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Section 04
Waste Management

Solid Waste
In Albert Lea

3,146
tons of recycling in 2019

13,004
tons of landfill waste in 2019

17.7%
increase in total waste collected since 2016

Waste Management

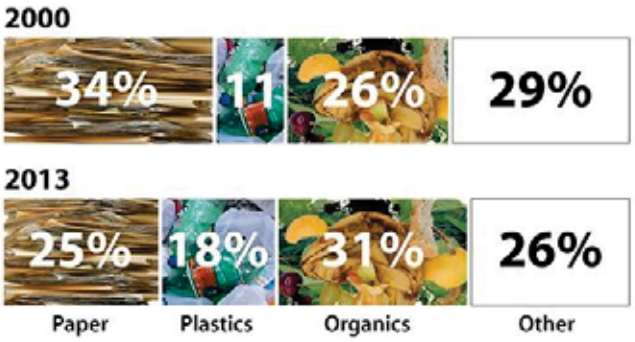
Why Waste Management Is Important

In Albert Lea, solid waste contributed 1.1% of City-wide greenhouse gas emissions in 2019. City-wide municipal solid waste (MSW) handled in 2019 totaled 6,839 tons. Of the MSW handled an estimated 371 tons (5.4% of total) was recycled and the remaining 6,468 tons (94.6%) was landfilled. Municipal solid waste sector has great potential to avoid emissions throughout the economy thanks to waste reduction and waste recovery.

Food discards and residuals that decompose in landfills release methane, a greenhouse gas that is at least 28 times more potent than carbon dioxide. This fact makes food wasting a significant contributor to solid waste greenhouse gas emissions. Habitat destruction, global warming, and resource depletion are some of the effects of our materials consumption.

Minnesota Waste Stream Changing

The Minnesota Pollution Control Agency (MPCA) commissioned a statewide study to determine the characteristics of statewide waste streams. The project studied garbage from six facilities throughout the state and separated it into nine primary categories. The study found that Minnesota waste has changed since the last study was conducted in 2000. Paper, plastics, and organics are still the top three components of our garbage, but the proportions have changed—plastic is up, food is up, but paper is down. This indicates great potential for increased organics recycling opportunities.



Minnesotaʹs Waste Hierarchy

Following the Minnesota Climate Change Advisory Group's initial recommendations on statewide GHG emissions reductions, the MPCA conducted a study to identify the most promising potentials for reduction of solid waste emissions. The report produced the above hierarchy of waste management to achieve the best environmental results.

Climate Change Considerations

Climate Impacts

This sector impacts climate change through combustion of fossil fuels in the collection and processing of materials, as well as the generation of methane from anaerobic decomposition of organic materials in landfills.

Opportunities

As indicated in the Waste Diversion Potential Estimate diagram, a significant portion of Albert Lea's waste stream has the potential for being put to beneficial use while avoiding GHG emissions.

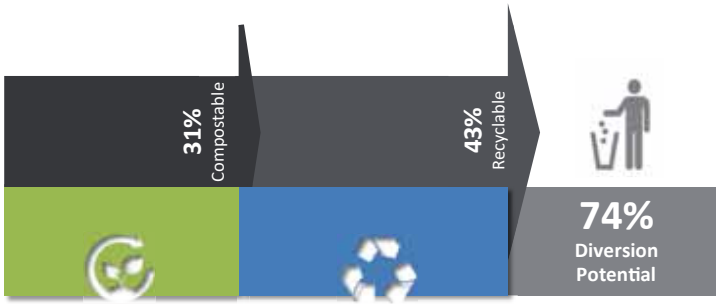
Climate Hazards

Hazards to the waste management system include damage to infrastructure from extreme weather and flooding.

Waste Diversion Potential

Based on the State-wide Waste Characterization Study, there may be waste diversion potential of up to 74% in the current landfilled materials (idealized maximum). Below is the breakdown of the estimated total potential waste diversion:

Organics	**31%**
Potentially Recyclable Materials	**43%**
Other Materials (remaining landfill)	**26%**



Waste Management

Equity Considerations

- Accessibility to recycling and composting programs may not be equally and readily available to all community residents and may also be impacted by other participation-related barriers, including awareness of programs, user fees, accessibility based on housing type, and language barriers.
- Populations that are situated very close to the landfill or composting facility may experience nuisance issues like bad odors and potential health issues unless mitigation actions are implemented.

