

# REUSABLE NEWS



## Climate Change and Waste Linkages Abound

**S**ustainability—this is the watchword of the 21st Century. By managing resources and waste materials with the goal of sustainability in mind, cities and businesses across the United States and around the world can reduce greenhouse gas (GHG) emissions. This link between climate change and waste management is highlighted by numerous initiatives to manage waste materials more effectively.

The United States is a world leader in manufacturing, production, and also consumption. But companies and citizens, spurred on by public opinion and economics, are using innovative approaches to protect the climate by reducing GHG emissions. And despite the profound shift in international attention and priorities since September 11, companies and cities are still meeting waste management challenges and looking for ways to use resources more sustainably.

The goal of resource sustainability is to adopt strategies and activities that meet the society's needs while protecting, sustaining, and enhancing the human and natural resources that future generations will need to enjoy a quality of life equal to or greater than what citizens have today.

Waste reduction strategies directly fight climate changes

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## WasteWise Partners with Climate Neutral To Reduce Greenhouse Gases

**T**o reduce or offset the greenhouse gas (GHG) emissions associated with a variety of products and services, the non-profit Climate Neutral Network is working with companies to develop innovative and environmentally friendly products, services, and partnerships. The U.S. Environmental Protection Agency (EPA) works with the Climate Neutral Network through its WasteWise program to develop and promote programs that fight the negative impacts of climate change.

The network's "climate neutral concept" aims to eliminate GHG emissions at each stage of the life cycle of a product or service. Then, the network helps companies bring

these innovations to market. The Climate Neutral Network works with leading environmental groups, like EPA, the Natural Resources Defense Council, the Nature Conservancy, and the Rocky Mountain Institute, so it can learn from their experience and expertise.

A variety of companies and organizations—including The Body Shop, the Earth Day Network, and Sunoco—currently participate in the Climate Neutral Network. These and other companies interested in the climate neutral concept can access a variety of services through the network, such as:

- **Technical Assistance.** The network helps companies accurately estimate their GHG

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## Climate Neutral Pioneers

The Climate Neutral Network so far has recognized four companies for their work to reduce greenhouse gas emissions:

- **Interface, Inc.**, a carpet tile manufacturer, received Climate Neutral certification for its new Solenium flooring product.
- The **Saunders Hotel Group** created climate neutral accommodations at The Lenox and The Copley Square hotels in Boston, and at the Comfort Inn and Suites, Boston Airport.
- **Shaklee U.S.**, a consumer products marketer, offset the GHG emissions for their business operations, becoming the first Climate Neutral Enterprise.
- **TripleE Travel**, a travel service provider, offers a "Travel Cool" air travel program, which allows travelers to book airline tickets at a small incremental cost that pays for reducing and offsetting the global warming pollution usually caused by airline travel.

# Cities Pledge To Protect the Climate

The results are in—by practicing a variety of waste prevention, recycling, and landfill gas recovery programs, more than 100 U.S. cities and counties helped prevent 7 million tons of carbon dioxide from being emitted into the atmosphere in 2000. Cities and counties participating in the International Council for Local Environmental Initiatives' (ICLEI) Cities for Climate Protection (CCP) Campaign have agreed to set up greenhouse gas (GHG) emissions reduction plans in exchange for technical and marketing assistance from ICLEI.

“Many waste managers don't make the connection between solid waste reduction programs and climate protection,” said Maria Sanders, ICLEI technical assistance program manager and one of the main organizers of the U.S. CCP Campaign. “But their programs have resulted in some of the biggest reductions in greenhouse gases to date.”

Many CCP participants used ICLEI assistance to create a Climate Wise program that helps local businesses set and meet carbon dioxide emission reduction pledges through waste prevention and recycling activities. San Diego, California's, Climate Wise program helped Microelectronics, Inc., a semiconductor manufacturer, institute recycling programs to divert 95 percent of their manufacturing and packaging waste by 2005, resulting in substantial reductions in energy use and associated carbon dioxide emissions.

