Carbon management 101: A conversation with Eric Jackson

Eric Jackson, an agricultural economist, is the senior carbon expert for the Environmental Change Institute of the University of Illinois at Urbana-Champaign and has been on the board of the American Fats and Oils Association since 1989. After working for 25 years in the agricultural sector for companies such as The Pillsbury Co. and International Proteins Corp., Jackson co-founded the Carbonless Promise consultancy in Stillwater, Minnesota, USA, with Michael Lammi. Through their work, the two clarify the complexities of the emerging carbon markets and help companies identify and manage carbon risks and opportunities. inform*'s Catherine Watkins recently talked with Jackson about the basics of carbon management.*

Q. I sense that you view carbon management as providing an opportunity for businesses. Please explain.

A. The next decade will see the United States join the rest of the world as we move into a carbon-constrained era. Rather than viewing regulation as an imposition and delaying action as long as possible, businesses can instead embrace change. In fact, carbon represents an entirely new asset class for most organizations . . . a new line-item on the balance sheet, as it were.

By working within voluntary and involuntary markets, companies can "exchange-trade" carbon credits on the various climate exchanges such as the Chicago and European Climate Exchanges. Businesses can also find buyers not affiliated with climate exchanges who will convert carbon assets into real financial assets.

It is also worth noting that many corporations appearing on "socially responsible" indices outperform their peers in almost every business segment. Is this coincidental or causal? I am not sure it matters if you are the executive responsible for the performance of a company and you are not including greenhouse gas (GHG) management as part of your strategy.

Q. What is the size of the carbon market now and where is it projected to be in the future?

A. In 2006, the US carbon market was less than $50 million, whereas the global market was $30 billion. In 2007, the US market expanded to $100 million and the global market also doubled to $60 billion. Experts predict that the US carbon market will grow to $1 trillion by 2020, or half of a $2 trillion global market.

Q. How should an organization begin its carbon management review?

A. We follow a four-step process in our consultations, in which we help clients assess their stakeholders' carbon concerns, develop a plan to manage their carbon impacts, measure their carbon baseline inventory, and set reduction goals and report progress.

Stakeholders include everyone from customers (who increasingly are requesting information about their suppliers in terms of carbon management) to investors. Insurance companies constitute another set of stakeholders as they anticipate an increase in claims as a result of climate change. In fact, many offer lower premiums for companies that demonstrate GHG reduction.

Rather than trying to appeal to all stakeholder groups when first developing a GHG strategy, it is more efficient to identify the first group or two that are likely to hurt your organization if you do not act. You also want to find out how deep their concerns are and what they expect your organization to do to assuage those fears.

Once you have identified your critical stakeholder groups, you can develop your GHG strategy. It does not need to be complicated. The best plans are relatively short and to the point. The primary sections of the plan are the articulation of the stakeholders' interests, the organization's motivations, broad objectives, and specific goals.

Q. Could you talk a bit about the life cycle analysis (LCA) process?

A. The first step of the LCA process is to choose the boundaries of the analysis. For example, if a company wanted to work toward a carbon-neutral vegetable oil product, it must begin by deciding how far upstream to begin the analysis and at what point down-

stream to end it. Does it begin with the harvest? The planting? The manufacture of the combine or development of the oilseed? A logical place to begin would be from the point the beans or seeds are sourced and to end would be with the disposal of the packaging after product use.

Once the boundaries are set, the analysis continues from the origination point through the manufacturing process, packaging, and distribution. What surprises many clients is that transportation at either end of the manufacturing process normally contributes only about 10% of the carbon emissions. An additional 10–20% is generated by all activities other than direct manufacturing processes. Such activities include packaging, business travel, sales activities, and production of promotional materials. The remaining 70% of carbon emissions is generated at the factory itself.

To address that portion of the LCA, we go through a three-step process. First, we conduct a Scope 1 analysis of all direct combustion and fuel uses on-site. Generally, a client has two choices at this point: switching fuels or replacing in-house equipment to improve efficiency. The first is reflected on the balance sheet as a short-term, current expenditure; the second is a long-term capital expense.

Next comes the Scope 2 analysis of all purchased power plus any co-generation occurring on-site. We look at how human diligence, or behavior change, can affect energy efficiency. We also look at what technology could be brought to bear, for example, the installation of sensors to control lighting or thermostatic controls. Direct action taken as a result of the Scope 1 and 2 analyses can result in a net decrease in carbon emissions of between 10 and 50%. That decrease will most often result in an increase in profits of about 10–15% in one year or less.

Finally, the Scope 3 analysis examines everything else. Basically, you can conduct as wide and broad and deep an analysis as you want. Once the LCA is complete, it is time to calculate your emissions and then set your carbon reduction goals that will be measured over time against the baseline calculation.

Q. How are carbon-reduction goals achieved?

A. As I mentioned, organizations generally use a combination of direct actions and offsets to achieve their carbon-reduction goals. Direct action such as the use of compact fluorescent light bulbs or buying "low-carbon" paper or inks can help reduce carbon emissions by as much as 15% from baseline measurements and constitutes Tier 1 reductions. Most organizations do not use offsets to achieve Tier 1 reductions because the cost of most direct actions can be expensed on the organization's income statement.

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- The Greenhouse Gas Protocol is the most widely used international accounting tool for government and business leaders attempting to understand, quantify, and manage greenhouse gas emissions. The protocol was developed through a partnership between the World Resources Institute and the World Business Council for Sustainable Development and is available for download at www.ghgprotocol.org.
- IBM Global Business Services has conducted a cross-industry study entitled "Mastering Carbon Management: Balancing Trade-offs to Optimize Supply Chain Efficiencies." Copies of the 16-page report are available for download at www-935.ibm.com/services/us/index.wss/ibvstudy/gbs/a1029278?cntxt=a1005268.
- An example of one company's creative promotion of its efforts to reduce the carbon footprint of its products can be found at www.patagonia.com. This clothing and sports-gear manufacturer with headquarters in Reno, Nevada, USA, has implemented its Footprint Chronicles™, an interactive mini-site that allows visitors to track the impact of 10 specific Patagonia products from design through delivery.

Tier 2 reductions, however, generally involve capital investments. For example, the cost of replacing an outdated heating system would be capitalized and not expensed. In the end, purchasing carbon credits could be more cost-effective than making large-scale capital investments to deal with Tier 2 reductions.

Tier 3 reductions include any steps taken to get down to a "carbon neutral" position. This last 30–40% of potential carbon reductions can rarely be achieved at any cost through direct action and can only be achieved through the purchase of carbon credits to offset the remaining carbon impact.

In the end, the story that is told and the emissions reductions that are achieved can vary significantly depending on the type of outcome you are trying to accomplish. Let the stakeholder analysis inform your GHG strategy. Part of that strategy will be an articulation of the outcomes necessary to keep your stakeholders happy. Set goals, determine the scope and boundary of your accounting, and develop your baseline carbon footprint. At the very least it is good management preparation for the carbon-constrained world in which we will be living. And it quite possibly might make your organization a leader rather than a follower.

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