Implementing Lean For Green Sustainability
By Amanda Earing, News Editor
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At a time when many manufacturers have been forced to lay off workers, cut margins and relocate overseas just to compete, some companies have been able to hire more workers, increase profits and keep operations in North America simply by implementing and improving lean and green sustainability initiatives.

Going green is a trend more manufacturers are beginning to recognize as important in an era of environmental responsibility. Unlike lean manufacturing, which focuses on ways to improve operations and cut wastes from the customer's perspective, green initiatives look at ways to eliminate waste from the environment's perspective.

Looking at operations from a 'green' perspective has benefits to not only the environment, but to manufacturers and customers as well.

"Going green is profitable. It is really about preserving resources and companies pay money for resources. If you can consume fewer resources through implementing lean and green initiatives, it becomes profitable for the company because you're saving money," says Ralph Keller, president of the Association for Manufacturing Excellence (AME).

With today's tight credit market, rising raw materials costs, the high price of transportation, stiff global competition and a weak dollar, lean and green manufacturing can provide the competitive advantage and profitability many manufacturers are looking for.

Brett Wills, plant manager for Powersmiths, a manufacturer of energy efficient transformers, has implemented numerous lean and green sustainability processes that have seen huge reductions in not only their consumed resources, but also in lead times and inventory.

"By looking at your value stream, or your operations, from an environmental perspective, manufacturers can eliminate more waste and achieve dramatic savings," says Wills.

But with many manufacturers struggling to stay afloat, borrowing capital for investing in lean and green implementations may be difficult.

Fortunately, there are plenty of simple, inexpensive improvements manufacturers can make that involve zero to very little capital cost.

For instance, many manufacturers are not aware of the huge benefits of recycling materials.

"A lot of people don't realize that a majority of what sits in landfills can be recycled. In some cases, your waste may have value to someone else willing to pay for it. But when there are no buyers, having a recycling bin taken away is a third of the cost of having a waste bin taken away, because waste disposal companies also have buyers for what's in the recycling bin and it helps lower their costs," says Wills.

By implementing a waste diversion program, Powersmiths diverted over 75% of its waste from the landfill into reuse and recycle, which also saved over 15% of waste removal costs.

Taking its environmental sustainability a step further, Powersmiths switched to biodegradable packaging that decomposes within three to four months once in the ground.

Managing your energy consumption, particularly water, electricity and other utilities, is another way to save on costs and improve your environmental impact.

"A typical first place to cut energy consumption is water usage. Some manufacturers have made remarkable improvements in their energy costs simply by paying more attention to how much water they consume," says Doc Hall, Editor-in-Chief of AME's Target magazine.

Wills also points out that many utilities charge for peak amounts of energy. He suggests instead of running 10 machines at one time, stagger them out and run two at a time and save money.

“It’s a matter of smarts as much as money. Manufacturers need to work within the capital they have. And with lean and green, most companies that make small improvements using fewer resources have found payback fairly quickly, improving their financial position to take on more lean projects,” says Hall.

Getting started

“For manufacturers who are already on a lean track, looking at ways to eliminate waste that results in environmental impact would be a natural progression,” says Wills.

Hall agrees, saying that once manufacturers eliminate waste from the process (which can be both a lean and green initiative), they can then go on to eliminating waste from the full lifecycle of the product.

In order to implement lean and green initiatives, it is important to note that without commitment from top management these programs tend to fail.

“Not having support from top management to drive the process along is a major mistake that many companies make,” says Wills.

Once you have a commitment from top management, manufacturers need to develop a vision of what they want to get out of the whole process, become educated, and dedicate a lean champion or green champion to motivate and encourage everyone to reach that goal.

“The vision you have and a dedicated individual or team with good leadership qualities will drive the day-to-day work and how it contributes to the end result,” says Wills.

The first stage of the green process, as well as lean, is to conserve resources.

“To get into the green criteria, manufacturers should strive to change three things: reduce the amount of raw materials you use, minimize the use of energy that comes from raw materials, and find ways to achieve zero toxic release either into the air or the water. These are all beyond the definition of ‘waste’ used for lean. Lean is the emphasis on cash flow, but even then a lot can be gained from both the lean and green perspective by redesigning a product to have 1/3 less packaging than the competition,” says Hall.

“Implementing lean and green practices often requires changing how you think about your business. Manufacturers now have to pay attention qualitatively to what is going on, what they are putting in the air, how many resources they waste, and so on. That’s the kind of revolutionary thinking we’re heading towards pretty quickly,” adds Hall.

When implementing green sustainability and lean initiatives, training and motivating workers on the shop floor is a key factor in achieving successful results.

“These are the people that are present everyday and have the ideas and know-how to cut out the waste,” says Will.

Workers will need to understand why the changes are taking place and how it affects them. No longer are workers simply being trained ‘how’ to do their jobs, they also must know ‘why’ they are doing it and be encouraged to come up with better solutions.

“In order to solve problems and improve processes, you need thinking people,” says Hall. “The intent is for workers to identify problems quickly and come up with solutions together. Without seeing the people side of it, you won’t get far.”

“Too many companies look at lean manufacturing as employing the tools, but lean is not about a bunch of tools, it is a business process and it’s a way of doing business. And in order to sustain it, you have to change the culture of an organization so that they understand this is how we do things now,” says Keller.

Keller points out that training people to identify wasted resources and come up with solutions is one of the biggest challenges manufacturers will face. Without constant commitment to the process, it is easy for the operation to fall back to the old way of doing things.

But with environmental sustainability, workers will often be more committed to the work if it's in support of a good cause.

"The younger generation, in particular, is aware of our impact on the environment and looking to be a part of an organization committed to environmental sustainability," says Wills.

In that case, it's a win-win situation for everyone involved.

To learn how 'going green,' when integrated with lean practices, can have a positive impact on your bottom line, the Association for Manufacturing Excellence is offering more expert advice from Brett Wills, Doc Hall, Ralph Keller and others at its International Lean Conference in Toronto, October 20-24, 2008. For more information, visit www.ameconference.org