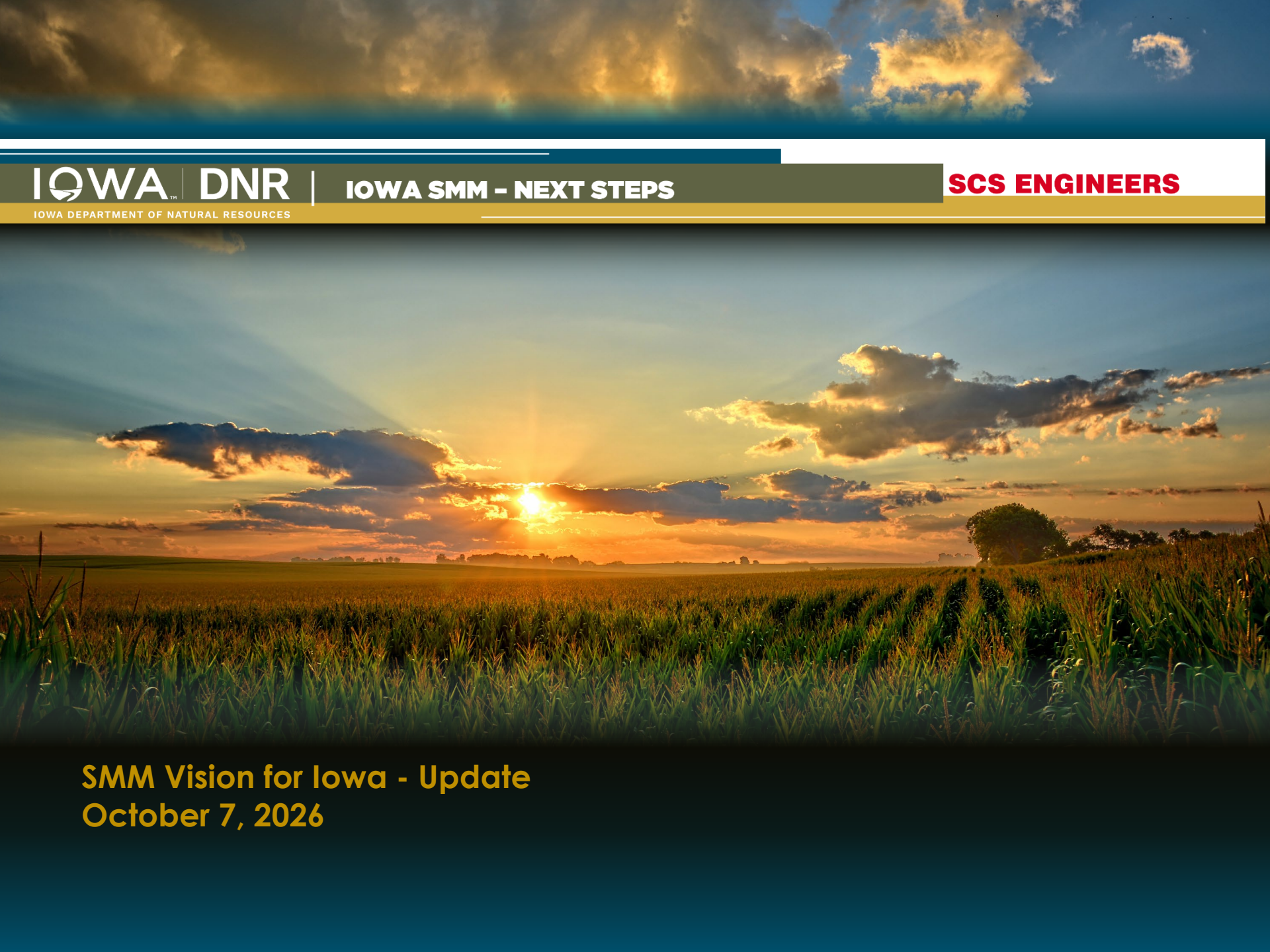




SMM Vision for Iowa - Update
October 7, 2026

Agenda

SMM – Vision for Iowa

- Purpose and Background
- Previously Completed Initiatives
- Recently Completed Initiatives
 - Organics Management
 - Recycling Data
 - Life Cycle Assessments

Purpose and Background

- Iowa's solid waste regulations and systems have focused on managing solid waste at the point of disposal.
- The State's regulations and initiatives encouraged and supported waste diversion efforts to help reduce the quantity of materials being disposed in landfills.
- While there has been success in diverting waste from disposal, there has not been much progress in establishing practices that are focused beyond end of life management.

