

Standard procedure: getting to green materials

A raw-material-producer's perspective

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Everywhere we look, consumers tell us that they want to buy green products, governments want a green economy, producers are committing to green production, and companies are pursuing climate capitalism. Amidst this consumer demand for “green” lies the question: What does green mean?

Green can stand for a host of attributes, from recyclable to nonpolluting to energy efficient. But regardless of the definition, only a minority of today's consumers will pay a premium for a green product. For example, some consumers pay an incremental cost of \$6,225 to own a Toyota Prius rather than a Toyota Corolla.¹ In the same way, some shoppers are willing to pay more for organically grown food. If all else is equal, a majority of purchasers will choose the green product. But most purchasers—consumer or otherwise—will not pay a higher price or premium.

The same is true throughout industry: green can refer to a company's products, or to its operations, or to some sort of corporate contribution to a local

¹ Manget, J., Roche, C., and Munnich, F. *Capturing the Green Advantage for Consumer Companies*, Boston Consulting Group, Inc. January, 2009.

community or environmental cause. And that is the problem: when a word like “green” starts to mean everything, it ends up meaning nothing. The U.S. Federal Trade Commission (FTC) updated its so-called “green guides” in 2010, in an effort to put more definition around green marketing claims and to prevent abuses. But the FTC focus is mainly on consumer marketing, and very little if anything is specified for companies mainly engaged in business-to-business (B2B) marketing.

Requirements in other markets such as the EU are more stringent, but also skew toward consumers more than businesses.

So companies are increasingly taking matters into their own hands. And that means analyzing the full lifecycle implications of their products and managing their supply chain to reduce resource consumption and pollution.

A consumer-driven movement

Consumers are leading the movement to green. So, naturally, producers of consumer products are leading the move to greener production. If they can claim that their products are green—however they choose to define it—they will, since it gives them a leg up in the marketplace.

Because the definition of green is elusive at present, even consumer-products companies are not equipped or motivated to pursue greenness at optimum levels. Right now, when they are struggling to capture a price premium to cover the higher cost of going green, these companies generally are not pressuring or paying their suppliers to adopt greener production methods.

Clean-energy and –technology companies view themselves as green already, since they are leading the movement away from fossil fuels. When they choose suppliers, they focus on price and performance—not green attributes. (Although they value the positive PR that green can bring.)

Material producers, especially those on the upstream end of the supply chain, such as raw-material producers, are further behind in making their operations, supply chain and products greener. Even those that want to measure the energy and carbon footprint of their supply chain, have not done so because they are unclear what the metrics should be, what the value is, and how much it will cost.

Most materials producers aren't yet subject to market-based price signals for lessening the environmental impact of their operations. Those who do consider it usually do so under regulation-based price signals.

A pull through the supply chain

Recently, some companies, such as Walmart, have begun to ask their suppliers to submit information about their environmental performance according to specific standards established by the company. Although Walmart doesn't currently require the adoption of greener production methods, its new policies indicate the beginning of a movement to connect consumer price signals to manufacturing.

Over time, Walmart will be able to collect valuable data about consumers' green tastes and preferences. Ultimately, we can expect those price signals to inform Walmart's purchasing behavior. And, even longer term, these kinds of price signals will move the entire supply chain to green.

These forward-looking companies calculate and report their total environmental footprint, not only as a company, but also throughout the life cycle of their products. Life-cycle analysis, of course, requires obtaining relevant information from their supply chain.

Likewise, improving their numbers depends, at least in part, on requiring each member in the supply chain to improve its green performance. Or it means changing to suppliers with more sustainable practices.

We believe that, over time, an increasing number of supply-chain companies will be required by their customers to green up. They may even be paid a premium to do so.

What are the standards?

But even if the price signals that lead to economic incentives were put in place, suppliers must overcome another significant obstacle first: standards. Or, put more specifically, the lack of clear, verifiable standards.

