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Lean Manufacturing is Green Manufacturing

The next waste under attack in lean manufacturing is energy.

It's not just because "being green" is in vogue for marketers, either. The very premise of lean manufacturing is about eliminating waste, and unnecessary energy use is the epitome of costly, inefficient waste.

Most manufacturing engineers have been employing lean practices for years now, attacking waste in processes, materials, transportation and other muda, muri and mura. But as forecasts continue calling for rising energy costs worldwide — largely because of expected spikes in demand out of China and India—the focus on saving energy has rightfully sharpened.

Manufacturing, as a whole, has a lot of room for improvement. The vast majority of all energy used in America is consumed by industrial sources—a staggering 31%, according to the US Energy Information Administration's Annual Energy Review. That compares to a lesser 28% for transportation, 23% for residential and 19% for commercial. In all, the industrial sector consumed an estimated 30,139 trillion BTUs in 2010, with a mere 7% of that coming from renewable sources. Most, 59%, came from fossil fuels.

That's why the US Department of Energy (DOE) has asked manufacturers to reduce their energy use by 25% over the next 10 years through its "Better Buildings Better Plants" program. That effort, launched last year, is an extension of an earlier "Save Energy Now Leader" program.

So far, 107 large companies—from 3M to Dow Chemical to General Dynamics to Procter & Gamble—have committed to meeting the DOE's goals under the program, Leo Christodoulou, program manager for the DOE's advanced manufacturing office, recently told me. But the goal is to get to 500 committed partners by 2015.

There's also a risk for not targeting energy use as part of a comprehensive lean program. In the 2011 book, "Reinventing Fire: Bold Business Solutions for the New Energy Era," author Amory B. Lovins of the Rocky Mountain Institute writes that business as usual is no longer an option when it comes to consuming energy. "The new energy era is already rising up all around us. ... In a world where demand and competition keep rising while natural resources become pricier, markets will reward those best able to manage costs, and energy is a critical and manageable component of industrial costs."

For more information about the federal energy-savings program, contact Andre de Fontaine at the Department of Energy. He can be reached at 202-586-6585 or BetterPlants@ee.doe.gov.



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