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## Ask the Experts

by Steve Rice & Richard MacLean

November 2001

## Advice for EHS Managers in Troubled Times

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**Q: How would you recommend EHS managers proceed in these tough economic times? Richard:** A general guide: **DO:**

1. **Take direct action.** Waiting for management to tell you what to do won't set you apart in a good way.
2. **Dump non-critical programs and projects.** Differentiating among pet projects, nice-to-have programs, and should-do work is difficult. Tough questioning by impartial individuals is essential. These people can come from outside the department or outside the company. Sometimes the "non-expert" can initiate the best, most challenging questioning.
3. **Reengineer your department.** "Reengineering" has fallen out of favor due to disasters caused by management overlooking the human factor. Nevertheless, a systematic examination of "what is done, why, and how" can still lead to insights on what to eliminate or streamline. The traps to reengineering are well known: more thoughtful evaluations are possible.
4. **Draw attention to your good deeds.** Serve as the role model on how to do things right the first time.
5. **Develop a plan, follow it, and keep management in the loop.** If the call comes for more cuts, management will already know of the progress you are making, and will see you as part of the solution. If management refuses to consider your ongoing successes, you have a problem that transcends the situation. Maybe a job search is in order.
6. **Differentiate between your top and average performers.** Now is not the time to

give everyone similar pay raises (or cuts!) Your poor performers should already be gone. If not, shame on you.

7. **Seek feedback.** Your staff, key leaders in the company and outside resources can help get you "out of the box," but only if you request their input aggressively.

#### DON'T:

1. **Hide in the shadows**, maintain a low profile and assume that management will leave you alone. As a manager, you are responsible for helping to reduce costs.
2. **Use, "I have neither time nor resources"** as an excuse to trudge along with business as usual. I have seen indecisiveness and "management by meeting" consume up to 50% of management's time. Good managers have plenty of time; poor managers just spend it non-strategically.

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**Q: Honeywell has shut its Evergreen nylon recovery department. Where does that leave American carpet recycling? Steve:** Whenever a period of high media attention and specialty conferences on a topic fizzles out, either:

1. **the initiative has exhausted its public relations value** and key players have shelved promotion in favor of trying to make the issue financially and operationally viable, or;
2. **the effort has run aground**, and nobody wants to acknowledge it.

During the past year, there have been few announcements regarding carpet recycling, and those that have been made have given mixed messages. Of the two possibilities, however, I think that the first change is what is happening. Earlier this year, the [Midwest Working Group on Carpet Recycling](#) developed a non-binding Memorandum of Understanding with the [Carpet and Rug Institute](#) to "increase recycling and reuse over time." Garth Hinkel of the Midwest Working Group tells me that they are now working with seven states and the U.S. EPA to develop national carpet recycling and reuse goals; they expect to have the signatures of seven states during their upcoming meeting in Chicago. More dramatically, Evergreen (the joint effort between DSM and Honeywell) announced recently that it closed its nylon depolymerization facility -- I have heard a variety of reasons for the action, including both technical to economic. According to Sean Ragiel, owner of [Carpet Cycle](#), this turn of events has hurt regional carpet recovery firms such as his: they've reduced operations and increased their reliance on the other aspects of the business: recycling commercial carpet tile and broadloom padding, carpet removal, and installation. On the other hand, DuPont just announced an [expansion](#) of its recovery facility to 50 million pounds per year from 20 million pounds per year. Mark Ryan told me that DuPont's carpet reclamation program focuses on the physical recovery of all materials and the recompounding of nylon into other applications, especially for the automotive industry. That, combined with some of the carpet manufacturers' initiatives, such as Milliken's Earth Square effort and Collins and Aikman's [Powerbond](#) process, appears to be keeping the carpet recycling effort alive. Also, according to Frank Hurd, VP and CEO of the Carpet and Rug Institute, following the Memo of Understanding CRI has created a third-party organization: Carpet America Recovery Effort. CARE consists of an executive committee and four subcommittees to address recovery, product development, market development and business development. According to Hurd, CARE will set target goals in January; the initial goals for all carpeting by 2012 are to reuse (clean and rejuvenate as carpeting) at least 5%, and recycle (downcycle or depolymerize) at least 25%. Keep your eyes on what DuPont, BASF and DSM are doing to create the next generation of nylon process chemistry: DuPont and BASF are working on process technology to produce nylon-6 and nylon-6,6 through adiponitrile, eliminating the generation of ammonium sulfate by-product. DSM and DuPont are working on a process to make caprolactam, an intermediate for nylon-6, from butadiene. Both efforts will increase the eco-efficiency of nylon production and reduce capital costs. Time will tell if these new technologies create a demand for a unit like

the Evergreen facility or make it obsolete. [Back to Top](#)