Purpose and Background



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

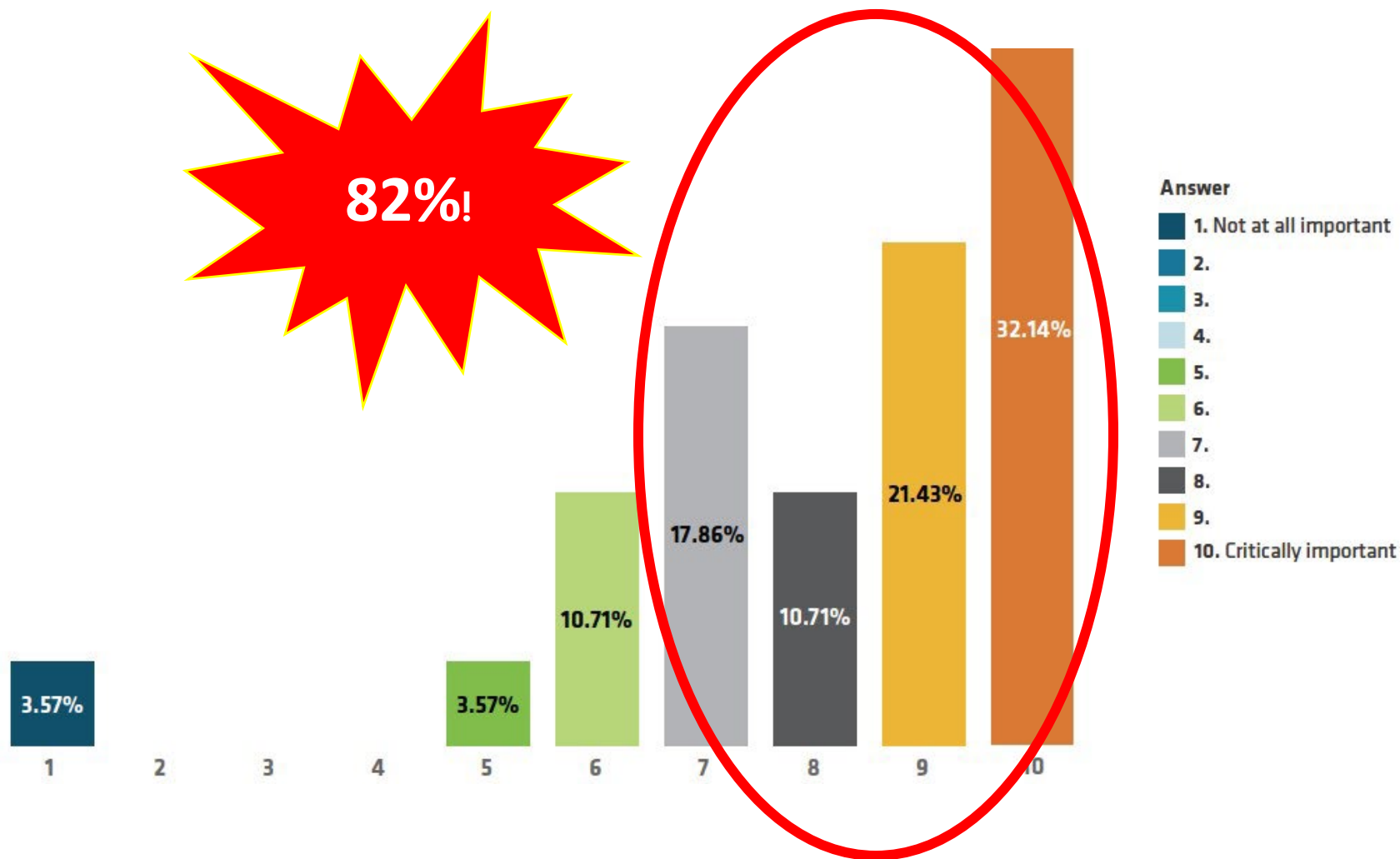
Purpose and Background

2018 – 2019

SMM Phase I

Defining SMM and if Iowa should move towards it.

Purpose and Background



Previously Completed Initiatives

2018 – 2019

2018 – 2022

SMM Phase I

Defining SMM and if Iowa should move towards it.

SMM Phase II

Prioritization and timing of action items and processes.

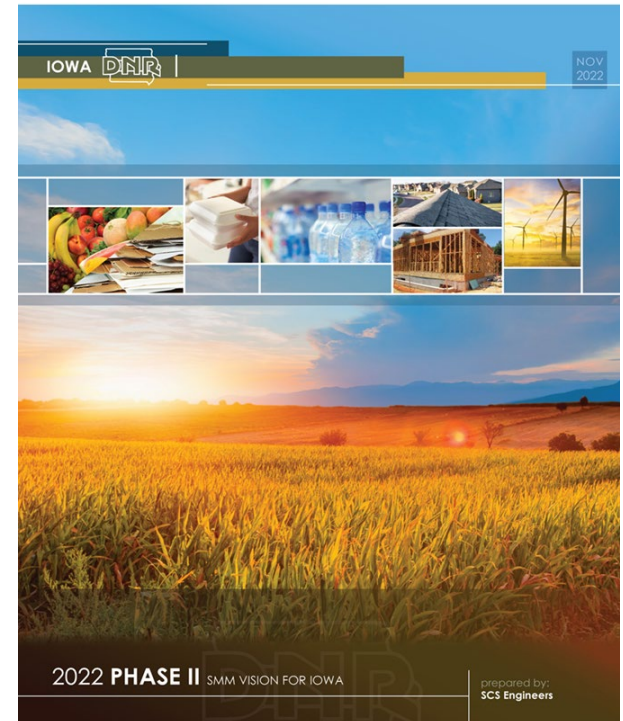
Stakeholder-Driven

4 stakeholder meetings
29 subcommittee meetings

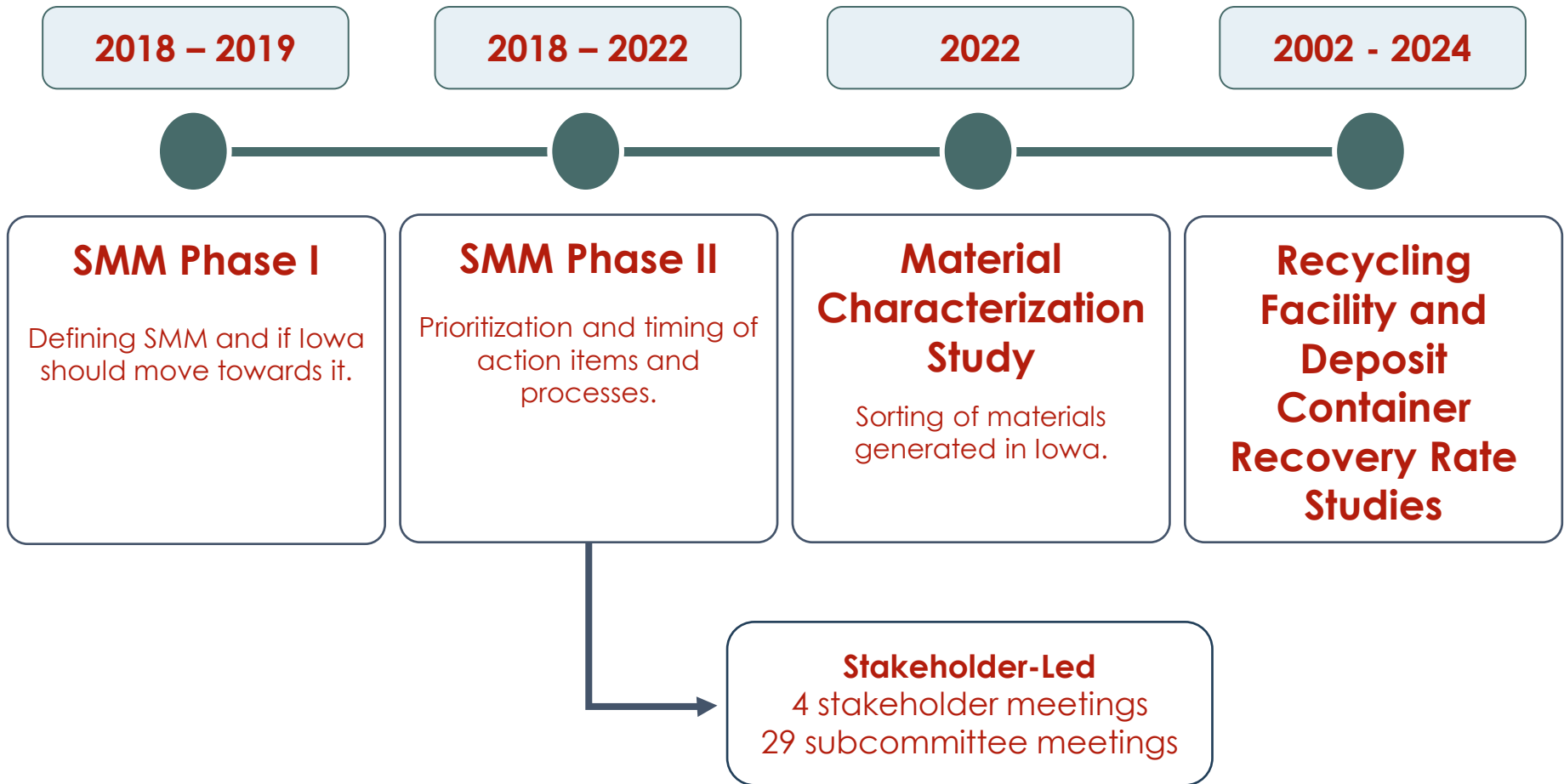
Previously Completed Initiatives

Short, Medium, and Long-Term Implementation Priorities:

