

Best Practices

This page features **methods or techniques** found to be the most effective and practical means in achieving an objective (such as preventing or minimizing pollution) while making the optimum use of the firm's resources. Please visit the [National Recycling Coalition's Library](#) to view a comprehensive list of Best Practices resources.

NRC Library Categories

[Waste Reduction / Reuse](#)

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[Economics and Finance](#)

[Job Creation](#)

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Advocacy

General Advocacy Work

[Federal Trade Commission Environmental Marketing Guidance](#)

The FTC publishes guidelines about environmental marketing claims that manufacturers and consumers can use. The FTC maintains legal resources including over 80 cases. Complaints can also be filed at the Commission's [website](#)

[Responses to Attacks on Recycling](#)

Released by the National Recycling Coalition in response to John Tierney's New York Times editorials.

[Boycotts and Procotts for Zero Waste](#)

Presentation to the 2015 US Zero Waste Business Council conference. Includes examples of strategies and tactics.

[Global Recycler's Network](#)

The Global Alliance of Waste Pickers is a networking process supported by WIEGO, among thousands of waste picker organizations with groups in more than 28 countries covering mainly Latin America, Asia and Africa.

[Research to Inform Recycling in the Workplace, Research to Inform Improved Recycling, Behavior-Change Effectiveness Study, A Guide to Workplace Composting](#)

Keep America Beautiful emphasizes three guiding factors in its work in order to get

people to understand the many benefits of recycling: convenience, communication, and cause

[Does Recycling Actually Make A Difference?](#)

This article discusses why we recycle, how recycling actually works, issues with the recycling process, and the net benefit of recycling.

[Is Zero-Waste achievable?](#)

This article discusses the potential for individuals to reduce their waste using specific listed steps.

[“Designing for Zero Waste: Consumption, Technologies and the Built Environment”](#)

This book explores an interdisciplinary approach to ameliorating material and resource depletion around the world. The authors demonstrate how resource recovery and the optimization of material flow can only be achieved through intentional behavioral change. They claim that behavior change will reduce the creation of material waste and wasteful consumption. This book aims to develop a greater understanding of the links between lifestyle, consumption, technologies, and the urban environment.

Campaigns

[Be Straw Free Campaign](#)

This campaign was created in order to educate the environmental impact that straws impose. This campaign began in 2011 by a 9 year old named Milo Cress.

[Take Back the Tap Campaign](#)

A CU Boulder initiative in order to reduce the amount of disposable water bottles on campus.

[Waste-pickers Campaign](#)

Wastepickers are workers in an informal economy who recover recyclables. This 2009 declaration highlights their struggles.

Batteries

[Battery Toolkit](#)

This waste prevention toolkit provides an overview of the most common types of consumer batteries and strategies for environmentally preferable battery purchasing and recycling.

[Colorado Batteries and Electronics Recycling and Disposal Guide for Households](#)

EHSO lists locations where you can recycle batteries or electronics in Colorado. It also provides a chart with battery types and how to properly dispose of each one.

[Household Batteries](#)

The mission of the Colorado Department of Public Health & Environment is to protect and improve the health and quality of life of Coloradans by providing information related to alkaline, rechargeable and automotive batteries.

[A-Z Recycling Guide – Batteries](#)

This is a list of local organizations who accept and recycle used batteries.

[Battery Solutions: Recycling Service](#)

This is a resource that allows you to recycle any type of battery anywhere in North America. The company will give you a customized solution based on your needs.

[Environmental Problems That Batteries Cause](#)

An explanation for how batteries can cause damage to our environment when disposed of improperly.

[“Potential Environmental and Human Health Impacts of Rechargeable Lithium Batteries in Electronic Waste”](#)

This article discusses how rechargeable lithium batteries, such as those in cell-phones, have an adverse effect on the environment and human health due to improper disposal methods. It advocates for local, national, and international governments to introduce new policies that encourage the proper recovery, recycling, and reuse of lithium battery materials.

Carpet

[“A Framework for Reverse Logistics: the case of Post-Consumer Carpet in the US”](#)

Discusses how the carpet industry in the US uses the waste generated by its products to generate new products.