A number of cities participating in the CCP Campaign, including Austin, Texas; San Francisco, California; Portland, Oregon; and Boulder, Colorado; run Pay-As-

You-Throw (PAYT) programs, which serve as an incentive to recycling by charging residents based upon the amount of waste they dispose of. The reduction in waste disposed of through PAYT programs plays a part in reducing GHG emissions in these cities.

To further encourage waste reduction activities by CCP participants, the EPA Office of Solid Waste is supporting a new ICLEI initiative called the Waste Challenge. CCP participants taking the Waste Challenge will receive peer matching and additional technical assistance to help them set up progressive waste reduction activities.

For information on joining the CCP Campaign, contact Abby Young, director of the U.S. CCP Campaign, at ICLEI at 510 540-8843.

## Communities Join in Celebrating America Recycles Day

On November 15, 2001, communities across the United States celebrated the 5th Annual America Recycles Day. This year's theme, “America Recycles Day—A Great Time to Renew Our Commitment to Recycling,” joined participants from all 50 states to raise awareness of the benefits of recycling and foster a renewed dedication to recycling efforts.

Using the common threads of resource conservation and envi-

ronmental protection, state environmental coordinators, local officials, schools, businesses, and communities organized events to educate residents about recycling and the numerous consumer products that contain recycled-content material. From displays of recycled-content products to tours of recycling facilities, from art contests to fashion shows, from school assemblies to essay contests, America Recycles Day activities encouraged participants to recommit to recycling.

EPA has been a sponsor of America Recycles Day since it began in 1997 and actively promotes recycling not only as a preferred solid waste management strategy, but also as a useful tool to save energy and reduce greenhouse gas emissions. Typically, making goods from recovered materials uses less energy than manufacturing products from virgin materials. When manufacturers use less energy to make products, they emit fewer greenhouse gases into the atmosphere.

Participants in America Recycles Day activities, as well as visitors to the Web site, could sign a pledge to buy recycled products, recycle more, and support recycling events. The people who signed pledge cards were entered in a drawing to win one of three regional prize packages containing products made from recycled-content materials.

Participation in America Recycles Day has grown from 750,000 people in 37 states in 1997, to 3.3 million people in all 50 states in 2000.

For more information, visit the America Recycles Day Web site at <[www.americarecyclesday.org](http://www.americarecyclesday.org)>.

# Measuring the Energy Benefits of Recycling

EPA has long reported that recycling saves energy, but how much energy does recycling save, exactly? For example, how much energy is saved by recycling newspaper instead of sending it to the landfill? If a community increases its aluminum recycling from 28 percent to 35 percent, what does that mean in terms of energy savings?

To help waste managers begin to answer these questions, EPA recently developed “energy factors” to measure the energy impacts of commonly recycled commodities during their life cycle. The life cycle includes acquisition of raw materials, their manufacture into products, and their ultimate disposal, including the energy associated with collection and transportation. Most of the materials included in this analysis have comparable energy impacts during use and disposal. The energy savings associated with recycling these commodities are thus driven by the energy savings from the raw materials extraction and manufacturing stages. When a recycled product is manufactured, less energy is used than with virgin products, due to reduced manufacturing energy needs and the fact that no new raw materials must be obtained. For example, as illustrated below, recycling aluminum saves significant energy

because of the energy intensive process to extract and process virgin aluminum.

expressed in metric tons of carbon equivalent and million BTUs, respectively. Links to both tools

## Energy Consumed/Avoided from MSW Management Options (Million BTUs/ton)

(Negative values indicate net energy savings.)

Material	Source Reduction	Recycling	Combustion	Landfilling
Newspaper	-30.70	-16.49	-2.83	0.44
PET Plastic	-27.54	-22.20	-3.46	0.53
Glass	-6.58	-2.13	0.08	0.53
Steel cans	-27.56	-19.97	-17.04	0.53
Aluminum cans	-115.55	-184.99	0.12	0.53

Using the energy factors allows a comparison of the energy consumed or avoided when using different waste management scenarios, from recycling to landfilling. Following are the energy impacts, expressed in million British Thermal Units (BTUs) per ton, associated with several of the materials for which EPA calculated energy impacts.

