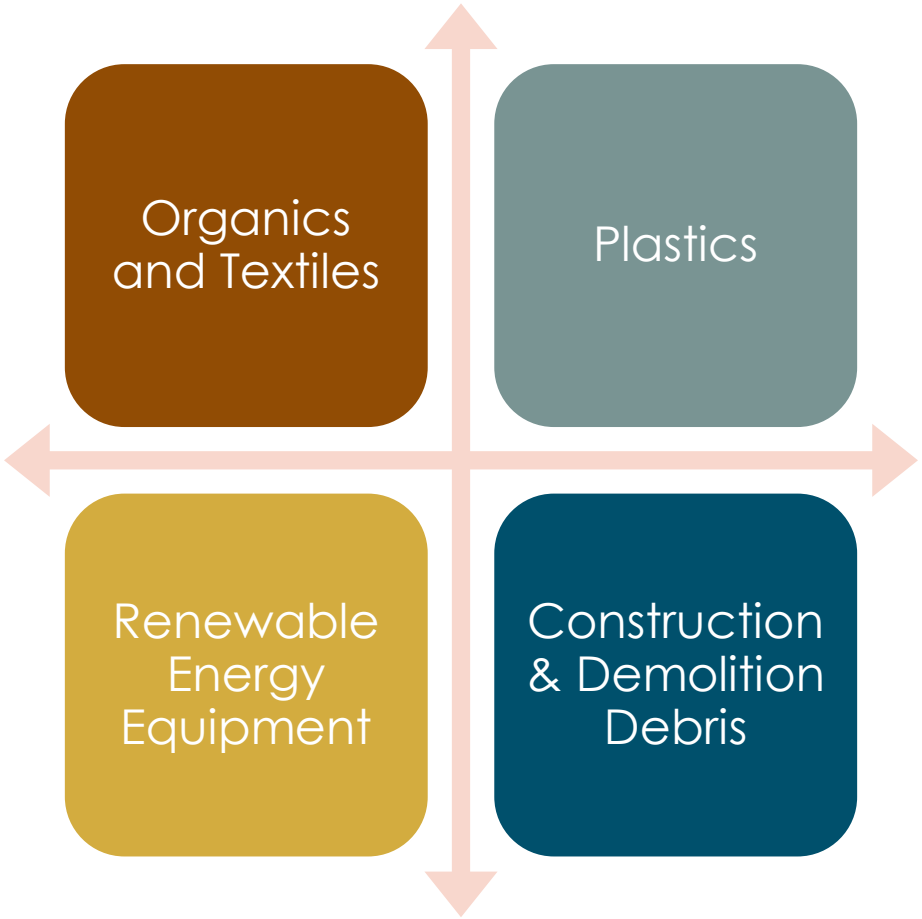
2. Support Use of Sustainable Construction and Demolition Practices

Short Term (0-3 years)	Medium Term (4-10 years)	Long Term (11+ years)
• 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

Short Term Strategies Implementation Plan



Assess Organics Processing Capacity in Iowa

- Inventory existing compost facilities
- Evaluate the potential to expand the co-digestion of food scraps and biosolids.

Present the Current and Future Organics Infrastructure

Prepare a Statewide Organics Management Plan that incorporates the results of Task A into evaluating and setting forth funding, policy, infrastructure and market needs.

Increase Awareness of Food Waste

Expand existing food waste awareness campaigns with an Iowa based message.

Inventory Recycling Methods and Facilities in Iowa

Conduct a study of existing recycling methods, materials and facilities.

Establish reporting system for recyclable materials.

Review Existing Regulations

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

Conduct Public Opinion Survey

Determine which relevant/representative policies and programs have produced tangible, desired results in other states.

Conduct public opinion survey regarding policies, such as Extended Producer Responsibility (EPR), incentives, fees and bans and programs previously determined to produce tangible results.

Plastic Packaging

Identify problematic packaging and options for recycling and composting and use this information to reduce littering, recycling contamination, and design education campaigns.

Use study data to identify the types of materials to be targeted for education campaigns addressing littering, recycling contamination, and potential policies.

Technology

Monitor the Status and Production and End-of-Life REE Recycling Technologies

Legislation, Policies and Procedures

- Leverage Local Expertise
- Learn from Others

C&D Material Evaluation

- Conduct studies and evaluate data on C&D materials generation, disposal and diversion in Iowa.
- Prioritize material types for reduction, recovery, reuse and recycling.
- Implement policies and programs for reduction, recovery, reuse and recycling.

