

# Fact Sheet



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY • ENVIRONMENTAL ASSISTANCE DIVISION • 1-800-662-9278

## Material Exchange: Reduce Disposal Costs, Increase Your Profits

*The most cost-effective waste management strategy is to prevent the generation of waste at the source. Profits are lost every time raw materials are disposed of as waste. The more a business can do to reduce waste generated, the more efficient it becomes.*

Every business generates wastes—things that are unwanted, unneeded, or simply in the way. At the same time, every business buys raw materials, supplies, and equipment. Many times one business will buy as a raw material what another business is disposing as a waste. Both would benefit if the transactions were with each other. This is the principle of MATERIAL EXCHANGE.

### Wastes As Raw Materials

Material exchange is often called waste exchange, but “waste” indicates that something has no use or no value—at least to the current owner. On the other hand, “material” indicates that something has use and value. Most wastes are useful for something. In fact they may have high value in the hands of some users (i.e., waste office paper scrap to a manufacturer of recycled tissue paper).

Businesses should not look at their wastes as unusable or unneeded. Earnings can be increased—as **revenues** and as **reduced disposal costs**—when materials are used rather than disposed. Recognize that many wastes have value and that value can add to your company's profitability.



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### Reuse Hierarchy

The preferred method of disposing unwanted materials or equipment is to find a secondary use within your own facility or operations. Make sure that every department within your company knows that these unwanted resources are available to them. Circulate "Surplus Lists." Encourage your waste reduction teams to brainstorm ways to reuse the items.

If in-house reuse cannot be accomplished, the next preferred approach is to seek reuse by other companies. Contact companies in your immediate geographic area. Most material exchanges happen because two companies find out that one company's waste fulfills the other company's raw material need.

If a business-to-business partnership cannot be worked out to exchange materials, use the services of a local, regional, or national material or waste exchange. Start with local exchanges since the value of the exchange decreases as the transportation distance between generator and user increases. Transportation costs may discourage some exchanges. However, regional and national exchanges can be successful, particularly with special wastes.

### How Do Local, Regional, and National Resource Exchanges Operate?

Local, regional, and national material exchanges are often called "waste exchanges." Their common objective is to bring generators of unwanted materials or equipment together with potential users. Most exchanges are subsidized by government or business organizations. Few make a profit. Modest fees are charged by some to offset direct costs of operations.

Material exchanges operate by publishing and distributing lists of ads for available and wanted items. The exchange coordinates responses of interest to the ads by either telephone, fax, postal mail, or electronic mail. Every day more and more material exchanges are placing their operations on-line, via the internet. All of these types of exchanges are considered passive approaches. There are a few exchanges that actively seek to

make matches between generator and user. These pro-active exchanges have greater success in making matches. Of course, their fees are somewhat higher than those charged by passive exchanges.

Material exchanges do not usually enter into negotiations to establish the logistics and financial arrangements for exchanges. Generators and users do this by themselves.

#### WHO SHOULD CONSIDER A RESOURCE EXCHANGE?

- Companies that have surplus raw materials.
- Companies that have "out-of-date" raw materials.
- Companies that have off-specification products they cannot market.
- Companies that have obsolete products or equipment.
- Companies that generate by-products that are not marketed by their sales staff.
- Companies looking for ways to reduce disposal costs.
- Companies that want to increase their profitability.

Generally, companies accepting materials provide the transportation. They sometimes pay something for the material or equipment. For the exchange to be of interest to the user, total cost must be less than the material would cost new. It is expected that material donors will provide samples and available test data to help enable users evaluate the quality of the material. Ideally, material exchanges benefit both parties equally.

**WHAT MATERIALS ARE EXCHANGED?**

There is no limit to the type of material or equipment that can be exchanged. Commonly exchanged items include:

- Acids and alkalis
- Adhesives
- Agricultural byproducts
- Automotive equipment
- Beauty supplies
- Computer components
- Construction materials
- Durable and electronic equipment
- Glass and fiberglass
- Laboratory chemicals
- Leather and textiles
- Metals and metal sludge
- Oil and wax
- Organic and inorganic chemicals
- Paint and coatings
- Plastics and rubber
- Solvents
- Wood and paper

**Exchange Success Stories**



An electronics company was using pure sulfuric acid in its printed circuit board production line.