To determine the energy impact of one materials management option over another, subtract the energy consumed by a baseline option from the energy consumed by an alternate scenario. For example, to calculate the energy impact when choosing recycling instead of landfilling, subtract the energy that it takes to landfill each ton of waste from the energy saved from recycling.

The energy factors complement EPA’s Waste Reduction Model (WARM), a tool that calculates the climate change impacts associated with waste. Now, using these new energy factors, a waste manager can calculate both the climate change and energy impacts,

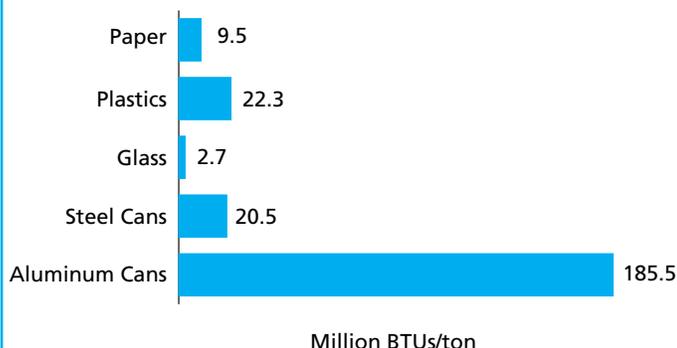
are on the Climate Change Web site, at <[www.epa.gov/global\\_warming/actions/waste/index.html](http://www.epa.gov/global_warming/actions/waste/index.html)>. To find “Energy Impacts of Waste Management,” click on “Reports and Papers.”

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and promote resource sustainability. Making goods from recycled materials takes less energy than making products from virgin materials. When manufacturers use less energy to make products, they emit fewer greenhouse gases. And when products are reused or made with less material, fewer raw materials are extracted, transported, and processed. More efficient manufacturing means consuming less energy, burning fewer fossil fuels, emitting less carbon dioxide into the atmosphere, and generating less waste materials.

The articles in this issue of *Reusable News* highlight steps cities, countries, and corporations are taking to reduce the waste they dispose, thereby decreasing GHG emissions. Cities and corporations are making positive, practical steps toward saving natural resources and protecting the Earth’s atmosphere.

## Energy Savings Per Ton Recycled\* (Million BTUs)



\*Assumes recycled materials would otherwise have been disposed in a landfill.

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emissions and the effects their products have on the environment.

- **Certification.** The network works with companies and organizations to develop a GHG “footprint.” This footprint establishes a comprehensive, clear framework within which GHG emissions can be measured. The footprint is measured differently, depending on the individual nature of the product or service and the manufacturing conditions under which it is made. Network staff helps companies create these “Product Metrics” as part of their consulting services in setting up the

Climate Neutral certification application.

- **Networking.** The Climate Neutral Network helps companies forge alliances with other companies and with public sector and nonprofit groups to help introduce new and improved climate neutral products to the market.
  - **Market Development.** The network operates a trademark and brand to certify products and services and supports companies’ climate neutral product launches through outreach and communications programs.
- Looking ahead, the Climate Neutral Network plans to reach out to key sectors to expand its

services and participants. The network’s relationship with EPA’s WasteWise is intended to help realize this goal.

For more information, contact Sue Hall at the Climate Neutral Network at 503 697-2798, or by e-mail at <suehsea@gorge.net>. Visit the Climate Neutral Network’s Web site at <www.climateneutral.com>.



This issue of **Reusable News** is also available on the Internet. Access this and other EPA publications through the World Wide Web at <[www.epa.gov/epaoswer/non-hw/recycle/reuse.htm](http://www.epa.gov/epaoswer/non-hw/recycle/reuse.htm)>.

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Right now, 5,245 cities across North America use variable rate, or Pay-As-You-Throw (PAYT), programs to collect waste and recyclables. Is your city interested in learning more about the benefits of PAYT collection programs? EPA’s *PAYT Bulletin* educates municipal officials on how to set up a PAYT program and features success stories and case studies from cities that are practicing PAYT. To receive the next issue of the *PAYT Bulletin*, simply visit the PAYT Web site at <[www.epa.gov/payt/tools/subscrib.htm](http://www.epa.gov/payt/tools/subscrib.htm)> and sign up to subscribe!

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