

e2 Business Program: Manufacturing

Energy Efficiency

Manufacturers are as diverse in their energy usage as they are in the products they create. However, all manufacturing operations require the basics: heating, cooling, lighting and equipment, and can benefit from general efficiency practices.

Improvement in technology has drastically improved the efficiency of newer appliances and offers a great opportunity to reduce annual energy bills.

✓ *Space Heating*

Furnaces have seen efficiency improve from 50 percent to over 95 percent with the newest models, this means that almost all the energy consumed will be used to heat your business.

"The e2 Business Program has provided us with a useful framework for understanding and addressing our environmental impacts. e2 Business benefits, however, are much broader. Through the program we gain access to local resources and experts, which saves us both time and money. Networking opportunities and greater engagement on local issues in the community are also valuable advantages. We feel very lucky to have such a great resource and opportunity right here in the city. "

-Erika Brown
3-form
Environmental Coordinator

• *Lighting*

In 2008, medical device and software manufacturer **Varian Medical Systems** made various lighting and control upgrades which have resulted in an annual savings of 342,649 kWh of electricity and \$15,689.

• *Equipment*

In many cases, upgrading equipment to newer more energy efficient models can generate huge cost savings in the future.

In addition to equipment upgrades, changes in operation and employee habits can result in drastic reductions in energy consumption.

• *Heating and Air Conditioning*

Set the thermostat to no higher than 68° in Winter and no lower than 72° in Summer. Each degree for heating and cooling adds 4-5 percent in energy costs.

• *Lighting*

Turning off lights when areas are not in use can have a significant impact on lighting costs.

• *Equipment*

Between 2007 and 2008, building material manufacturer **3-Form** reduced electricity consumption by 765,000 Kwh and saved \$48,000 by introducing more effective shut-down procedures, operations and maintenance of equipment.



Rebate Options

Rebates are available for these equipment upgrades.

For more information visit:

www.rockymountainpower.net or
www.thermwise.com

e2 Business Program: Manufacturing

Water Efficiency

Water uses also vary drastically in manufacturing processes. However, domestic water uses contribute to water use wherever employees are present.

- Installing low-volume faucets or low-volume aerators can save up to 1 gallon of water per minute of use.
- Installing low-volume toilets and urinals can save up to 5 gallons of water per use.
- Check for and repair leaks to the plumbing system on a regular basis. A leaky toilet can waste up to 50 gallons of water per day!
- Landscaping better suited to our climate including native grasses and drought resistant plants can drastically reduce the water necessary for maintenance and the monthly water bill.



Waste Reduction and Diversion

Waste streams are diverse in manufacturing, however they contribute significantly to almost all manufacturer's environmental impact and bottom-line.

- A recycling program instituted by mattress manufacturer **Select Comfort** diverts over 300 tons of waste from landfills and saves the company over \$50,000 per year. In 2010, recycling has provided the company with a positive cash flow.

Any manufacturer can benefit from energy, water and waste efficiency measures. The e2 Business program has experience working with many different manufacturers and will provide you with the guidance and assistance necessary to make your business more environmentally and economically sustainable.

Current e2 Business Manufacturers:

3-form • Loraine Press • Select Comfort • Varian Medical Systems

e2 Business Program: 3form



2300 South 2300 West
Salt Lake City, Utah
www.3form.com

Committed People

3form is the leading manufacturer of award winning materials and architectural hardware solutions for the Architecture + Design industry. We have aggressive sustainability goals; we hold ourselves accountable to achieving lofty results and are committed to transparency. With green teams focusing on everything from reducing energy use to community activism, dedicated staff work together to collectively minimize our environmental footprint.

Breakthrough Products

Most 3form products contain high levels of recycled content, are GREENGUARD Indoor Air Quality certified, and can be recycled and/or reclaimed at end of use.

Better Planet

Our overarching environmental vision – Path to Zero – is made up of three aggressive initiatives:

- We will stop sending waste to the landfill.
- We will be carbon neutral by 2017.
- We will continue to increase the recycled content of our products.

Through our Reclaim program, 3form pays for used panels to be returned for reuse, repurposing or recycling, thus extending the life cycle and keeping materials out of the landfill.

3form's Company Sustainability Practices

3form participates in a wide variety of sustainability practices. The following practices were implemented recently:

Reduced their net energy use between 2007 and 2008 while expanding production. This was done through more effective shut-down procedures, operations and maintenance. This resulted in the following savings:

- 765,000 KWh
- 1,210,000 pounds of CO2 equivalent
- \$48,000

Diverted 87% of its waste from the landfill and achieved 25% recycling rate in 2010. These actions saved landfill space and resources while reducing 3form's waste disposal costs. The following diversions and savings were made:

- 91% decrease in landfill disposal costs.
- 40% decrease in waste-to-energy disposal costs.
- 34% increase in recycling rebates totaling \$31,233

Launched ReMix – a unique product made from combining trim pieces from the manufacture of other 3form products. In the past, these pieces were sent to a waste-to-energy facility for disposal; now they're used to create new products.

"The e2 Business Program has provided us with a useful framework for understanding and addressing our environmental impacts. Through the program, we gain access to local resources and experts, which saves us both time and money. Networking opportunities and greater engagement on local issues are also valuable advantages. We feel fortunate to have such a great resource and opportunity available to us."

Crystal Frost
3-form
Director of Sustainability

e2 Business Program: Select Comfort



CREATOR OF THE SLEEP NUMBER® BED

675 North Wright Brothers Drive
Salt Lake City, Utah
www.selectcomfort.com

The Select Comfort Story
Founded more than 20 years ago, today Select Comfort (NASDAQ: SCSS) is one of the nation's leading bed retailers, and for nine years running, Select Comfort was ranked the number one bedding retailer in the USA.

