



Demonstrating the Climate, Financial, and Diversion Benefits of Zero Waste

A New Calculator for California Businesses

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There are dozens of calculators out there – why another?

U.S. ENVIRONMENTAL PROTECTION AGENCY

Climate Change - Waste

Waste Reduction Model (WARM)

NEW VERSION! (Updated November 2009)

(Version 10, 11/09)

EPA created WARM to help solid waste planners and organizations track and evaluate their greenhouse gas emissions reductions and energy savings from several different waste management practices. WARM Online was last updated November 2009.

Use this worksheet to describe the baseline and alternative (WARM) management scenarios that you will follow. The steps below to enter site material management information in the input boxes in the table below. Landfill and waste transport characteristics. For information on the definition of each of the WARM input data source and year of underlying life-cycle data, please see the [WARM Input Data Source List](#).

Notes:

- If the total material is not generated in your community/organization or you do not want to enter 0.
- Make sure that the total quantity generated equals the total quantity managed.
- If you have any questions, consult the [WARM User's Guide](#).

Steps 1 and 2. Baseline and Alternative Scenarios

Material	Baseline Scenario			Alternative Scenario		
	Tons Recycled	Tons Landfilled	Tons Incinerated	Tons Recycled	Tons Landfilled	Tons Incinerated
Aluminum Cans			N/A			0
Steel Cans			N/A			0
Copper Wire			N/A			0
Glass			N/A			0
HDPE			N/A			0
LDPE			N/A			0
PET (packaging)			N/A			0

Reporting Year	Aluminum Cans	Steel Cans	Glass	HDPE	LDPE	PET (packaging)	Other	Total Tons Recycled	Total Tons Landfilled	Total Tons Incinerated	Total Tons Managed
2008	1000	500	200	100	50	100	0	2450	1000	500	3950
2009	1000	500	200	100	50	100	0	2450	1000	500	3950

EPA WasteWise Update

THE MEASURE OF SUCCESS—CALCULATING WASTE REDUCTION

WASTE WISE

NERC | Northeast Recycling Council

Estimating the Environmental Benefits of Source Reduction, Reuse and Recycling

Updated by Northeast Recycling Council, Inc. (NERC) and Abt Associates, Inc. © April 2009

Worksheet 2. Environmental Impacts Estimates of the Environmental Impacts of Recycling in []

The following tables summarize the estimated environmental benefits of source reduction, reuse and recycling and provide comparison figures to put these estimates in context.

Date of Calculator Analysis: January 6, 1900

Table 1. Materials Management Overview

Reporting Year	Tons Recycled (g)	Tons Source Reduced/Reused (g)	Tons Landfilled (g)	Tons Incinerated/Waste To Energy (g)	Total Tons Disposed (g)
Aluminum Cans	0.00	0.00	0.00	0.00	0.00
Steel Cans	0.00	0.00	0.00	0.00	0.00
Glass	0.00	0.00	0.00	0.00	0.00
HDPE	0.00	0.00	0.00	0.00	0.00
LDPE	0.00	0.00	0.00	0.00	0.00

NOTE: If you have trouble with label formatting, see instructions

Material Used Converter

Material Used Converter

Material Used Converter

Material Used Converter



California's Commercial Climate Calculator

Motivation & Goals

- AB32 requires commercial and multi-family sector recycling
- CalRecycle provides an easy-to-use calculator to show benefits of waste reduction and diversion:



Dollars saved

Tons of resources returned
to the economy



Greenhouse gas emissions reduced



Developing the Calculator

Process & Considerations

- Existing calculator research
- Stakeholder engagement
 - 20 initial phone interviews
 - 12 first-round beta tests
 - 9 second-round beta tests
 - 30 additional feedback reports
- Inter-agency collaboration
 - ARB and UC Berkeley: COOLCalifornia



