



SOLID WASTE

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Solid Waste



In 2000, the City of Benicia and the community generated approximately 60,000 tons of solid waste. Sixty percent of the solid waste was diverted from the local landfill through recycling and composting programs. The remaining solid waste was transported to a landfill resulting in 23,650 tones of carbon dioxide equivalent (CO₂EMT).

As solid waste decomposes in landfills, methane is released into the atmosphere. Methane has a global warming potential 21 times that of carbon dioxide.³³ At Keller Canyon landfill, the primary facility used to process and store Benicia’s solid waste, the methane released from decomposing waste is captured and used to produce energy. The energy is then sold to energy providers.

Two primary ways to reduce emissions associated with solid waste are reducing the amount of waste transported to the landfill and improving the efficiency of transporting the waste. Public education programs and enforcement measures can help achieve waste reduction and diversion goals.

Adaptation

Rising temperatures resulting from climate change may affect solid waste emissions through an increased generation rate of methane in landfills. For Benicia, this effect should be minimized by Keller Canyon’s methane capturing system. The projected scarcity of crude oil has the potential to influence the costs and emissions associated with the transport of waste materials (See Transportation and Land Use).

WASTE REDUCTION AND DIVERSION

Strategies to decrease waste production and increase waste diversion include regulating waste production, providing composting and recycling programs, and creating education and outreach campaigns.

Allied Waste Services currently implements a tiered pricing system that adjusts the cost of trash cans based on size. As an incentive, recycling is provided at minimal cost to residents.

Co-Benefits of Solid Waste Objectives

- Reduced City spending
- Improved air quality
- Increased social networking within the community

Solid Waste Objective Table	Emissions Reduction Type	Emissions Reduction
Objective SW-1: Commit to a Waste Diversion Goal of 90% for City Government Operations	City	
Objective SW-2: Commit to a Waste Diversion Goal of 75% for the Community	Community	

³³) US EPA, Estimating National Landfill Methane Emissions, (2006). (<http://www.epa.gov/ttn/chief/conference/ei16/session3/weitz.pdf>)

Objective SW-1: Commit to a Waste Diversion Goal of 90% for City Government Operations



Existing Actions

The City of Benicia encourages community members to reduce solid waste by promoting composting, recycling and reuse programs. The Parks and Community Services Department has implemented a ‘Waste in Place’ program that distributes grass clippings from the maintenance of parks as fertilizer.

The City’s waste service provider, Allied Waste Services, provides free cardboard recycling at the City’s corporation yard. The City has also partnered with various businesses to provide e-waste drop-off locations.

◆ Strategy SW-1.1. Limit City Spending on Bottled Water

Limiting City spending on bottled water to necessary fire safety operations will reduce the City’s solid waste consumption and will demonstrate community-wide leadership, while, reducing overhead.

Implementation Action

- Adopt a policy to limit City Government spending on bottled water to necessary safety operations.

CO2EMT Reduction Range

- Unknown reductions.

Did you know?	
	Eight out of ten water bottles in the United States end up in a landfill.
	Bottled water can cost anywhere from 25 cents to two dollars while water from the tap costs around one cent for 16 oz.

◆ Strategy SW-1.2. Establish Education Program for City Staff

Reducing waste generation requires that City staff dispose of all recyclable materials appropriately and make purchasing choices based on the degree to which materials are recyclable and/or reusable.

Implementation Action

- Hold internal workshops and outreach efforts to provide guidance to City departments through the City Green Team.

CO2EMT Reduction Range

- 100% of Objective SW-1.

Objective SW-2: Commit to a Waste Diversion Goal of 75% for the Community



◆ Strategy SW-2.1. Community-Wide Composting Program



Option 1 - Provide do-it-yourself composting bins and training workshops to residents and business owners. Composting can be effectively used at homes and businesses to decrease the amount of biomass sent to landfills.

Option 2 - Curbside Composting Pilot Project – Work with a solid waste collection service provider to establish a curbside composting service as a pilot project.

Implementation Actions

- Educate the community about the benefits associated with composting through brochures and handouts;
- Incorporate composting as a primary element in “waste week.” Establish a do-it-yourself composting bin program with free bins and workshops;
- Contract with solid waste collection service provider to provide curbside composting as a pilot project.

CO2EMT Reduction Range

- Unknown reductions.

◆ Strategy SW-2.2 – Curbside Recycling for Industrial and Commercial Businesses

A standardized curbside recycling program for Benicia businesses would result in a decreased amount of solid waste going to the landfill.

Implementation Actions

- Survey Benicia businesses to determine appropriate level of service;
- Engage solid waste provider(s) to determine most economical solutions;
- Implement curbside recycling program for Benicia businesses.

CO2EMT Reduction Range

- Unknown reductions.

◆ Strategy SW-2.3. Construction and Demolition Recycling Programs



As part of the 2010 California Green Building Standards Code, construction projects will be required to divert 50 percent of construction waste prior to the issuance of a building/demolition permit. Construction generates a large amount of waste that can be sorted, recycled, and diverted from landfills. An online exchange can be established for reusable building materials. Upon completion of a project, contractors can post a list of leftover materials on the website. These materials can be made available to the public.

Implementation Actions

- Require all new construction projects to be accompanied by a recycling plan for the project;
- Design website and outreach materials to distribute information on the program to local contractors.

CO2EMT Reduction Range

- 6%-10% of Objective SW-2.



Construction offers an opportunity to reduce, reuse, and recycle construction materials (2008).

◆ Strategy SW2.4. Waste Audit Program



Create a waste audit program to help enforce and encourage residential and commercial recycling. Audit programs keep the community accountable for their disposal habits by screening dumpsters and trash cans throughout Benicia, issuing written guidance to residents or businesses that incorrectly dispose of recyclables.

Implementation Actions

- Develop and adopt a Waste Audit Program;
- Expand community outreach and education programs relating to the City's recycling program.

CO2EMT Reduction Range

- 57%-60% of Objective SW-2.

◆ Strategy SW-2.5. Feasibility Study for a Waste Reduction Ordinance

Waste reduction ordinances are effective ways for cities to regulate selected waste sources. The proposed ordinance would limit or ban specified prepared food containers, such as styrofoam. Plastic bags have also become a growing concern and could be addressed by such ordinance. The regulation of bags may apply to stores over a specified square footage, ensuring that small businesses would not be unnecessarily burdened.

Implementation Action

- Develop and adopt a Waste Reduction Ordinance.

CO2EMT Reduction Range

- Unknown reductions.

◆ **Strategy SW-2.6 Universal Colors and Labeling for all Trash Receptacles**



Adopt a citywide color code and labeling system for trash receptacles to maintain regional consistency and reduce customer confusion. Common colors used are blue or grey for recyclables; black for trash; and, green for compostables, including yard waste.

Implementation Action

- Adopt and implement a new standardized color scheme for waste receptacles by incorporating such measures into future solid waste collection contracts.

CO₂EMT Reduction Range

- 36%-40% of Objective SW-2.