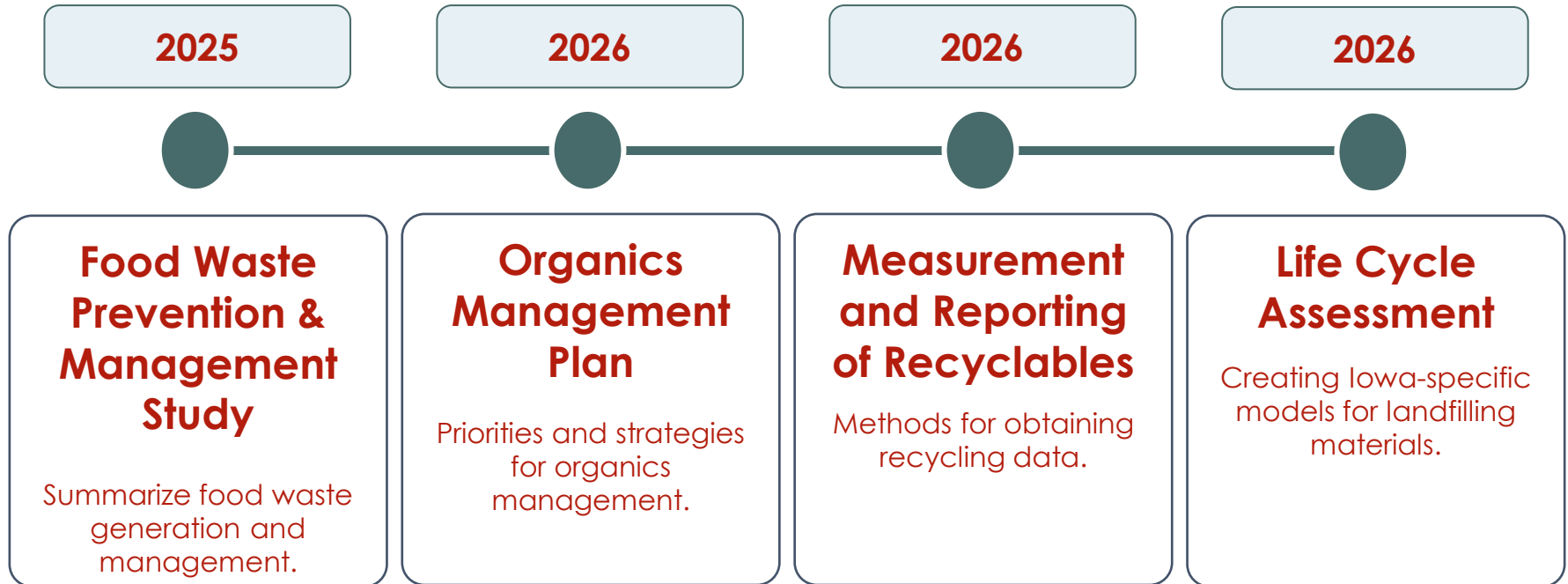
- Organics (32)
- Plastics (20)
- Renewable Energy Equipment (9)
- C&D (10)



Previously Completed Initiatives



Recently Completed Initiatives



Organics Management



Food Waste Prevention & Management Study

Iowa Department of
Natural Resources

October 2025



Organics Management Plan

SMM Vision for Iowa

Iowa Department of Natural Resources
6200 Park Avenue
Des Moines, Iowa 50321

SCS ENGINEERS

27220308.00 | July 2026

1690 All State Court, Suite 100
West Des Moines, Iowa 50265
515-631-6160

Organics Management

Food Waste Prevention & Management Study

- Quantity of food waste generated
- Food waste management options
- Organic product end markets
- Gap Analysis
 - Food waste processing infrastructure
 - Costs of upgrading existing infrastructure
- Considerations
 - Reduce food waste
 - Policies from other states



Food Waste Prevention & Management Study

Iowa Department of
Natural Resources

October 2025



Organics Management

Iowa Organics Management Plan

- Organic Waste Baselines
 - Wasted food
 - Yard waste
 - Wood waste
 - Biosolids
 - Agricultural waste
- Previous & Ongoing Efforts
- Recommendations
 - Prevention and rescue
 - Composting
 - Anaerobic digestion
 - Agricultural practices & other



Organics Management Plan

SMM Vision for Iowa

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Recycling Data

Recycling data

System
understanding

Better
decisions

Program
improvement



Recycling Data

- Iowa has no consistent, way to routinely collect, verify, and analyze recycling data
- Limits Iowa's ability to:
 - Track material flows and performance
 - Guide infrastructure investments
 - Measure policy outcomes