The first question is: What do we mean by green? The answers are all over the map, with heavy consumer majorities identifying a dozen or more definitions of

green, as noted earlier. We cannot develop useful standards without clearly defining green.

Once we define green (and, of course, the definition may vary from industry to industry), we must set standards that are achievable and verifiable. Again, it's not that no one has proposed standards—quite the opposite. A 2008 U.K. Ecolabelling study identified 469 standards across 10 industry categories.²

This is clearly daunting—and counterproductive. Without clear standards, companies will be reluctant to invest in sustainable production.

Finally, we must identify third parties who can reliably validate green claims.

A real-life example

Our U.S.-based company, Simbol Materials, for example, has developed an innovative, green, sustainable process to produce critical materials for high-technology energy, defense, communication and industrial applications. Our process for extracting minerals from geothermal brines is far superior, environmentally, to other production methods. But right now, because of the absence of industry standards, you have to take our word for it.

Unlike most other green processes, it also is cost competitive. This unusual vantage point enables Simbol Materials to look at green a bit more objectively than many manufacturers, since meeting green standards doesn't increase our costs.

² Cook, G., Chrysostomidis, Y., Cadman, J., Wasilewski, C., and Wililams, P. *Mapping and analysis of sustainable product standards*, Environmental Resource Management, Ltd., March 2008.

It allows us, instead, to focus on defining green and the standards for green—especially upstream in the supply chain, where companies like ours work.

A path to green standards

We seek to contribute to the dialogue about green, helping to define it and to develop useful standards for all materials producers.

The first order of business, as we've said, is defining green.

Currently, the word is widely used to describe something designed and constructed with minimal negative impact to the environment—ideally using resources in a sustainable manner. We agree with that definition, but only as a starting point.

In our business, we assess green on multiple fronts. First, are our products used to produce something considered green? At Simbol Materials, the answer is both yes and no. For example, our lithium products will be used in the batteries for electric vehicles, as well as in a variety of applications from portable consumer electronics, pharmaceuticals to greases and glass.

But the ultimate use of our products is not really under our control. So we look at the sustainability of our production methods, which are:

- Carbon footprint: Does our process emit zero or less carbon dioxide (or other noxious emissions) than competitive processes?

- Waste: Does our process produce less waste and less-hazardous waste than competitive processes?
- Recyclability: Does our process permit the reuse of components, such as natural resources, or of the products themselves?
- Energy consumption: Is our process energy efficient? Is the type of energy we use greener than our competitors'?

Fortunately, for Simbol Materials the answers to the above questions are all yes. But the same is not true for our industry as a whole.

To better define what green is—and to develop useful standards, we believe government and industry must answer the following questions:

- What are the standards for green?
- Who determines if a product is green?
- How can we assess the value of green?
- Will customers pay a premium for something green?
- How much value can be captured for a green product?
- Who captures the value of green in the supply chain?

Currently, customers shy away from green purchasing until they see that it can be cost-competitive. Generally, they believe going green requires costly compliance and monitoring programs. Better standards and third-party verification could assuage their fears.

Unfortunately, standards at the raw-materials level are still in a nascent stage and downstream customers are not exerting pressure on manufacturers to develop

standards. Greenpeace conducts an annual green-electronics survey³ and Walmart is developing a sustainability index that will apply to materials producers.⁴ But that's about it.

Building a clean economy

Ultimately, America—indeed, the world—will join forces to build a clean economy. This will require not only defining green and setting verifiable standards, but also finding ways to recapture the value of green in products and services. And behind all this will lay long-term and consistent public policy that creates market clarity and certainty.

Businesses like ours are already laying the foundation.

³ Rautner, M. and Harrel, C. *Green Electronics... The Search Continues: Results of the Green Electronics Survey*, Greenpeace International, December 2008.

⁴ Denend, L., and Plambeck, E.L. *Wal-Mart's Sustainability Strategy*, Stanford Graduate School of Business, Stanford University, April 2007.