

“GREEN” Data Center Backup Power & Cooling: Refurbishment, Recycling & Remanufacturing

In today's global marketplace two items are consistently at the top of the list when data centers are replacing or eliminating equipment: What is the impact on the balance sheet and how will the changes affect the environment? In other words, where can your company responsibly purchase or dispose of vital equipment while at the same time balancing the needs of the bottom line and the environment.

There are a few select companies in the US that specialize in alternatives to the typical avenues of disposal and replacement of back-up power and cooling system equipment. Refurbishment, recycling and remanufacturing of these types of equipment offer a wealth of benefits to the data center markets. Offering cost effective asset recovery services combined with assurance of proper disposal, the refurbished equipment market will be an ever growing key to the data center professional.

As an example, the refurbishment process is a somewhat forgotten but very important form of recycling. Overall this is a \$100 billion worldwide market that employs over one-half million people in the United States alone (this includes all markets such as the automotive and engine rebuilding industries). The raw material savings and energy use reduction results in a smaller environmental footprint. It takes up to 85% less energy on average to refurbish a product compared to new production of the same type of unit. In addition, the refurbishment process produces only 3% of the green house gases compared to new production.

The refurbishing process begins with the recovery of the equipment. An evaluation of its age, condition and location is typically completed by a professional asset recovery project manager. Equipment is then purchased and a schedule planned with the client for disconnection, removal and transportation to their facility.

Upon arrival at refurbishment facilities, the units are partially disassembled, and cleaned. Components are tested. Any damaged parts are discarded and recycled. All consumable items such as filters, fuses, etc are replaced. The unit is detailed, repainted as necessary and/or exterior panels replaced as required. The equipment is thoroughly tested by a certified technician to assure correct functional performance. The system is then ready for commissioning. A detailed point by point checklist of all components is completed prior to shipment. Most equipment is refurbished and available for shipment within two weeks of arrival at the facility. Cost savings of more then 40% can be realized when data centers purchase refurbished equipment.

Whatever the project, refurbishment can provide turn-key solutions for the most complex environmental projects. Specialized teams of de-installers and riggers can conduct a "facility walk-thru", and work with the client to plan the de-installation. This "site survey" insures that all precautions are taken into consideration to assure safe and secure conditions during the duration of the project.





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The companies in this market routinely perform removal and disposal of a wide range of equipment including UPS systems, Power Distribution Units, raised computer room flooring, industrial air conditioning units, chillers and cooling towers, diesel generators and electric transformers as well as fire suppression systems. Not only can the equipment disposal teams handle the electrical disconnection, but also properly remove, transport and dispose of the equipment.

As the data center population expands going "GREEN" worldwide not only makes more sense than ever, but it is decidedly the only way to plan for and execute this expansion. Here are some interesting facts:

1. Estimates indicate that data center servers worldwide have increased six times to 30 million units in the past 10 years.
2. Power use has doubled between 2001 and 2006. It is estimated to double again by 2011 according to a study by the U.S. Environmental Protection Agency.
3. The road to green savings is being paved by California where 20% of the world's servers are located and they are one of the leaders in decreasing environmental footprint.

As world leaders, health organizations, and environmental agencies continue to urge and in some cases legislate more efficient use of our collective natural resources, data center professionals will be tasked with finding new ways to creatively provide responsible solutions for the needs of their business. The purchase and recycling of refurbished equipment is a great first step towards balancing fiscal responsibility to shareholders while at the same time positioning your company on the leading edge of "GREEN"