

RALLYING AROUND

REDUCE REUSE RECYCLE

The second of the three Rs sometimes can get short shrift from waste management programs. This is the first of a two-part series detailing best practices on how to promote reuse in municipalities now and into the future. **BY ATHENA LEE BRADLEY AND MARY ANN REMOLADOR**

In materials management, reuse has frequently been ignored or viewed as insignificant. But today, with leaders developing an increased focus on both environmental and economic sustainability, reuse can play a pivotal role in bringing us closer to our stated goals. Reuse conserves resources by extending product life cycles, and it presents the world with exciting and innovative business models that benefit social good.

Reuse is most generally defined as the “use of a product more than once in its same form for the same or similar purpose” – the official definition from regulators in California. More creatively, however, reuse encompasses a host of waste reduction and diversion opportunities.

According to the Reuse Alliance, for example, reuse covers using a product more than once (same or new function), repairing it so it can be used longer, sharing or renting it, or selling or donating it.

Other promoters of reuse have been expanding the scope of what’s included in the concept. One example is *adaptive reuse* – refurbishing an old building into a new purpose.

Terms of the trade

In the following paragraphs, we’ll lay out the terminology that covers the evolving reuse landscape. The broad use of language correlates with the broad thinking being applied to efficiency and

innovation when it comes to this realm of resource management.

Repurposing or *upcycling*, often referred to as *creative reuse*, applies to artisans who turn unwanted items or materials into new products, such as jewelry made from old printed circuit boards or new flooring constructed with old barn boards.

On the rise in recent years is the *sharing economy* or *collaborative consumption*. This trend presents an economic model whereby goods and services are shared, traded, rented or leased. Zipcar, tool lending libraries and carpet leasing are a few examples.

Through *deconstruction*, buildings are dismantled and components, such as wood, fixtures, and brick, are salvaged for reuse and/or recycling. Many deconstruction businesses have formed to support reuse centers or “ReStores” that sell used buildings materials and other items.

Promoting the use of *durables*, such as reusable coffee cups, water bottles and refillable milk jugs, is a familiar way of capturing the essence of reuse.

Freecycling, meanwhile, simply refers to giving away unwanted but still usable items. Craigslist and other exchanges have elevated the old adage “one person’s trash is another’s treasure” to a popular Web-based, revenue-making activity.

Materials or waste exchanges are online resources typically used by businesses to exchange or sell unwanted and surplus items, such as office furniture or chemicals. Sometimes these services are brokered arrangements by a third party, but more commonly the



A toy exchange in Northampton, Mass. serves as an example of reuse connecting community members.

exchange details are agreed to directly by the seller and buyer.

A product is said to be *refurbished* when it has been certified to function properly as is, and/or when it has been repaired so it functions properly. Used electronics, cars and appliances are just a few examples of sectors where this occurs.

Remanufacturing is the process of disassembling, repairing and reassembling an item so that it performs like new. Toner or printer cartridge remanufacturing, for example, replaces the worn out components in order to prolong the life cycle of the remaining components.

Finally, the forgotten skill of *repair* seems to be on the rise again as more communities host “Repair Cafés” or other fix-it events.

High on the hierarchy

Incorporating reuse in a materials management program assists communities in protecting their environment and reducing waste while saving money, creating local jobs and returning products and materials back into the economy. Reuse, while at the top of the materials management hierarchy just below source reduction, seldom receives the attention that recycling does, despite its benefits to society.

Reuse encourages innovative, low cost and local solutions to waste management. Communities benefit from avoided landfilling and transportation costs associated with shipping waste or recyclables out of the area. Reuse typically requires fewer resources and less energy compared with recycling and disposal. It also generates less air, water and land pollution since it limits the need for the natural resources that go into the manufacture of new products. Added to these environmental benefits of course is the

reduction in greenhouse gas emissions.

Reusing a product (either as is, refurbished, repaired or repurposed) can provide greater economic and social benefits to a community than recycling. Through reuse, the value of materials often stays within a community, instead of being shipped to recycling and disposal markets. Also, when recycling markets and revenues are down, all communities can benefit by practicing greater reuse.

Many reuse centers and thrift stores engage in job-training programs, such as programs for the handicapped or at-risk youth. In an otherwise slow-growth economy, reuse businesses thrive. Communities gain from keeping reusable resources local and supporting reuse businesses. Textiles and other items sold to regional or export markets also return monies to the local economy. Reuse, remanufacturing, repair and refurbishment are economically beneficial practices for industry as well, providing low-cost equipment and parts and extending the longevity of existing equipment.

Finally, reuse provides cost savings for consumers as reused items are typically less expensive than similar products purchased new. And reuse plays an invaluable role in providing free and low-cost items – food, clothing, building materials, business equipment, medical supplies and other items – to disadvantaged populations.

Counting reuse

Unfortunately, the impact of reuse efforts is not always well tracked, although existing statistics certainly point to the important role reuse plays in the world economy. According to the Association of Resale Professionals, resale is a multi-billion dollar industry, with more than 25,000 resale, consignment and nonprofit shops in the U.S.

Auto News reported 26 million more used cars than new ones were sold in 2013. And the textile recovery industry, according to its international trade association, SMART, is another billion-dollar sector.

Like recycling, reuse also creates jobs. According to the 2011 study, “More Jobs, Less Pollution,” from the Tellus Institute, reusing 10,000 tons of waste creates somewhere between 41 and 216 jobs. That study also found recycling 10,000 tons of waste creates 61 to 213 jobs and incinerating or landfilling 10,000 tons of waste creates six jobs.