[Carpet Toolkit](#)

This resource from Earth911 provides information on how to properly recycle carpet materials.

[The Changing Markets Foundation](#)

The Changing Markets Foundation was formed to accelerate and scale up solutions to sustainability challenges by leveraging the power of markets.

[“Developing Market Based Solutions for the Recycling & Reuse of Post-Consumer Carpet”](#)

CARE (Carpet America Recovery Effort) is a non-profit organization that aims to “advance market-based solutions that increase landfill diversion and recycling of post-consumer carpet” and to “encourage design for recyclability”. CARE’s website includes a map of local carpet reclamation centers and a helpful fact sheet on carpet recycling.

[A-Z Recycling Guide: Carpet](#)

This is a list of local organizations who accept and recycle carpets.

[Recycling Directory](#)

This is a compiled list of local organizations and businesses that recycle carpets in the Denver area. "We have created an easy to use directory to help residents of the City and County of Denver learn where to recycle, compost, or dispose of various materials in Denver. Please note that while some of the drop-off centers may accept large quantities of materials, this information is intended primarily to facilitate the recycling of materials generated by households."

[Interface Sustainable Flooring Company](#)

Interface is a sustainable commercial flooring company that is committed to producing their carpets sustainably. In their initiative to produce carbon neutral floors, Interface has offset 4.3 million tons of CO2 since 2002. Their other achievements include reducing greenhouse gas emissions in their manufacturing process by 96% and reducing their carbon footprint by over 60% - the lowest in the industry.

[How To Remove Old Carpet](#)

This resource provides DIY instructions on how to dispose of carpets responsibly. It also contains links for professional carpet removal options.

["A Framework for Reverse Logistics: the case of Post-Consumer Carpet in the US"](#)

This article discusses how the carpet industry in the US uses the waste generated by its products to generate new products.

Climate Change

[Do Energy Efficiency Strategies Outperform Recycling in GHG Mitigation and Job Creation?](#)

This paper challenges the apparent hierarchy for GHG sources and shines compelling light on the currently undervalued role waste reduction, reuse, recycling and other sustainable materials management (SMM) efforts have at cost-effectively reducing greenhouse gas and carbon build-up. In this article, Dr. Lisa Skumatz, Colorado-based subject matter expert, cites work by EPA showing "provision of goods and materials" – that largely end up as solid waste- are among the most important contributors to GHG.

[Stop Trashing the Climate](#)

Institute for Local Self-Reliance, 2008

Highlights the connections between Zero Waste and climate change

[Climate Change Research](#)

US EPA Climate Change Website

New and expanded information, including statistics, on:

- reducing GHGs through materials management
- measuring greenhouse gas emissions from waste (WARM)
- state climate action plans

[U.S. Environmental Protection Agency, Greenhouse Gas Emissions From Management of Selected Materials in Municipal Solid Waste](#)

U.S. Environmental Protection Agency, 1998 [EPA530-R- 98-013]

[Global Climate Change](#)

NASA takes a scientific perspective to highlight the importance of Climate Change through evidence, causes, effects, vital signs, etc.

[Climate change: 11 policy ideas to protect the planet in 2019](#)

Last year's report from the Intergovernmental Panel on Climate Change sounded the alarm: The world has until 2030 to implement "rapid and far-reaching" changes to our energy, infrastructure and industrial systems to avoid 2 degrees Celsius of warming, which could be catastrophic. But the scale of the challenge can appear so overwhelming that it's hard to know where to start. The Post asked activists, politicians and researchers for climate policy ideas that offer hope.

[From Waste to Wonder: Using Compost to Restore Carbon to Soil](#)

Discusses how composting can mitigate climate change by capturing carbon and restoring it to soil. Explains how applying compost to grasslands can reduce greenhouse gas emissions and efficiently dispose of organic waste. Provides results from a study conducted by the Marin Carbon Project in California.

[Contribution of native forests to climate change mitigation – A common approach to carbon accounting that aligns results from environmental-economic accounting with rules for emissions reduction](#)

Discusses how forests help significantly reduce carbon emissions, as trees take in carbon and in turn provide oxygen. "Using environmental-economic accounts helped identify policy and market instruments required to value ecosystem services of carbon storage and sequestration by applying a potential market price for carbon."