Community-Wide Solid Waste Targets Supporting Sector Goals

Sector goals are established to both support the City's Climate Action Plan in creating a climate resilient community and to reduce City-wide GHG emissions.

	Organics Diversion	Recycling Diversion	Total MSW Handled
	+	+	-
Today (% of total waste)	9.6%*	17%	17,868 tons
2030 Targets (% of total waste)	**20%**	**25%**	**16,975** tons

*Estimated

Strategies Supporting Sector Goals

Sector goals related to GHG emissions reductions are designed to balance reduction across all sectors and achieve the overall emissions goals set forth for the community. The goals seek to strike a balance between achievability while also reaching -for improvement beyond business-as-usual.

As indicated in the introduction, the Climate Action Plan is intended to be a 9 year plan to be updated at the completion of that time. Consequently, the goals and strategies outlined in this section are intended to be achieved by 2030 (or earlier) unless otherwise noted.

Implementation of actions are anticipated to be initiated over 3 phases: phase 1 within 1-2 years, phase 2 within 2-7 years, and phase 3 within 4-8 years of CAP approval.

1. **Strategy WM-1**: Increase organics landfill diversion from 10% to 20% by 2030
2. **Strategy WM-2**: Increase recycling from 17% to 20% of total MSW handled by 2030.
3. **Strategy WM-3**: Decrease total per capita municipal solid waste handled by 5% by 2030.
4. **Strategy WM-4**: Increase beneficial use of landfill gas by 2030.

1 Strategy WM 1:

Increase organics landfill diversion from 10% to 20% by 2030.

	Actions	Implementation Phase
WM-1-1	Establish a "Towards Zero Waste Certification" program to provide education to food retailers and restaurants on strategies to reduce waste and to promote businesses successfully achieving certification levels. Goal: 12 additional businesses enrolled annually. Resources or models for establishing a program include: https://carbonfreedining.org/ https://true.gbci.org/ https://www.crra.com/certification	**1**
WM-1-2	Close the loop on organics recycling; initiate a Compost Soil Amendment pilot project for use of compost as a soil amendment for public and private construction projects.	**1**
WM-1-3	Identify, partner, or create an organics collection and composting site to support increased food and organics diversion. Example: Transfer station compost site for free public use.	**1**
WM-1-4	Based on results of the Food Scraps Bag pilot project, establish a policy or ordinance expanding or requiring in-trash food scrap composting. https://cutt.ly/tfBf5Dj	**2**
WM-1-5	Establish a Community Garden Composting program supporting the expansion of food waste diversion through at-home composting. Provide backyard composting workshops, tips, and resources. (https://www.bouldercounty.org/environment/composting/)	**2**
WM-1-6	Create a pilot "Food Scraps Bag" pilot program to test food scraps composting collection across restaurant, commercial and residential customer base where food scrap bags are separated at landfill without separate compost bins and collection vehicles. https://cutt.ly/tfBf5Dj	**2**

2 Strategy WM 2:

Increase recycling from 5% to 15% of total MSW handled by 2030 in an energy efficient, low emission manner.

	Actions	Implementation Phase
WM-2-1	Conduct a survey to discover where gaps exist in recycling knowledge for city residents (social media "I don't know" box) and design an educational/communications program to address gaps.	1
WM-2-2	Develop an educational and outreach campaign based on the knowledge gap survey.	1
WM-2-3	Develop and fund a waste audit and diversion assistance program for businesses. Program to support businesses in establishing tracking and reporting waste streams, identify reduction, diversion, beneficial use opportunities, identification of potential financing sources, and connect businesses with energy audit and other resources in support of full CAP goals. Explore funding opportunities through the State of Minnesota MPCA, MN Department of Commerce, and US EPA. Goal: 12 business waste audits completed annually with businesses engaged in measuring and diverting waste. Example programs: https://www.mnchamber.com/your-opportunity/waste-	1
WM-2-4	Create and promote information regarding Zero waste strategies as the cheapest materials management solution. This approach enables organizations to decrease outlay for new materials as well as decreasing waste costs.	2
WM-2-5	Collaborate with the County and increase total recycling and waste reduction education budget	2
WM-2-6	Collaborate with the County and increase total recycling and waste reduction education budget	2