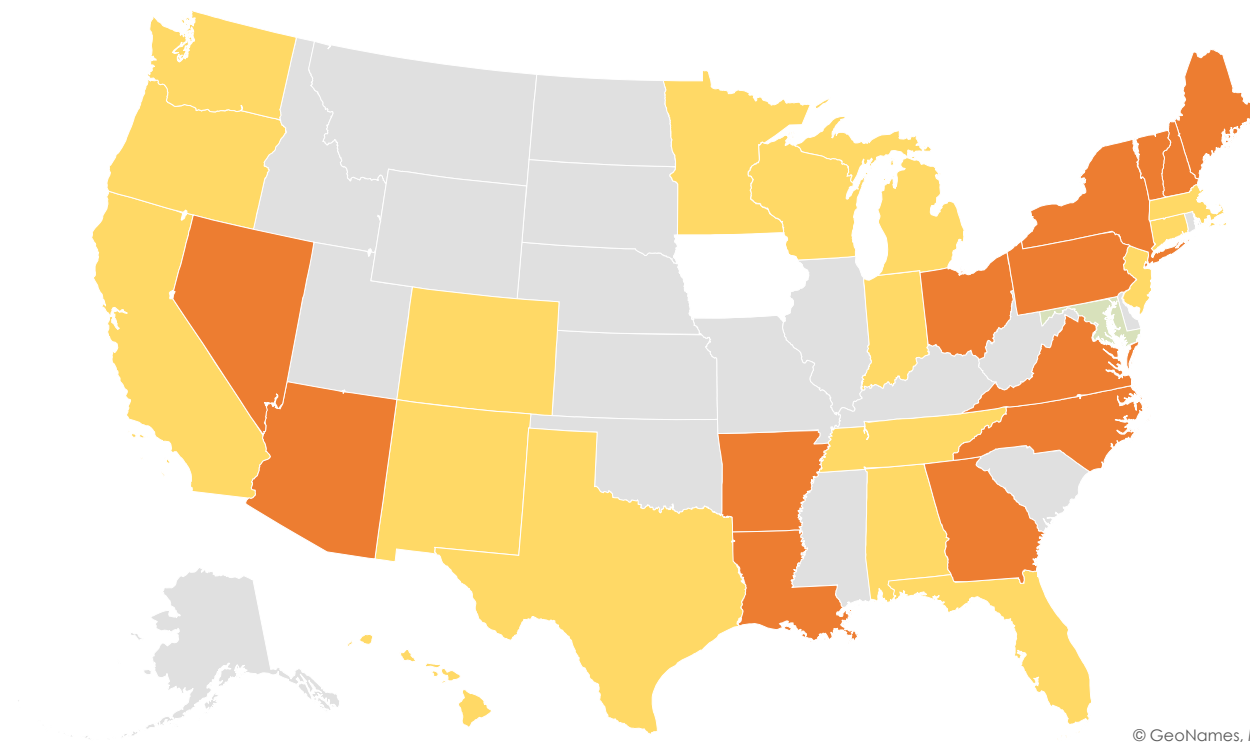
What
Iowa
Has

- Fragmented sources
- Partial data
- Inconsistent

What
Iowa
Needs

- Consistent baseline
- Material flows
- Service access
- Trends over time

Recycling Data



Powered by Bing
© GeoNames, Microsoft, TomTom

17

Mandatory reporting requirements for facilities, collectors, or transporters

14

Data collection relies on cities, counties, or districts. Voluntary, minimal, or no facility reporting.

18

No recycling data reporting or reliance on voluntary data reporting.

Recycling Data

We evaluated state programs across consistent categories:



Recycling Data

Option	Best use	Limitation
Existing planning requirements	Uses current local planning structure	May not capture private facility data
Legitimate recycling authority	Supports compliance and enforcement	Not designed for routine statewide reporting
Voluntary surveys	Good near-term way to test data collection	Participation may be incomplete
New statutory authority	Creates durable, consistent reporting	Requires policy decisions and stakeholder input

Recycling Data

Facilities (MRFs/processors)

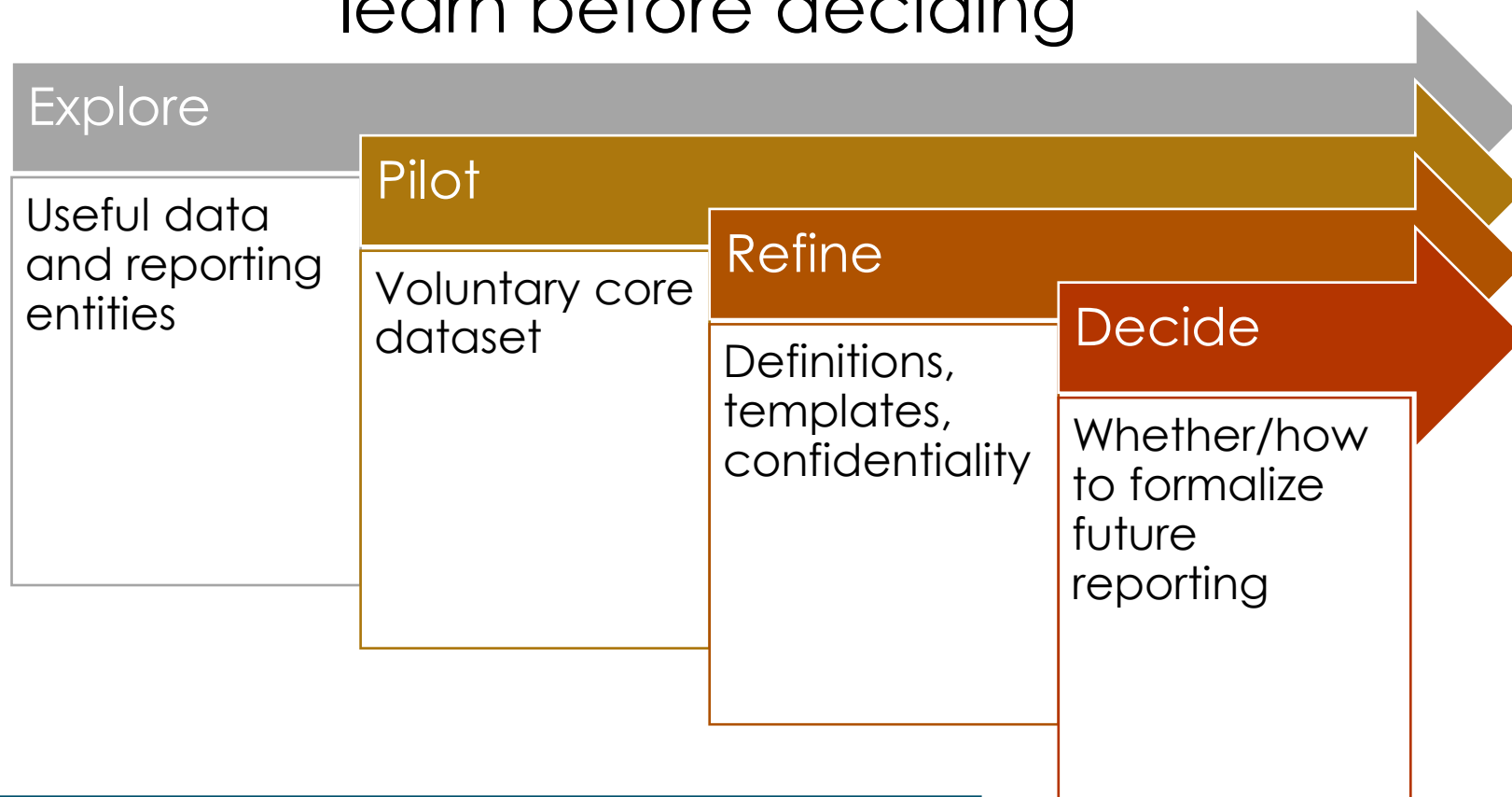
- Total tons received/processed (or marketed), by broad material category
- Aggregated inbound geography (county/region)
- General destination type (in-state / out-of-state / export)
- Qualitative contamination indicator (e.g., low/moderate/high)

Municipalities/ Local Programs (and haulers where available)

- Geography served
- Service availability (curbside/drop-off/both)
- Approx. residential vs. non-residential split (where feasible)
- Directional year-to-year change + key challenges

Recycling Data

A phased approach could allow Iowa to learn before deciding



Life Cycle Assessments



WHY AN LCA MATTERS



Identify hotspots

Pinpoint the greatest environmental impacts across the life cycle.



Drive improvement

Focus efforts where changes can make the greatest difference.



Build a sustainable future

Use resources more efficiently and reduce impacts over time.



Support smarter decisions

Provide reliable data to guide products, policies and strategies.