[The Intergovernmental Panel on Climate Change](#)

The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change.

College and University Resources

[Paper Steps on Campus: Nine Steps to Protecting the Climate and Reducing Waste through Campus Policies.](#)

Environmental paper Network, 2012

49 page report on the need for recovering the majority of used office paper for efficient and effective recycling, reducing the overall consumption of paper and paper products,

and purchasing the highest content recycled paper.
Good number of campus/institutional case studies. Excellent Resources section.

Compost

[Beyond Recycling: Composting](#)

Center for a Competitive Waste Industry, 2010

110 page consultant report to the US EPA, Region 9. Examined data from 120 US and Canadian residential composting programs

[Food Scrap Composting](#)

US Composting Council, 2014

[Using Compostable Plastics to Enhance Food Scraps Collection](#)

2015 webinar designed to help you understand the role of Compostable Plastics and provide you with some resources to assist planning or expanding your diversion program.

Construction and Demolition

[Construction & Demolition](#)

This fact sheet describes strategies to reduce waste and prevent pollution generated during building construction, renovation, and demolition.

Design

[Building Standards for Waste Reduction and Recycling](#)

University of Colorado, 2005

CU has been actively pursuing "Built in Recycling" or "designing for recycling" in remodeling and construction projects on campus. CU Recycling developed a list of ideas to help planners.

[The Association for the Advancement of Sustainability in Higher Education](#)

The Association for the Advancement of Sustainability in Higher Education (AASHE), works to integrate students with higher education faculty, administrators, and staff in various institutions to facilitate sustainable changes that tackle issues with the environment. The organization's activities are designed to make institutions that work in higher education make more sustainable choices and practices a common practice in the future. AASHE then formed STARS so that colleges and universities can get distinct ratings on how sustainable their institution is so that college campuses continue making changes for the better.

[The Sustainability Tracking Assessment and Rating System](#)

The Sustainability Tracking Assessment and Rating System (STARS) framework is catered specifically for universities to measure their sustainability performance on campus. STARS rates colleges around four categories: Academics, Engagement,

Operations, and Planning and Administration. STARS is a program of The Association for the Advancement of Sustainability in Higher Education or AASHE.

[The American Society of Heating, Refrigerating and Air-Conditioning Engineers](#)

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) is committed to developing a healthier society and environment, it focuses on energy efficiency, indoor air quality, and building systems through furthering research, standards, and education.

[The American Institute of Architects](#)

The American Institute of Architects (AIA) was founded in 1857 by 13 architects, and is now 90,000 members strong and works to give architects the chances to make change through various forms of design culminating in a safe, efficient, ethical, sustainable, infrastructure for tomorrow. The AIA recently released a huge paper called “Zero Waste Design Guidelines” which outlines our current waste crisis, and how to design buildings so that waste processes are more streamlined and efficient.

[The United States Green Building Council](#)

Rick Fedrizzi, David Gottfried and Mike Italiano established USGBC in 1993 to integrate sustainable building design into the industry. Around 60 firms and several nonprofits gathered in the American Institute of Architects’ boardroom in which ideas and collaboration formed a platform that could span the entire building industry and rate them based off of sustainability and thus, LEED was born. USGBC now promotes and educates communities and professionals on LEEDs certification, to help create as many green buildings as possible, to create a more effective and sustainable infrastructure for the future. The USGBC also has a Center for Green Schools which works communities, school decision makers, and policy leaders to educate the public and private sectors on sustainability in the built environment.

[Leadership in Energy and Environmental Design](#)

Leadership in Energy and Environmental Design (LEED) is a certification program promoted by the United States Green Building Council, which hopes to rate and certify all sorts of different kinds of infrastructure based off of various sustainability metrics that would apply to that specific site. Schools, businesses, recreation centers, and many more kinds of buildings are encapsulated in the rating system of LEED.

Eco-Industrial Parks

[Eco-Industrial Parks](#)

Article, Gary Liss and Associates
Gives basic introduction and resources.