3 Strategy WM 4:
Increase recycling from 17% to 20% of total MSW handled by 2030.

	Actions	Implementation Phase
WM-3-1	Establish a Zero Waste policy for City operations that outlines increasing incremental annual waste reduction goals charting a path to Zero Waste. Policy to require that outside users of City facilities also follow Zero Waste policy and will modify the event permit application to require the inclusion of recycling and composting at events.	1
WM-3-2	Implement a plastic bag, straw, and stirrer-free opt-in program for businesses with appropriate options for people with disabilities.	1
WM-3-3	Coordinate with the Albert Lea chamber of commerce, business, and manufacturing associations to provide seminars, resources, and content to area businesses on waste reduction and Circular Economy concepts. Work with cohort to explore economic potential of Circular Economy business opportunities within the Albert Lea region. Program should include promotion of the Waste Audit and Diversion assis-	1
WM-3-4	Coordinate with the Albert Lea Area Schools to establish paths towards Zero Waste program. Program to include zero waste curricula and family content as well as zero waste strategies for school facilities. (https://www.ecocycle.org/files/Zero%20Waste%20A%20Realistic%20Approach%20Sustainability%20Program%20for%	2

4 Strategy WM 4:
Increase beneficial use of landfill gas by 2030.

	Actions	Implementation Phase
WM-4-1	Conduct a Waste-to-Energy Analysis to identify non-combustion waste-to-energy options and potentials at wastewater treatment, solid waste transfer, landfill facilities, and at private industrial businesses within the community. Analysis should identify pilot project(s) and an implementation schedule.	1

Waste Management

Planned Waste Management GHG Emission Reductions

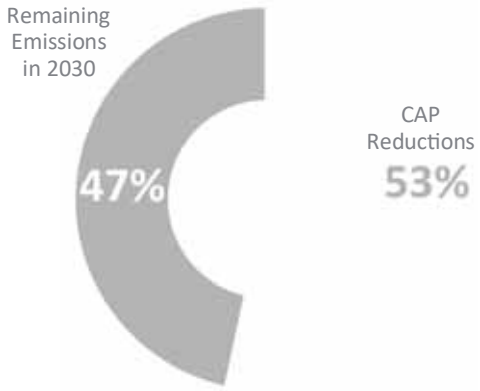
Planned Sector Emission Reductions Through 2030

The strategies and actions included in this section of the Climate Action Plan are projected to reduce the City's annual GHG emissions by 16,671 metric tons (MT) by 2030 - a 31.8% reduction over 2019 levels.