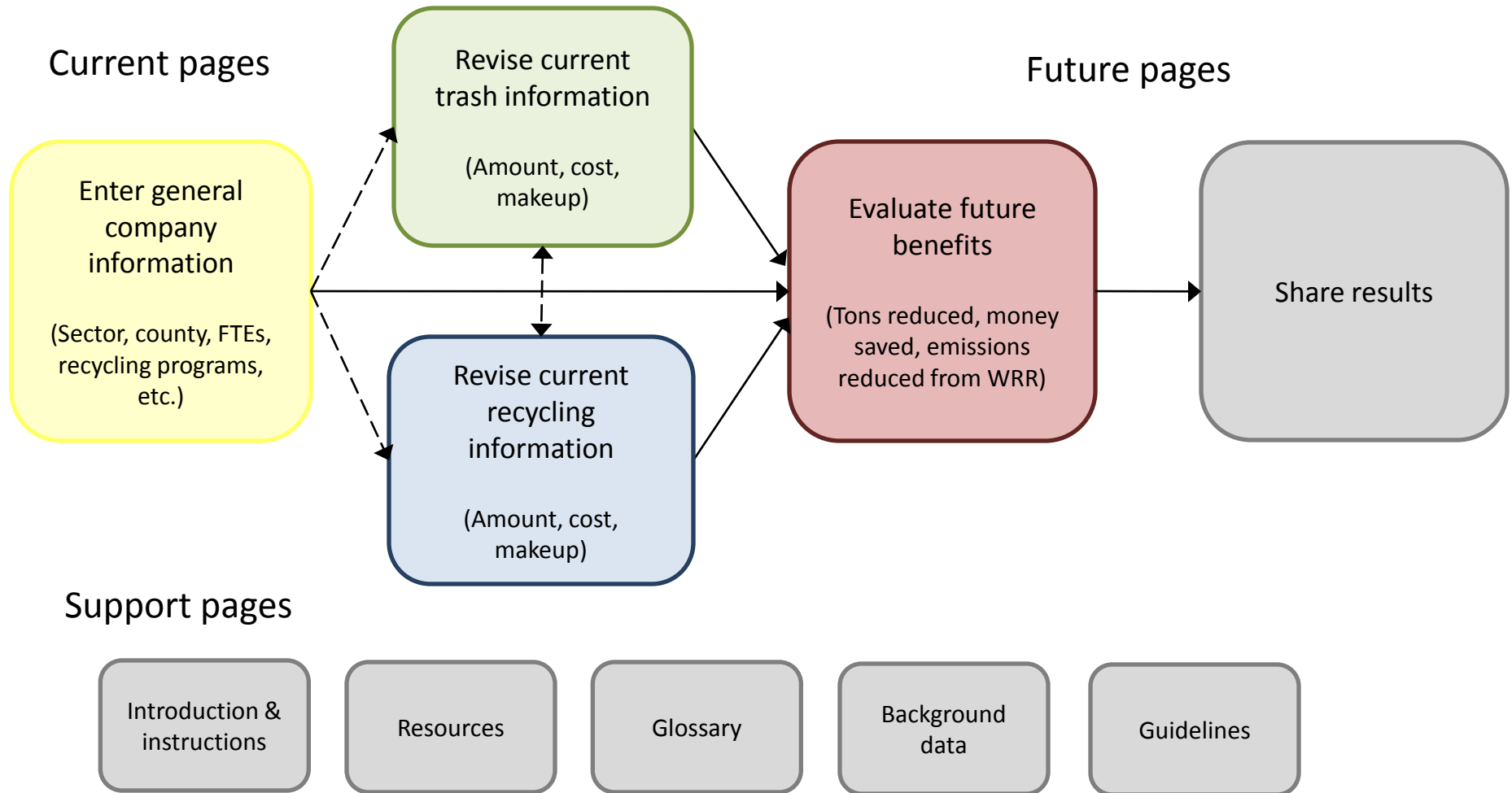
Calculator Basics

Features & Data

- Unique features
 - Flexibility
 - Users
 - Data inputs
 - Transparency
 - One-stop calculator
 - Tons, cost, GHG
 - Resources, case studies
 - CA and regionally specific
- Default data sources
 - CA waste studies
 - Sector-specific
 - Quantity and composition
 - Statewide cost study
 - WARM+CARB research

Calculator Overview

User Steps



Case Studies

Real-world Examples

- Sector: Distribution Center
- Location: Irvine (Orange County)
- Employees: 64 FTEs
- Recycling Program: Cardboard only
- Access to information: None
- Results (annual):
 - Trash: 141 tons and \$21,000
 - Recycling: 10 tons and \$429
 - Benefits:
 - \$700 avoided disposal
 - 33MT CO₂e
 - 6% recycling rate



Case Studies

Real-world Examples

- Sector: Multi-family
- Location: Walnut Creek (Contra Costa County)
- Units: 12 MF Units
- Recycling Program: None
- Access to information:
 - Has trash information only
 - 1, 2 cubic yard container, 100% full, 2 pickups/week
- Results (annual):
 - Trash: 18 tons and \$7,000



Lessons Learned

- Upfront research pays off
- Calculator meets needs of a wide range of users
- Future opportunities exist for integrating new source data
- Collaboration with other agencies is essential



Thanks!

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