On a more local metrics front, reuse presents a challenge. In most communities, officials know how much material is recycled and the costs and benefits can be easily calculated. With reuse, the costs for organizing an event or setting up a program can be determined, but calculating diversion amounts through reuse is typically a guessing game. However, through surveying event participants and monitoring and tracking items exchanged in reuse programs, diversion estimates can be made. Also, communicating with local reuse centers and establishing an easy reporting system with them can help communities gain diversion numbers through reuse.

There are many ways of measuring the positive environmental, economic and social impacts reuse has on our communities. These include, but are not limited to:

- Number of tons diverted from the landfill
- Avoided disposal costs (donor/seller)
- Avoided purchase costs (recipient/buyer)
- Value of materials donated (donor)
- Revenues earned (donor/seller)
- Jobs created or retained in reuse businesses
- Number of families/individuals/organizations assisted



Reuse programs and events can bring big environmental benefits because materials stay in the local market.

Ongoing programs

Permanent reuse programs can be provided by municipal governments through a number of means, such as a reuse shed at a transfer station. Nonprofit organizations, for-profit businesses, schools and other entities can also provide reuse opportunities in a community. Ongoing programs can be any size and may be operated by paid staff, volunteers or a combination of the two.

A strong first step in getting a program launched is the creation of a volunteer “reuse committee” that can discuss the types of programs or events to best meet the needs of the community. The committee may also decide items to be collected and program design as well as address liability concerns, budgeting and staffing. Additionally, a reuse committee provides a ready pool of volunteers for staffing a permanent collection center or events later on.

And what are some examples of ongoing programs?

Furniture, bikes, dishes, clothing, toys, and books are among the most common reusable items found in trash. To help keep these and other useful items from being disposed, many communities set up reuse or swap sheds, or “take-it or leave it” areas. Reuse

sheds can take a variety of forms, with the goal being the creation of an exchange location where people may bring unwanted items in good condition and/or take items at no charge.

Similarly, promotion of food donation or food recovery is one way that communities can work to reduce and better manage food discards while also providing social benefits for the community. Businesses benefit from food donation through reduced disposal costs and opportunities for potential tax benefits.

On the C&D front, materials reuse centers or supply stores, sometimes known as ReStores, accept donations of used building materials or purchase them for resale. Reuse of building materials offers communities a sustainable opportunity to repurpose large items that often head to the landfill.

Creative reuse centers, also known as scrap stores or teacher resource centers, collect and distribute unwanted industrial, commercial and residential items, making them available to teachers, artists, families, nonprofit organizations and others.

Textiles account for nearly 5 percent of total municipal solid waste generation, according to U.S. EPA, and reusing and

recycling all types of textiles is another undervalued material management opportunity. Donating usable clothing, linens and other textiles to charitable organizations keeps these resources from becoming waste and benefits those in need.

Tool libraries allow patrons to borrow tools, equipment and instructional materials. Some tool libraries rent out tools; however, most tool lending libraries loan tools and equipment at no cost as a form of “community sharing.” Tool-lending locations can play a valuable neighborhood role for volunteer projects, home and community improvement projects, and facility maintenance and improvement. Tool lending libraries are often set up in public libraries, adding new life to these well established institutions.

Finally, “Repair Cafés” are volunteer-run, community service organizations or gatherings dedicated to encouraging the repair and reuse of goods rather than disposing of them in landfills. On the day of a Repair Café event, people bring items to the event location for assessment, disassembly and possible repair. Event organizers provide a workspace and specialty tools, and volunteer fixers offer guidance and assistance to help disassemble and

Some reuse event examples:

- Community-wide garage sale or flea market
- Reuse/recycled art rally
- College “move out” event
- Halloween costume exchange
- School prom dress/tux exchange
- Kids’ stuff, bikes and toy exchange
- Tool exchange

troubleshoot each item.

To help residents stay up-to-date on reuse opportunities, communities may choose to create a reuse guide, offering a listing of reuse opportunities in a local area. Often these guides are accessible on municipal websites.

The big event

If a permanent program isn't logical or possible, communities and groups could instead opt for reuse events, to be held just once, annually or on another schedule. Communities can benefit from pooling promotional resources and holding events together, and many areas have combination reuse or swap events alongside recycling efforts. For example, at household hazardous waste collections, a reuse area can be set up for usable paints, cleaners and other items that are free for those who may want them.

In developing an event, keep in mind that obtaining insurance and permits may be necessary. Developing partnerships in organizing events may help reduce needed planning time, and establishing a reuse committee can help ensure that annual events run smoothly.

Some other important questions to keep in mind as you conceptualize the outing: Who's responsible for planning, staffing, and implementation? Which agencies or local reuse nonprofit groups/businesses will be contacted to receive collected items? Will additional services be required, such as hauling or disposal services? Security? Traffic monitoring? What's the estimated cost? How will costs be covered? Will admission, participation, or “permit” fees be charged? Will advanced registration for participants be required?

Perhaps most important is the question of measurement, which we have stated is often lacking in the reuse space. What will be the measure of success for the event? This could be judged in a number

of ways, including volume of material and number of participants. It's also important to know how you will arrive at your numbers (tracking materials, participant surveys, etc.).

In the end, events help promote reuse within the community. They allow residents to understand that reuse offers a relatively easy and low cost way to extend the life cycles of products while benefiting the environment. Such advances are the essence of sustainable materials management. **RR**



“Repair Cafes” are events that promote repair and education.

Keep an eye on these pages for part two of this series, which will showcase reuse in action.

Athena Lee Bradley is program manager at the Northeast Recycling Council, Inc. (nerc.org), and Mary Ann Remolador is the group's assistant director. NERC's Reuse Project is seeking reuse program and event examples to include in a reuse guidance

document. Please send your examples and information to athena@nerc.org. Full credit, with links to program websites, will be given in the resulting document.

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Computer refurbishment has long provided revenue streams for electronics recycling operations.