



WRATT

WASTE REDUCTION AND TECHNOLOGY TRANSFER FOUNDATION

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New Waste Exchange!

North Alabama manufacturers, businesses, schools, and hospitals will soon be able to reduce waste disposal costs and improve efficiency by accessing cheaper raw materials and supplies. Materials land-filled or incinerated in the past may now be traded in a new virtual market – the northwest Alabama waste and materials exchange, nicknamed 'WasteTrade'. The exchange, accessible at www.wastetrade.org, is based on the idea that waste or surplus materials of one organization may often be re-used by other organizations.

The Waste Reduction and Technology Transfer (WRATT) Foundation has signed a \$31,500 contract with the Appalachian Regional Commission (ARC) to establish an on-line regional waste or materials exchange to serve the 13 county area of northwest Alabama. Organizations using the exchange will be able to post information about their own waste or surplus materials; search for materials available from other firms; and access timely information on the nature, quality, and quantity of materials on the market. Organizational identities remain confidential until they contact each other directly to arrange sales and delivery. There will be no charge for use of the exchange.

The WasteTrade materials exchange is an outgrowth of WRATT's experience in providing waste reduction services for more than 1300 Alabama businesses, industries, and institutions over the last 15 years. "Many of the organizations we've dealt with could have significantly reduced their waste handling costs using this kind of service", explains Don Ruggles, Executive Director of the WRATT Foundation. "We're happy to have the opportunity to serve the region in this way."

Forrest Wright, Director of the Shoals Economic Development Authority, explains that the need for this kind of regional service has been well established. "In the Existing Industries Survey SEDA conducted in 2002, a number of local firms indicated a strong interest in using a waste exchange. We're happy to be able finally to provide this capability." Both SEDA, and NAIDA, the North Alabama Industrial

Development Association, will work with WRATT in marketing the materials exchange in north Alabama.

Almost any type of organization can profitably use a materials exchange: businesses, service and manufacturing industries, government facilities, public and private institutions such as schools, hospitals, churches, and non-profit corporations.

A few examples:

- Companies with surplus products or raw materials.
- Industries that have off-specification or obsolete manufactured products or equipment.
- Organizations looking for ways to minimize waste disposal costs.
- Businesses that have wastes which might be used in another business's processes.
- Companies interested in reducing raw material costs by using "cast-off" but still useful materials as production inputs.
- Organizations looking for cost-effective disposal routes for surplus supplies, obsolete equipment, or construction/demolition materials.
- Businesses/entrepreneurs who want a barometer of waste markets.
- Entrepreneurs who are interested in setting up a new business based on lower-cost inputs.
- Companies that wish to determine the marketability of their by-products.

The WasteTrade exchange uses the following categories of materials:

- Automotive
- Batteries
- Computers/Electronics
- Iron/Steel
- Non-Ferrous Metals
- Glass/Fiberglass
- Plastics
- Wood
- Used Commercial Goods
- Paper/Cardboard
- Tires/Rubber
- Textiles/Leather
- Liquids/Oils/Chemicals
- Food Waste
- Used Equipment
- Used Consumer Goods
- Surplus Supplies

Essentially any type of recyclable or reusable material can be exchanged.

The WasteTrade waste and materials exchange is the latest in the WRATT Foundation's efforts to support eco-industrial approaches that help business and industry become more profitable and competitive, while simultaneously reducing environmental impacts. The WRATT Foundation, staffed exclusively with retired scientists, engineers, and other professionals, has provided technical assistance in the areas of waste reduction, energy conservation, and pollution prevention since 1989. For more information about the materials exchange, visit www.wastetrade.org, or call the WRATT Foundation at 256-248-0191.

Energy Savings Through Use of High-Output T-5 Fluorescent Lamps

Conventional lighting wisdom has held that for high-bay applications (greater than 20 feet or so), high-intensity discharge (HID) lamps such as mercury vapor, high pressure sodium, or metal halide are always a more energy efficient choice than fluorescent lamps. Not necessarily!

High-output (HO) T-5 fluorescent lighting systems are rapidly becoming accepted as much more energy efficient than HID's for many high-bay applications.

Energy savings greater than 50% are easily obtainable. A standard 460W mercury vapor lamp/ballast combination can be replaced with a 4-lamp fixture containing T-5 HO lamps and an electronic ballast. This fixture will only draw about 234W, but will produce essentially the same lumen output. While the direct energy savings are less dramatic for metal halide or high-pressure sodium lamps, HO T-5s still offer sizeable advantages.

Since fluorescent fixtures are instant-on, unlike HID's which can require a 5-15 minute restrike time, they can be more easily controlled, often by occupancy switches. On the other hand, HID's are commonly allowed to burn all day, wasting energy whether they are needed or not, because of the annoyance or safety problems this restrike time can cause. In some cases, the combination of the higher energy efficiency of the HO T-5s and occupancy-controlled switching can result in energy savings as high as 90% compared to older HID systems! In addition, while some types of HID's may be step-dimmed, fluorescent systems may be more easily dimmed over a continual range, and do not lose as much efficiency during the dimming process.

Even when newer HID systems offer initially higher efficiency, they generally suffer from higher lumen depreciation than HO T-5s. In other words, as the

lamp ages, it becomes gradually dimmer with time and this is much more of an issue with HID lighting than with fluorescent lighting.

Fluorescent systems also provide a higher quality of light. The color rendition index (CRI) is a measure of the lamp's ability to render colors accurately. The CRI of high-output T-5 lamps is 82% or higher, compared to 45-50% for mercury vapor, or as low as 65% for other forms of HID lighting. In addition, color-shifting over the lifetime of the T-5 lamp is insignificant compared to that seen with HID lighting.

For more information, see the following references:

<http://www.buildinggreen.com/products/t5.cfm>
<http://www.imperialighting.com/>
<http://www.sbeaonline.com/content/ValleyWine.php>
<http://www.annex36.de/pdf/us3.pdf>

Free On-line ENERGY-STAR Training!

A special series of free Internet presentations will show public-sector organizations how to save money on energy expenditures, how to benchmark their facilities, and how to obtain money or financing for upgrades. You can participate in these EPA ENERGY STAR presentations and training sessions using your own computer and phone, or gather interested colleagues around a central phone and computer to train several people in your organization at the same time. During the sessions you can discuss questions with energy and financing experts.

More information and the current schedule for presentations is available at:

http://www.energystar.gov/index.cfm?c=business_bu_s_internet_presentations.

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