

Is Lean Green? – November 2003

People often tell me that lean thinking must be “green” because it reduces the amount of energy, manufacturing space, and wasted by-products required to produce a given product. Indeed, examples are often cited of reducing human effort, space, and scrap by 50 percent or more, per product produced, through applying lean principles in a manufacturing facility. I also hear that milk run pickups from suppliers reduce traffic congestion and energy consumption by letting one truck do the work of many.

This is all true. But what happens when lean production also reduces the cost of products and causes consumers to buy more? My guess is that the total amount of energy, by-products, and congestion can even go up as lean production is adopted if product designs and production locations stay the same.

But lean can support green. Just in a different way: We’ve learned that consumers are resistant to paying higher prices for the same product just because it’s “green” and that they are equally resistant to giving up products like big cars and large homes that are central to their enjoyment of life. But it’s also apparent that many emerging product technologies and lean manufacturing and distribution concepts can dramatically improve our environment, if only they can be widely incorporated into products and production systems without needing to increase product prices.

For example, hybrid motor vehicles are available right away and fuel cells and highly compressed value streams with right-sized process technologies to locate production closer to the user can be introduced within a few years. If these technologies and methods are fully adopted, there is reason to think that the burden on the environment can go down even as consumption goes up.

This means that lean’s role is to be green’s critical enabler as the massive waste in our current industrial practices is reduced to free up resources for improving product technologies and production locations for free. (That is, is at no apparent cost to the consumer.) You’ll remember how strange it first sounded when people began to realize that “quality is free.” To say that “green is free” if we turn production waste into environmental value sounds equally strange today. But not, I think, for long.

Is it just a coincidence that Toyota is the most profitable big car company, the leanest car company, and the company making the greatest efforts to introduce hybrid vehicles in the immediate future? I think not, because Toyota can add technology to its vehicles to address environmental concerns without needing to raise prices to consumers, as it relentlessly reduces costs through kaizen and kaikaku in both design and manufacture.

Let’s hope that every producer soon masters the same tricks. I’m convinced our environment is going to need all the help lean can offer.

Best regards,
Jim
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