Life Cycle Assessments



Aluminum Containers



Food Waste

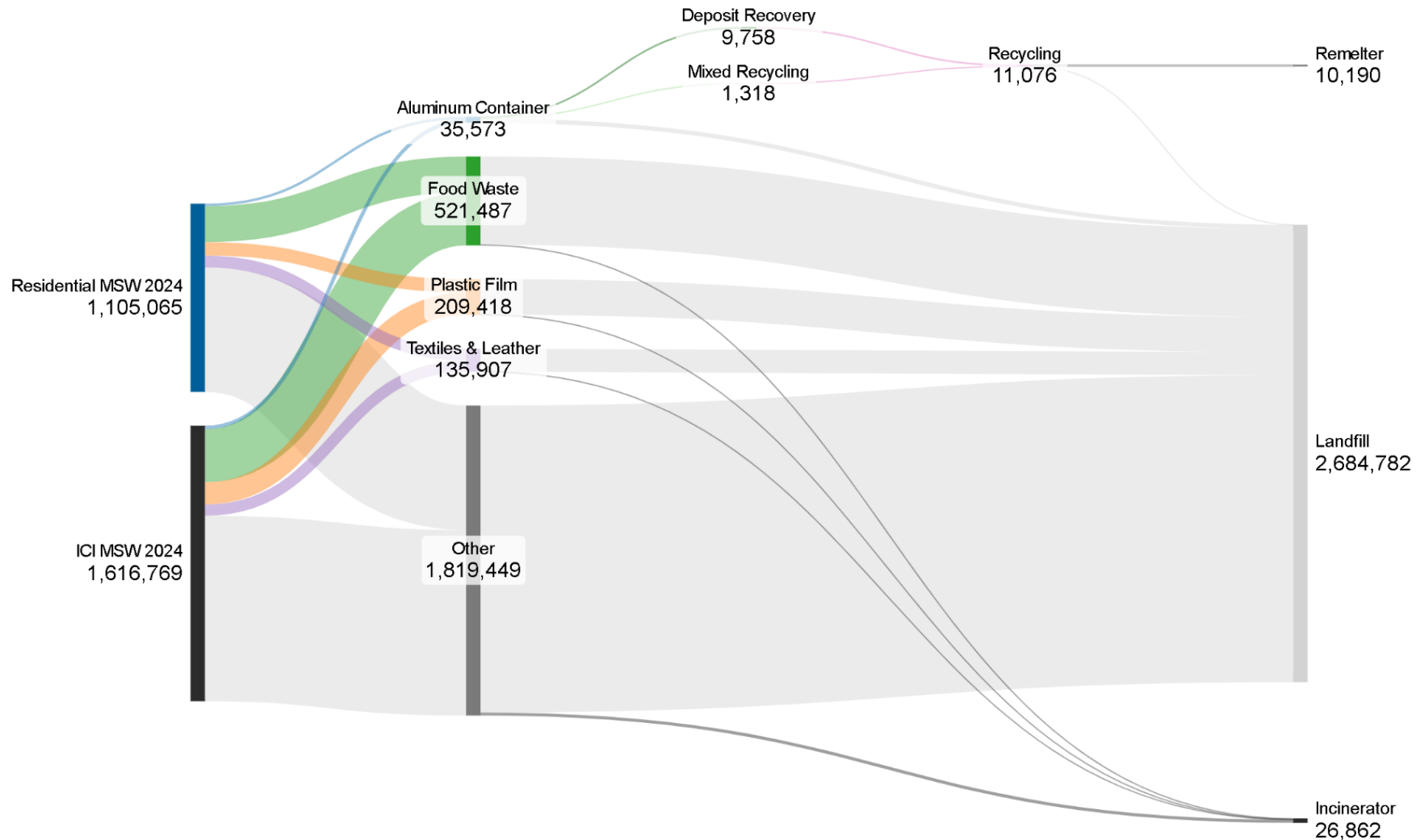


Plastic Film Waste



Textiles and Leather Waste

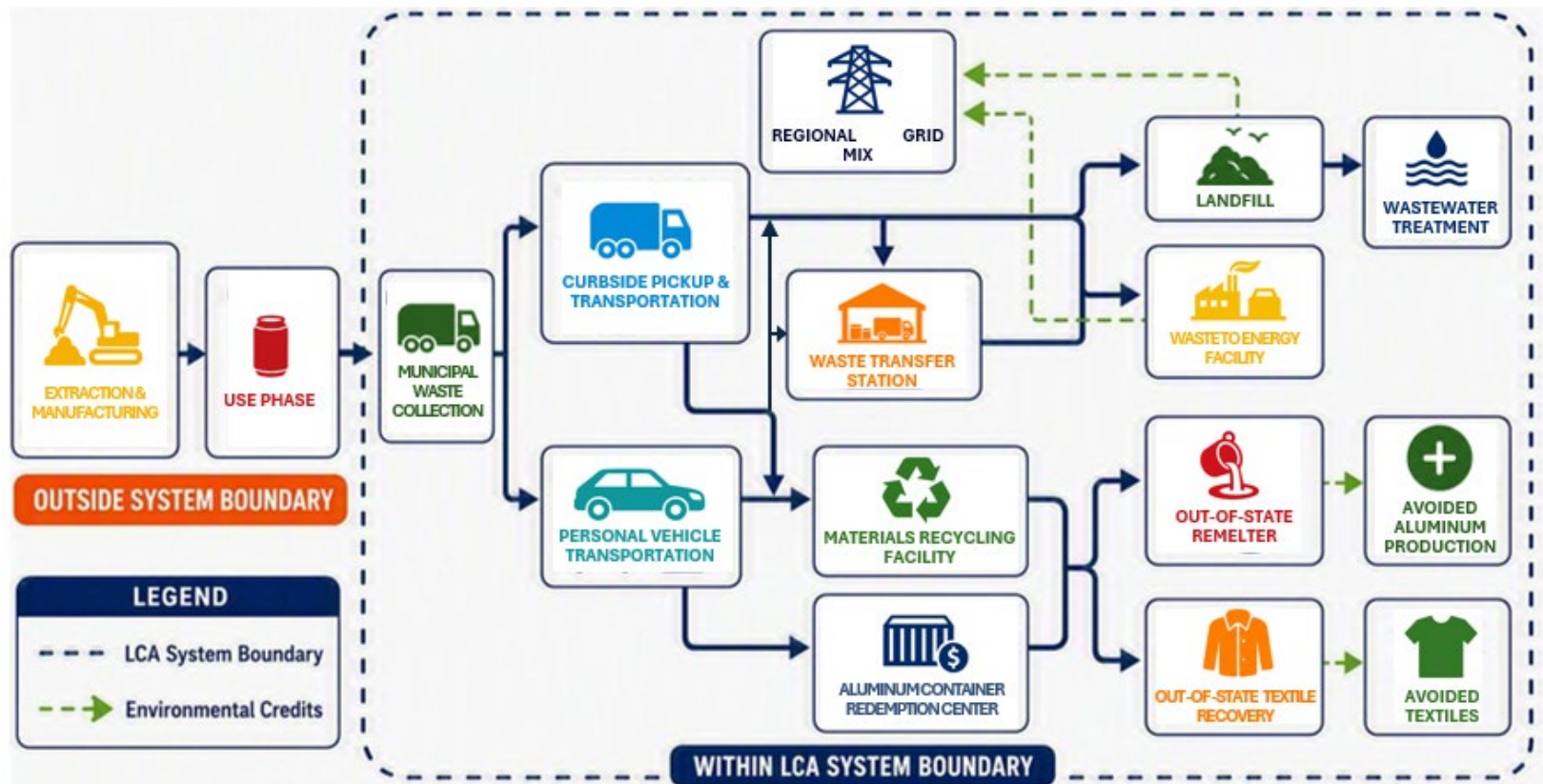
Life Cycle Assessments



Life Cycle Assessments

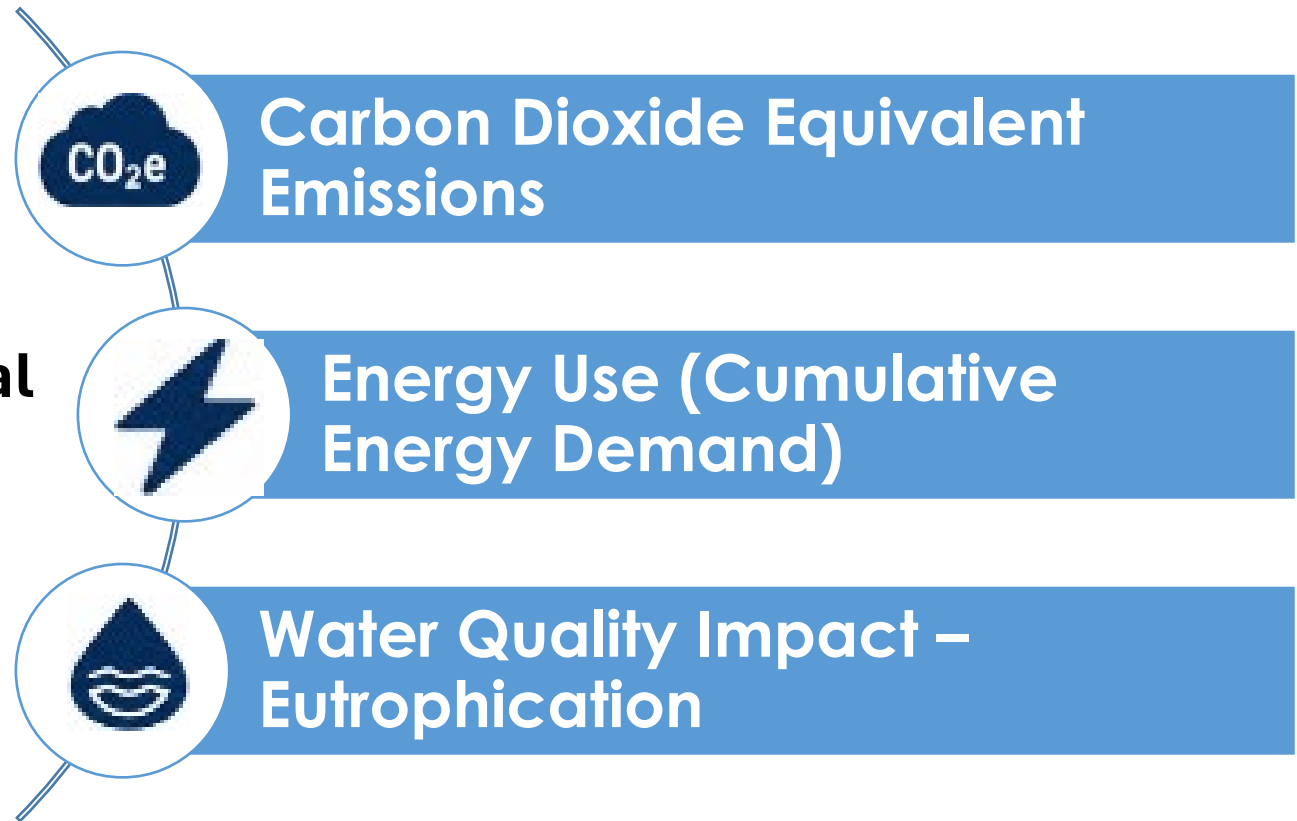


Scope – Cradle Gate and Gate to Grave for the State of Iowa