Economics and Finance

[U.S. Recycling Economic Information \(REI\) Study](#)

US EPA, 2002

National study that demonstrates the importance of recycling and reuse to the U.S. economy

[Building Financially Sustainable Recycling Programs: Technical Report for PA Local Governments](#)

RW Beck, 2005

Examined recycling program funding and management practices on the national level, surveyed Pennsylvania programs, and reported on building more financially sustainable local recycling programs.

Excellent section on Practical Steps for Moving Recycling Forward

[A Financing Guide for Recycling Businesses: Investment Forums, Meetings and Networks](#)

US EPA, National Recycling Coalition (NRC), 1996

This 37 page report was commissioned by the Recycling Advisory Council of the National Recycling Coalition (NRC), sponsored by the United States Environmental Protection Agency (EPA) and prepared by KirkWorks. USEPA 1996

Though fairly dated, it still provides useful information for financing options for private sector recyclers

Electronics

[Calling All Cell Phones: Collection, Reuse and Recycling Programs in the US](#)

Eric Most

(2003, 48 pp.,)

The follow-up to Waste in the Wireless World: The Challenge of Cell Phones, this report addresses four key programs now under way in the US to collect, refurbish, and recycle used cell phones. It describes the methods these programs employ to recover used phones and assesses the effectiveness of such programs as the primary approach for dealing with cell phone waste in the US. Their revenues and expenses and the ultimate destination of refurbished phones sold abroad are also examined. Includes recommendations for increasing collection rates and improving the programs through greater participation and product designs that encourage reuse and recycling.

[Computers](#)

This resource explains how to recycle computers and provides recycling information based on zip code.

[Waste in the Wireless World: The Challenge of Cell Phones](#)

Bette K. Fishbein

(2002, 109 pp.), ISBN 0-918780-78-0

This report examines the waste issues posed by cell phones and other wireless electronic devices: the growing numbers of these products that are purchased and

discarded and the many toxic substances they contain. Also examines government policies and corporate initiatives addressing the end-of-life management of electronic products in the US and abroad and presents a series of specific recommendations for minimizing the environmental and health impacts of this rapidly growing waste stream.

Wireless Waste - The Challenge of Cell Phone and Battery Recycling

Aarthi Rayapura

(2005, 24 pp.,)

In 1994, the Rechargeable Battery Recycling Corporation (RBRC), a non-profit organization was set up by the rechargeable power industry to take back used rechargeable batteries and recycle them. In March 2004, RBRC expanded the program to include cell phone recycling (Call 2 Recycle). According to RBRC, more than 30,000 stores in the country participate in their recycling program and consumers can drop off used batteries and cell phones at these locations for recycling.

INFORM conducted a survey in October 2004 to verify the program's reach and implementation. The survey was not meant to be comprehensive in nature but was intended to provide a snapshot of the program in 5 cities in New York and New Jersey.

Events

Game Changers Report

(NRDC Report 2012, How the Sports Industry is Saving the Environment)

The professional sports industry includes some of the world's most iconic, inspirational and influential organizations. In a cultural shift of historic proportions, the sports industry is now using its influence to advance ecological stewardship. North America's professional leagues, teams, and venues have collectively saved millions of dollars by shifting to more efficient, healthy and ecologically intelligent operations. At the same time, the sports greening movement has brought important environmental messages to millions of fans worldwide. Sport is a great unifier, transcending political, cultural, religious and socioeconomic barriers. It also wields a uniquely powerful influence, both cultural and economic, that provides much-needed leadership in sustainable practices and, in so doing, promotes a non-political public commitment to environmental protection.

Extended Producer Responsibility (EPR)

Extended Producer Responsibility: A Materials Policy for the 21st Century

Bette Fishbein (INFORM), John Ehrenfeld (MIT), and John Young (Materials Efficiency Project)

(2000, 290 pp.,) ISBN 0-918780-73-X

Addresses materials use and its environmental impacts worldwide; EPR policies and programs in the United States; e-commerce and its potential environmental impacts and implications for EPR; and the corporation's role in implementing EPR and related policies. Prepared on the occasion of Expo 2000, the international exposition held in

Hanover, Germany, from June to October 31, 2000, the report's findings were presented by its authors at the Berlin Resources Summit preceding the exposition.