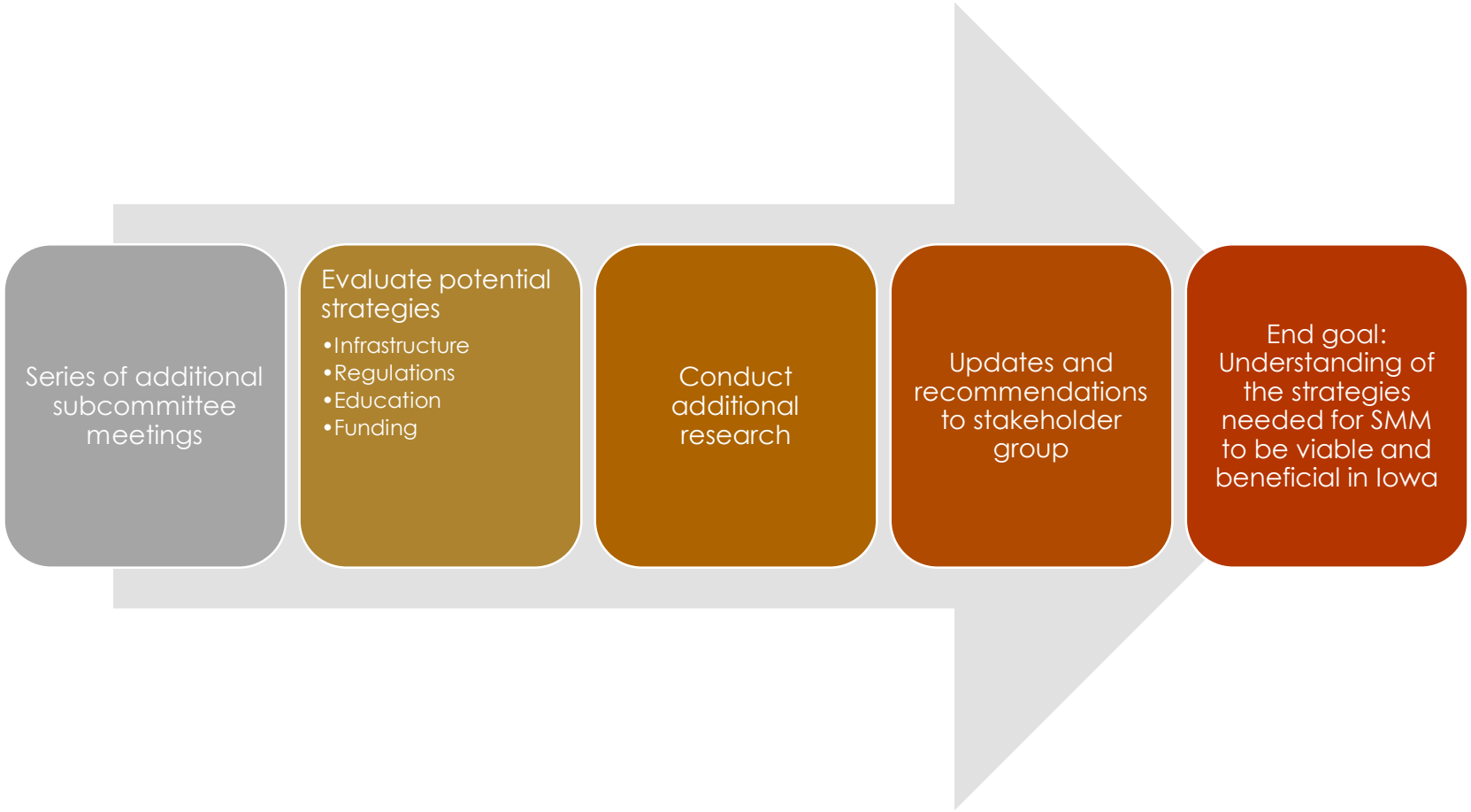
C&D Processing Facilities and Markets

- Research and identify barriers to developing C&D processing facilities, including required throughput and potential markets for C&D materials.
- Research opportunities to develop C&D material processing operations/facilities.
- Conduct facility study.
- Market Study

Existing Sustainable Construction and Demolition Policies and Practices

- Review Iowa and other states and local building policies, programs, and codes for Sustainable Construction and Demolition practices.
- Evaluate existing Sustainable Construction and Demolition projects in Iowa.
- Update building programs, incentives, policies and codes, if possible, to establish consistent statewide Sustainable Construction and Demolition practices.

Next Steps


Series of additional subcommittee meetings
Evaluate potential strategies
•Infrastructure
•Regulations
•Education
•Funding
Conduct additional research
Updates and recommendations to stakeholder group
End goal: Understanding of the strategies needed for SMM to be viable and beneficial in Iowa