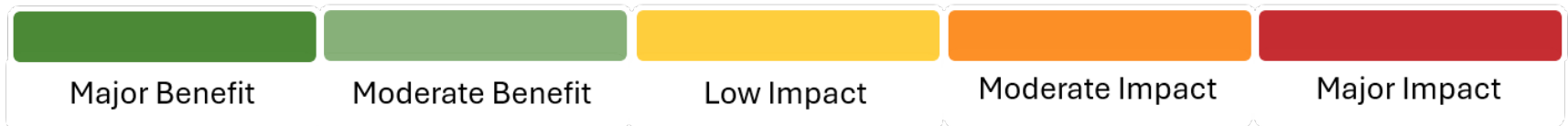
Life Cycle Assessments

Measured Environmental Impacts



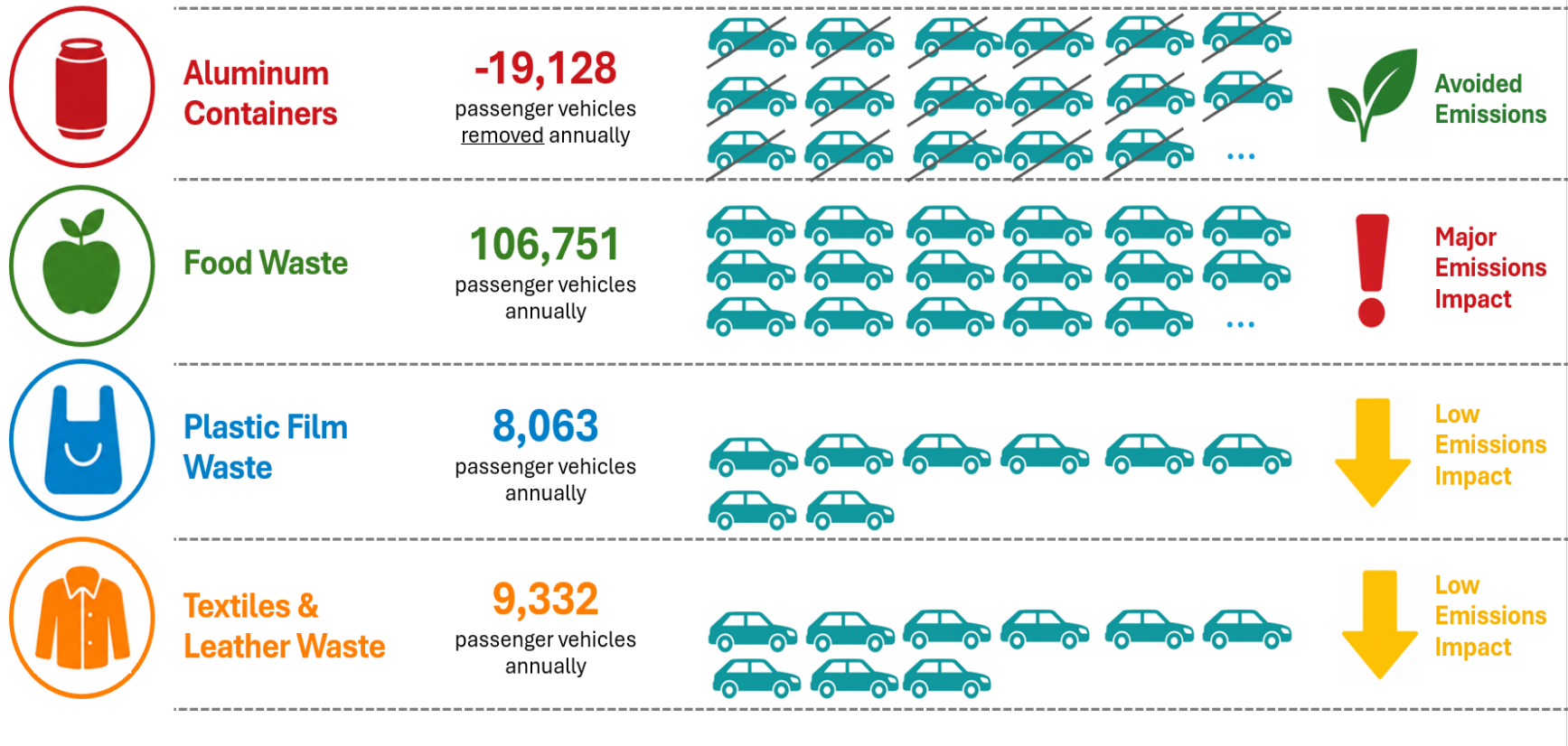
Life Cycle Assessments

WASTE MATERIALS		 CO ₂ -eq emissions (t CO ₂ -eq/year)	 Cumulative energy demand (TJ/year)	 Water quality impacts (kg N-eq/year)
	Aluminum Containers	-87,988	-1,323	-33,531
	Food Waste	491,055	288	-575
	Plastic Film Waste	37,183	212	7,603