[Primer for Producer Responsibility](#)

This primer provides definitions pertaining to products and producer responsibility. In this primer, the Product Stewardship Institute offers information on the following products: Carpet, Electronics, Fluorescent Lighting, Gas Cylinders, Medical sharps, Mercury products, Paint, Pesticides, Pharmaceuticals, Phone books, Radioactive devices, Thermostats, and Tires.

Food Service

[Foodservice Packaging](#)

The Foodservice Packaging Institute prepared an online toolkit with free resources for recycling and recovering cups, containers, boxes, bags and other foodservice packaging.

Legislation and Policy

[Raymond Communications Bulletin](#)

A free and fee-based subscription service of recent waste, recycling and environmental developments from around the globe.

Outreach and Education

[Community-Based Social Marketing](#)

Doug McKenzie-Mohr, Ph.D. 1999

Seven page reference guide with access to larger work on Community-Based Social Marketing. Community-based social marketing is based upon research in the social sciences that demonstrates that behavior change is most effectively achieved through initiatives delivered at the community level which focus on removing barriers to an activity while simultaneously enhancing the activities benefits.

Reuse

[Case Reopened: Reassessing Refillable Bottles \(Executive Summary\)](#)

(Research/Waste Prevention)

Establishing government procurement guidelines that require or give preference to refillables
Setting two-tier quantity-based user fees (QBUFs) for collection of recyclable materials

Waste Reduction

[The Measure of Success: Calculating Waste Reduction](#)

US EPA, 1999

This Wastewise Update provides step-by-step instructions on how to establish or

improve measurement systems and explains a variety of options requiring different levels of effort and expense.

[Business Guide to Paper Reduction: A Step-by-Step Plan to Save Money by Saving Paper](#)

Forest Ethics, 2002

27 page guide including case studies of Including Case Studies of Bank of America, AT&T, Nike. Shows significant potential for a successful paper reduction campaign.

[Making Less Garbage on Campus: A Hands-On Guide](#)

David Saphire (1995, 72 pp.,) ISSN 1050-8953, Vol 4., No 2

College campuses offer abundant opportunities for waste prevention. Here are case studies of campuses that have learned to prevent waste in a variety of innovative ways. Includes checklists for action.

[Delivering the Goods: Benefits of Reusable Shipping Containers](#)

David Saphire (1995, 32 pp.,) ISSN 1050-8953, Vol 3., No 1

Describes how reusing shipping containers can curtail packaging waste, offering environmental and economic benefits. Discusses institutional obstacles to more widespread use and options for overcoming them.

[Getting an "A" at Lunch: Smart Strategies to Reduce Waste in Campus Dining](#)

David Saphire (1998, 26 pp.,) ISBN 0-918780-69-1

Describes simple steps to prevent the millions of pounds of food and food-related waste generated each day at colleges and universities. Provides case studies of campuses around the country where using products more efficiently, using them longer, and using them over and over again has reduced purchasing and operational costs while helping the environment. Developed and implemented by students, faculty, and staff, the strategies are applicable to the full range of campus food service arrangements, from traditional dining halls through cafeterias and fast-food takeout operations.

[Waste at Work: Prevention Strategies for the Bottom Line](#)

John Winter and Anne Marie Alonso (1999, 105 pp.,), ISBN 0-918780-71-3

Describes the myriad ways in which businesses (and also government agencies) can reduce their purchasing, labor, and waste disposal costs through straightforward changes in procurement and workplace operations. Provides waste prevention strategies for all the work areas of the typical business: offices, shipping and receiving, food services, facilities, and purchasing. Also provides guidance on adapting a company's purchasing policy and documents to encourage procurement of products that help prevent or reduce waste.

Zero Waste

Global Principles for Zero Waste Communities

Zero Waste International Alliance, 2005

Adopted by ZWIA to help guide communities to implement Zero Waste correctly.

Market-based Zero-Waste Strategic Plan: Where the economy works with the environment

Sunshine Coastal Environmental Sustainability Society, L. Maingon (MA., PH.D., MSc R.P. Bio) Technical Advisor, 2010

13 page report on a strategy following 14 basic sequential step strategy developed at ZWIA (Zero Waste International Alliance).