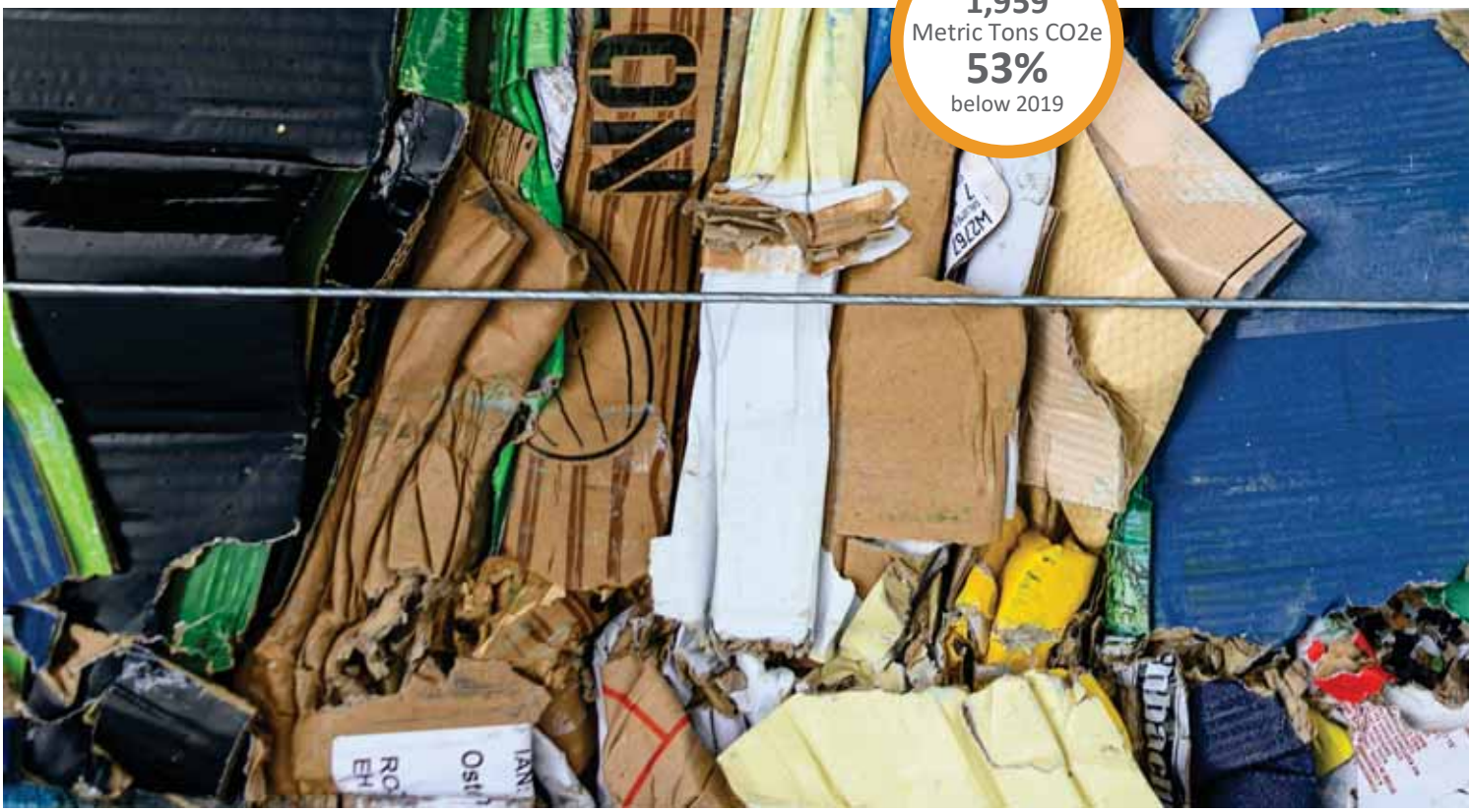
When compared to 2019 emissions, this is equivalent to eliminating **327 million** cubic feet of man-made greenhouse gas atmosphere annually by 2030.

Sector Emissions Reduction below 2019 by 2030

The total change to sector emissions include CAP Plan reductions are:



Albert Lea's Waste Management Carbon Reduction Pathway



What You Can Do

You can support the goals of the Waste Management section of the Albert Lea Climate Action Plan as an individual, household, or a business. Here are just a few things you can do:

- How much of your waste can you divert to recycling? Challenge yourself and your household to increase your recycling. Make sure to rinse and dry your recyclables; dirty materials contaminate the process and have to be landfilled.
- Carry groceries and other purchases in reusable bags. Remember to bring your bags to the grocery store, farmer's market, and when you go retail shopping.
- Give up single-use plastics by switching to sturdy, reusable items like metal/hard plastic water bottles, cutlery, & to-go containers.
- Choose items with no packaging, minimal packaging, or packaging that is compostable or completely recyclable.
- Give unused clothes and household items (in good condition) to a local nonprofit, neighbor or friend.
- Shop local second-hand and vintage stores.
- Create a composting bin and routine.
- Challenge yourself and your household to eliminate your food waste. Minimize your food waste by first eating what you already have in your fridge. Meal planning and making grocery lists can also reduce your food waste. https://www.epa.gov/recycle/reducing-wasted-food-home.