	Textiles & Leather Waste	42,927	126	7,474



Life Cycle Assessments

Converting Emissions Into Everyday Terms



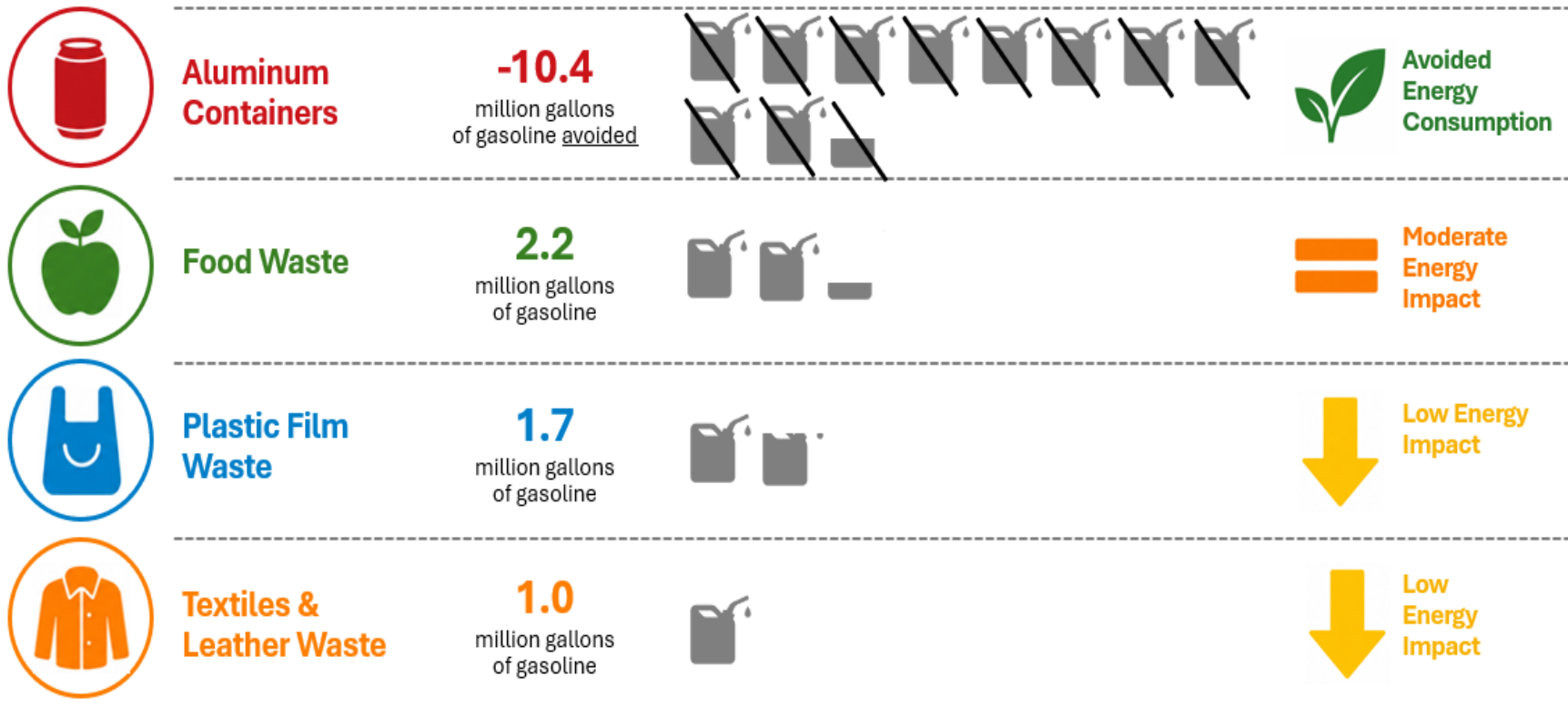
These figures show the equivalent number of passenger vehicles driven for one year.

1 passenger vehicle driven for one year = 4.7 metric tons. CO₂e

Results reflect statewide impacts across Iowa.