Zero Waste Business Principles

Zero Waste International Alliance, 2005

Original definition of Zero Waste and principles to help guide and evaluate current and future Zero Waste policies and programs established by businesses

Zero Waste Business Case Studies

Business case studies on approaching Zero Waste.

Resourceful Communities

The Zero Waste Network is an organization representing Community Enterprises focused on Zero Waste with members from Kaitaia to Bluff.

Zero Emissions Research and Initiatives

Zero Emissions Research and Institute

A guide which helped train businesses in Japan to achieve Zero Waste

Zero Waste Plans

Austin, Texas

Consistent with its goal to make Austin the most livable city in the country, the Austin City Council adopted Resolution No. 20050519-44 in May 2005 supporting the United Nations Environmental Accord and committed the City to achieving a 20 percent reduction in per capita solid waste disposal to landfills and incinerators by 2012, and Zero Waste to landfills and incinerators by 2040. Zero Waste is an ambitious goal to divert 90% of waste from landfills and incinerators by 2040 using a “whole system” approach to evaluate and manage the flow of resources and waste created by our communities.

Boulder, Colorado

The goal of the county’s “Zero Waste Resolution” is a 50-percent or better reduction in Boulder County waste by 2010 and a threshold of Zero Waste “or darn near” by 2025. A copy of the resolution is included in the Appendix to this plan and is also available for review [here](#). As of 2009, the County had an estimated diversion rate of about 35 percent through reuse, recycling, and composting programs. The 35-percent diversion

level is short of the 50-percent target, although Boulder County government and some businesses achieved the 2010 diversion goal ahead of schedule.

Hawai'i

Resource management in the County of Hawai'i is in transition, with both positive momentum from plans to implement programs that benefit residents, the environment and economy, and a multitude of challenges to contend with as well. While the County is moving towards increased diversion of discarded materials, focusing on recycling and composting, 70% of what is currently generated continues to be landfilled, and it is this material that will provide resources, revenue and jobs required to support the island's sustainability. The State of Hawai'i's HI5 program, the planned conversion or expansion of the island's twenty-one transfer stations into resource recovery areas, and efforts by County staff, elected officials, local businesses and residents, are all collective assets to resource management on Hawai'i.

New York City, NY

The New York City Zero Waste Campaign was first conceived at the 2nd National People of Color Environmental Leadership Summit in October of 2002, where City activists were confronted with the ongoing concerns of other Environmental Justice communities that would continue to be burdened with the high volume of waste being exported from NYC. As a result of discussion with various activists in the City and elsewhere, a diverse group of environmental, social justice and neighborhood organizations came together to begin the process of planning for Zero Waste in NYC. A series of principles were initially drafted to serve as a basis for the entire plan. It is the Campaign's intent to expand discussions about the Zero Waste goal and to gain broad support for the detailed plan.

Seattle Zero Waste Plan

The City of Seattle (City) has long been a national environmental leader. Seattle Public Utilities (SPU) developed and implemented a variety of programs designed to reduce waste, recycle, and dispose of residuals in an environmentally responsible manner. The City set a goal for its residents to divert 60% of its waste from landfill disposal. In November 2006, Seattle selected the consultant team of URS Corporation (URS), Herrera Environmental Consultants (Herrera), and Norton-Arnold & Company (NA) to perform a Zero Waste Study. The study addressed three major facets of the solid waste management program: Zero Waste principles and product stewardship; collection of waste and recyclables; and existing/proposed solid waste facilities.

Telluride, Colorado

Gary Liss & Associates (GLA) wrote this Plan, with funding provided by the Town of Mountain Village and The New Community Coalition. GLA would like to acknowledge the leadership of Kris Holstrom and The New Community Coalition, who recognized the need for this Plan. Kris made all the arrangements to engage our firm, showed us all the existing facilities and services for solid waste, reuse and recycling in the area, and convened meetings with Town Councils of both Telluride and Mountain Village and with

the community and stakeholders in the area. Through this extensive engagement process in February 2008, GLA obtained the information needed to develop this Plan. In addition, GLA obtained significant information from the San Miguel County Sustainability Inventory Prepared by ICLEI (Local Governments for Sustainability U.S.A.) in 2006.