Contaminated acid was generated as a production by-product. The company was introduced to a nearby steel producer that used low purity sulfuric acid in its pickling process. An exchange of 1,800 gallons of the waste acid was made. The electronics manufacturer saved almost \$6,000 in disposal costs, while the steel producer saved several hundred dollars in acid purchases. Both companies profited!



A natural gas company had over 30 cylinders of usable anhydrous ammonia that it no longer needed. Another company found and obtained the anhydrous ammonia at no cost, saving over \$33,000. Disposal of the usable product was avoided and both companies benefited from the exchange.

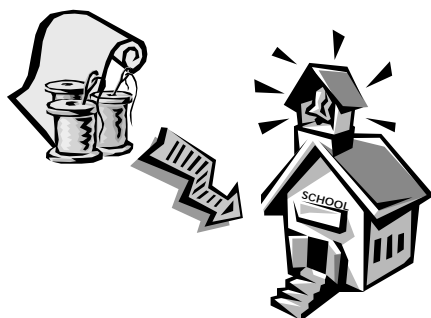


An associate dean of the aviation division at a community college discovered an estimated 1,400 gallons of unused solvents and cleaning compounds in an outdoor storage area. Within one month of listing the compounds in a material exchange catalog, he was able to give the compounds away, saving an estimated \$6,400 in disposal costs. The companies that received the compounds saved about \$3,500 based on the chemicals' market value.



A nursery obtained excess packing styrofoam from another company. The styrofoam is ground and used as a soil amendment in the nursery's potting soil.

Some material exchanges have special exchange programs to benefit schools and other non-profit organizations. Free, usable materials such as paper, string, and fabric have been donated to schools for children's art projects. Material exchanges have been used to provide textiles to Florida hurricane victims and mattresses to homeless shelters. The businesses that donate to schools and non-profit organizations via the exchanges benefit by improved public relations and increased tax savings.



### Where Can I Find a Material Exchange?

Many material exchanges exist throughout the United States. Many now operate on the internet, where ads for materials can be searched and added immediately to the exchange listing. The following material exchanges may be of help to Michigan businesses.

### MATERIAL EXCHANGES THAT MAY BE OF HELP TO MICHIGAN BUSINESSES:

#### CALIFORNIA

- California Materials Exchange (CALMAX)  
Phone: 916/255-2369  
URL: [222.ciwm.ca.gov/mrt/calmax/calmax.htm](http://222.ciwm.ca.gov/mrt/calmax/calmax.htm)

#### CHICAGO BOARD OF TRADE

- Chicago Board of Trade (CBOT) Recyclables Exchange  
Phone: 416/822-4111  
URL: [cbot-recycle.com/indexst.html](http://cbot-recycle.com/indexst.html)

#### FLORIDA

- Southern Waste Information Exchange (SWIX)  
Phone: 800/441-7949  
URL: [www.webvista.com/swix/](http://www.webvista.com/swix/)

#### ILLINOIS

- Industrial Material Exchange Service (IMES)  
Springfield, IL  
Phone: 217/782-0450

#### INDIANA

- Indiana Environment and Materials Exchange (IMEX)  
Carmel, IN  
Phone: 317/574-6505  
URL: [www.ai.org/idem/imex/](http://www.ai.org/idem/imex/)

#### MINNESOTA

- Minnesota Technical Assistance Program Materials Exchange (MNTAP)  
Phone: 612/627-4555

#### RECYCLER'S WORLD

- Guelph, Ontario, Canada  
URL: [www.recycle.net/recycle/](http://www.recycle.net/recycle/)

#### TEXAS

- Resource Exchange Network for Eliminating Waste (RENEW)  
Phone: 512/239-3171  
URL: [www.tnrcc.state.tx.us/admin/topdoc/pd/002/](http://www.tnrcc.state.tx.us/admin/topdoc/pd/002/)

The Environmental Assistance Division operates and maintains a Michigan On-Line Waste Exchange inventory listing of available materials on the Recycler's World internet site at URL: [www.recycle.net/recycle/exch/index.html](http://www.recycle.net/recycle/exch/index.html). Assistance with placing an ad on a material exchange or searching for available materials using an exchange is available from the Environmental Assistance Division at 1-800-662-9278.

The Michigan Department of Environmental Quality (MDEQ) will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. Questions or concerns should be directed to the MDEQ Office of Personnel Services, PO Box 30473, Lansing, MI 48909.