Based in Minneapolis, the company designs, manufactures, markets and supports a line of adjustable-firmness mattresses featuring air-chamber technology, branded the [Sleep Number](#) bed, as well as foundations and bedding accessories.

In addition to its Minnesota headquarters, Select Comfort has manufacturing and distribution facilities in South Carolina and Utah. The company employs nearly 2,200 people across the United States.

Select Comfort's Sustainability Practices

Select Comfort has focused on reducing its energy usage and waste generation.

Gas Usage

A large percentage of Select Comfort's gas usage was as a result of heating its manufacturing warehouse. Retrofitted dock doors with new seals to minimize heat loss during winter months. This has reduced heating needs on the production floor.

Reduction in usage in 2009 compared to 2008:

- 1000 DTH
- 117,000 pounds of CO2 equivalent
- \$7000

Increased savings have been seen since installations were completed and 2010 has shown a 10% reduction in gas usage compared to 2009.

Electricity Usage

In an effort to more efficiently light their warehouse, Select Comfort replaced 190 low efficiency halogen lights with high efficiency T5 lighting in September 2010.

Expected annual savings:

- 200,000 kWh
- 410,000 pounds of CO2 equivalent
- \$15,000

"In 2008, Select Comfort made a commitment to substantially reduce the carbon footprint in both of the company's manufacturing facilities. Locally, we partnered with the Salt Lake City e2 Business team to develop an action plan to achieve our goals. Over the last two years, we have successfully transformed ourselves into an environmentally responsible organization. While the cost savings have benefited our business, the fact that we are now doing our part to reduce landfill waste and minimize our energy usage is our real success. I am definitely proud to be working for a company that takes its environmental responsibility seriously."

-Chris White
General Manager

Salt Lake City Manufacturing
Select Comfort Corporation

e2 Business Program: Select Comfort

Select Comfort's Recycling Efforts

Waste Reduction:

Select Comfort expanded and streamlined its recycling processes. by doing so they have been able to reduce the amount of landfilled waste quite significantly.

Prior to these changes, Select Comfort would average 14 dumpster pickups per month. The weight of each load averaged over two tons equaling a monthly load of nearly 30 tons of waste being landfilled.

Select Comfort has realized a 70% reduction in landfilled waste since 2008. They have reduced the number of monthly dumpster pickups to 8 for 2009 and reduced again to a present number of under 5.

In 2010, recycling has provided a positive cash-flow for the company for the first time.

Estimated Annual Savings:

- 300 tons of waste diverted from landfill
- \$50,000

Materials being recycled include: cardboard, plastic, electronics, rubber, most textile waste, most paper, wooden pallets and aluminum cans.

Recycling Highlights



Defective parts from the injection molding process are collected in gaylords and sold to a local recycler. Approximately 10 tons of process scrap is recycled annually.



Cardboard scrap primarily from packaging materials is baled or compacted and sold to local recyclers. Approximately 90 tons of cardboard is recycled annually.



Plastic scrap primarily from textile packaging materials is baled and sold to local recyclers. Approximately 6 tons of baled plastic is recycled annually.



Textile scrap from sewing process is baled and sold back to textile supplier for reuse in their processes. On average, 40 bales are produced each month. Approximately 150 tons of textile scrap is recycled annually.

e2 Business Program: Varian Medical Systems



Varian's Company Sustainability Practices

Varian has made significant efforts to reduce energy usage, reduce waste and increase recycling. Efficiency improvements resulted in the following:

HVAC Re-commissioning

Total Cost: \$7,747

Annual Savings:

- 466,800 kWh
- 980,280 lbs of CO2 emissions
- **\$23,216**

Lighting and Control Upgrades

Total Cost: \$32,375

Annual Savings:

- 342,649 kWh
- 719,563 lbs of CO2 emissions
- **\$15,689**

"Sharing our goals and networking with other local businesses has helped Varian find vendors and best practices to improve Varian's operations. Last year Varian received a \$188,000 tax credit as part of the Utah Recycle Market Development Program that is administered in conjunction with the e2 program."

- *Doug Carlisle
Facilities Manager
Varian Medical Systems*

Annual Reduction in Electricity Usage for Projects 2005-2009

- 3,287,307 kWh of electricity
- **\$190,663**

Reduction in Gas Usage for 2009 Compared to 2006

- 8705 Decatherms
- 101,848 lbs of CO2 emissions
- **\$73,818**

84.1% Waste Diversion Rate

Cardboard, metals, plastics, mixed, and glass recycling, and returned product refurbishment.

Annual Savings

- 2,354,968 lbs of waste diverted from landfill
- **\$308,000**

Digital Customer Packets

- 14% reduction in paper usage
- **\$92,000**

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Salt Lake City, Utah
www.varian.com

Varian Medical Systems, Inc., headquartered in Palo Alto, California, is the world's leading manufacturer of medical devices and software for treating cancer and other medical conditions with radiotherapy, radiosurgery, proton therapy, and brachytherapy. Varian is a premier supplier of tubes and digital detectors for X-ray imaging in medical, scientific, and industrial applications and also supplies X-ray imaging products for cargo screening and industrial inspection.

Varian strives to minimize the environmental impact of manufacturing life saving medical devices by focusing on sustainable practices. Our experience has demonstrated increasing energy efficiency and reducing waste are cost-saving measures as well as a responsible corporate practice.

In Salt Lake City, Varian employs 750 people, and is committed to energy and water efficiency, waste reduction and recycling, greening their supply chain and employee involvement.

Varian's sustainability efforts include onsite employee garden, over 80% waste diversion and energy efficiency and conservation efforts.



CONTACT US:

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