Life Cycle Assessments

Converting Energy Into Everyday Terms



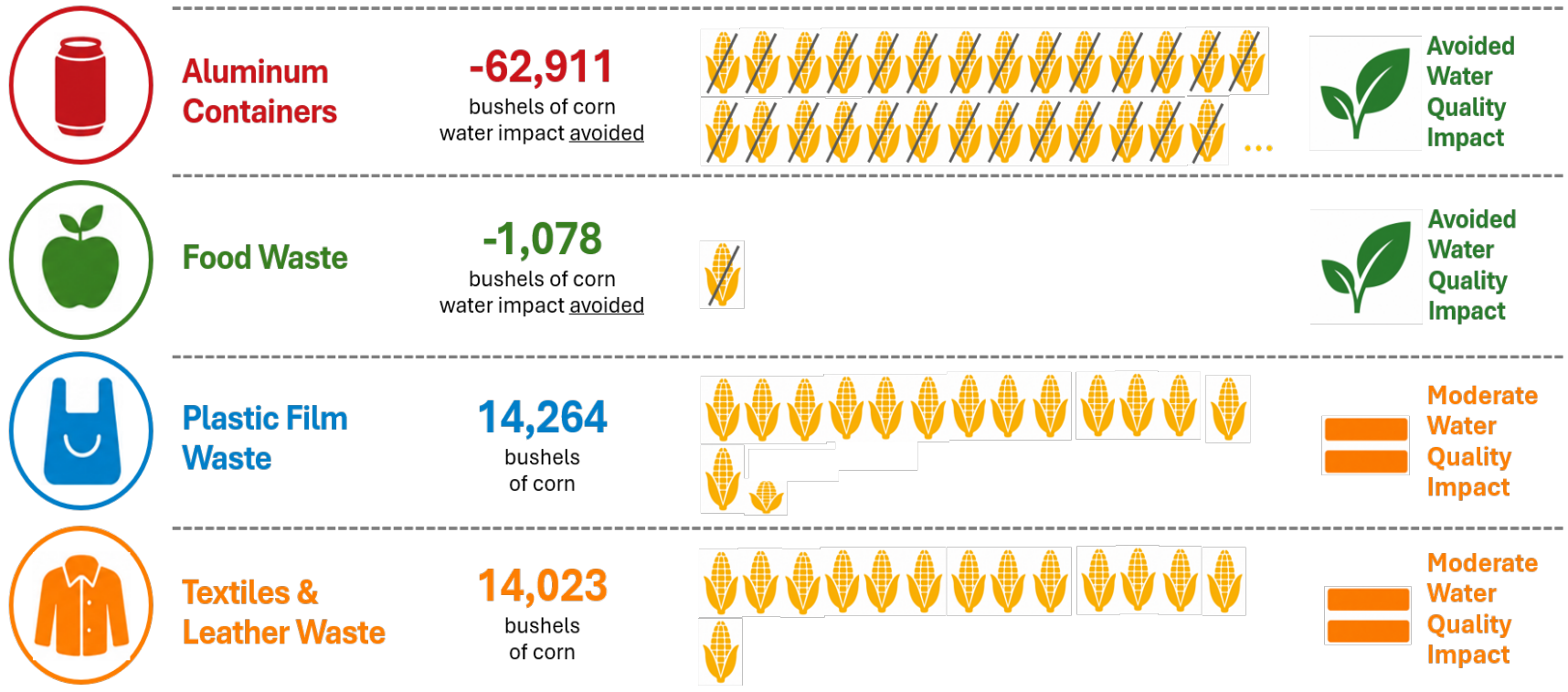
These figures show the equivalent energy content of gasoline needed to produce the same amount of energy.

1 gallon of gasoline = 126.8 megajoules

Results reflect statewide impacts across Iowa.

Life Cycle Assessments

Converting Eutrophication Impact Into Everyday Terms



These figures translate eutrophication impacts into the equivalent nitrogen associated with producing bushels of corn.

1 bushel of corn = 0.533 kg nitrogen eq.

Results reflect statewide impacts across Iowa.

Life Cycle Assessments

Alternative Scenarios:



Increased Deposit Aluminum Deposit Container Recovery Rate
(from 42% to 64%)

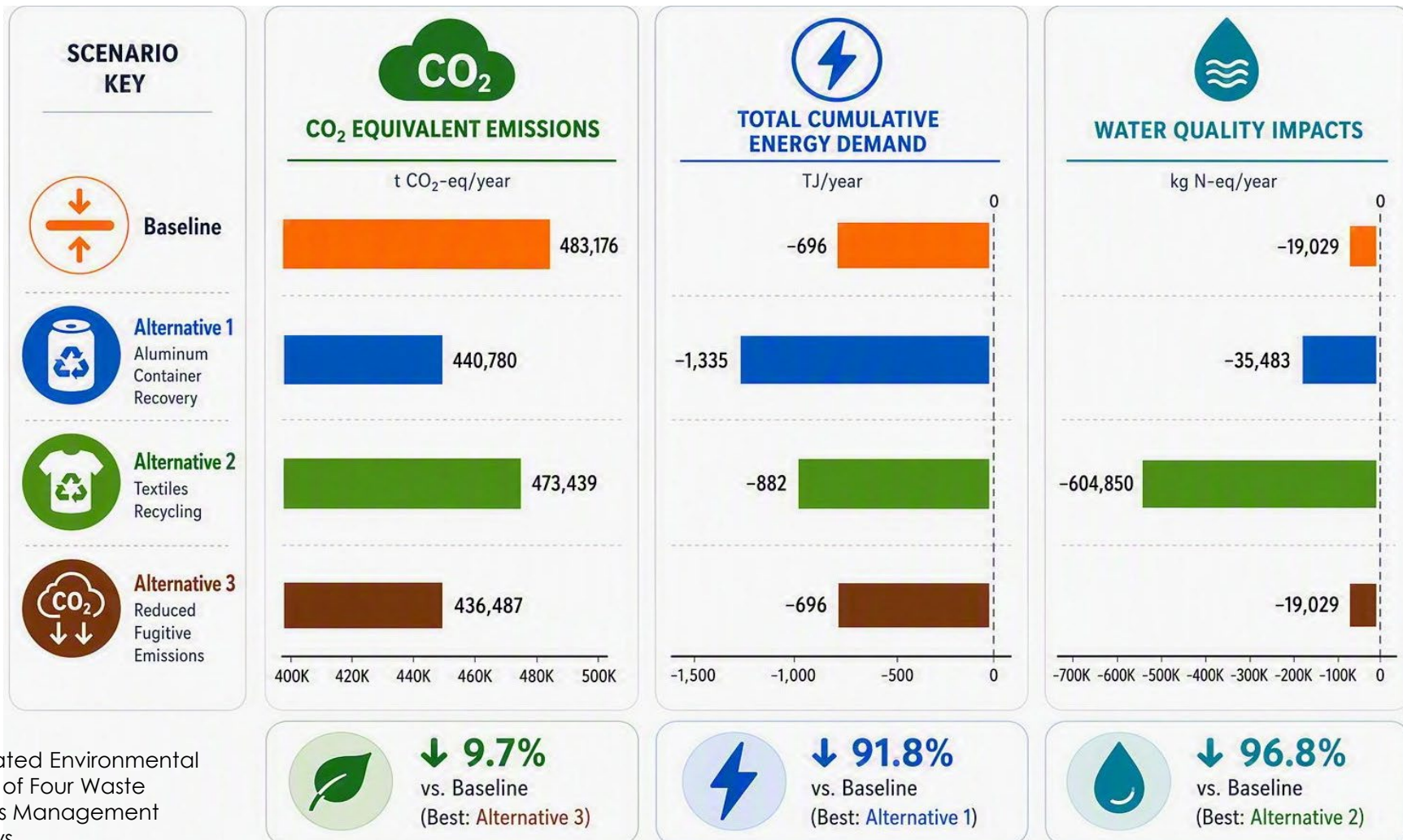


Centralize Residential Textile Collection for Out of State Recycling
(15% Diversion, 100% virgin materials that can be substituted with recycled materials, 20% Recycling & Processing Loss)



Reduction of Landfill Fugitive Methane Emissions (10% reduction)

Life Cycle Assessments



Aggregated Environmental Impacts of Four Waste Materials Management Pathways



Next Steps

Next Steps

Potential RFP's for Following Activities:

**SMM Policy
Decisions**

SMM Studies

**Statewide
Characterization
Study**

**Container
Recovery Study**

**Public Education
Campaign for
Food Waste
Prevention**