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**Q: How can I make a financial case for improving office indoor air quality that justifies energy-efficiency projects?** **Steve:** Energy-saving project initiatives are struggling to prove substantive financial returns. Although the recent energy situation and resulting electricity cost spikes sparked many first-tier, high-return projects, justifications for further second-tier projects are becoming more difficult. A 1998 [EPA report](#) summarizes how to develop the financial justification for second-tier projects. Thus, efforts are focusing on additional financial benefits, such as worker productivity, that improved lighting, reduced ventilation and other energy-reduction efforts provide. This is the basis of Douglas McGregor's work on the behavior of individuals at work in his 1960 book, "The Human Side of Enterprise". It is also known as Theory X and Theory Y. I referred the question to a person with much more expertise in this area, David Mudari, with EPA's Indoor Air Quality group. According to Mudari, two recent studies, one qualitative and one quantitative, suggest improvements in office indoor air quality improve worker productivity by 3-4%. The first study interviewed workers regarding their perceptions about the issue and their productivity under a set of situations. Approximately 50% indicated they would have no increased productivity; the other 50% indicated they would have about 7% increased productivity, for a median employee productivity of around 3-4%. The other study, "Perceived Air Quality SBS Symptoms and Productivity in an Office at Two Pollution Loads" by Paul Wargocki, et. al., was presented at the Indoor Air '99 conference (see its proceedings, Volume 2, p. 131). In a blind study in an office, average worker productivity was shown to increase on the order of 2-6%, in line with the results of the qualitative study. Mudari also refers to software that assists in calculating the relationship between indoor air quality and energy efficiency. [Indoor Air Quality: Building Education and Assessment Model \(I-BEAM\)](#) is available through EPA. [Back to Top](#)

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**Q: Knowing that plastic bags are environmentally more damaging but more economical to use than paper, how might a municipality go about banning plastic bags?** **Richard:** Plastics have gotten a bad reputation over the years. Some of the materials used to produce plastic products are toxic; plastic litter can be unsightly and long-lived. The paper-or-plastic question I get every time I go through the checkout counter is the retailer's response to the public sensitivity over this perceived problem. Banning anything is not "the American way." And the facts of the situation do not support such a drastic action. A lifecycle analysis of paper vs. plastic does not back up the perceived environmental superiority of paper. Paper manufacturing employs toxic substances, and cutting down trees certainly is not environmentally friendly. One example: the production of 1,000 bags requires roughly 150 pounds of paper vs. 20 pounds of plastic. The environmentally preferred solution would be to eliminate single-use bags. If you want to do something environmentally friendly for your community, lobby your municipal council to require local merchants to: (1) charge a nominal fee (say 10 cents) for single use plastic or paper bags; and (2) offer cloth or "permanent" tote bags which can be sold at a high profit margin and subsidized by the sale of single use bags. Contact the [American Plastics Council](#) and the [American Forest and Paper Association](#) to hear both sides of this issue. If, after reviewing the data, you want to promote an environmentally preferred choice, be sure to differentiate the price (although you may have to charge less for plastic!) Recognize also that other significant issues could be at stake. You may need to take into consideration your municipality's recycling infrastructure. I suspect that even good recycling programs may not adequately segregate either paper or plastics, and much of what is "recycled" winds up in municipal incinerators. The litter laws may need to be strengthened and enforced. Some things, such as "over-packaging" of products, cannot be solved locally. That takes state or federal action. The last thing I would recommend is a ban on plastics. It may be doable in Berkeley and Aspen, but a ban would be nothing more than a "feel-good" act that ignores the real environmental issues. [Back to Top](#)

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**Q: How can communities attract sustainable businesses that pay well, want to set up shop in a rural community with pristine natural resources, and support teleworkers?** **Steve:** Bryan Thomlison, of Our Community Works, Inc., and I spent a considerable amount of time this year and last working toward this goal. The economic development, business planning, financing, and operational strategies required are extremely complex to do the subject justice in this space. You'll find broad guidance and suggestions in a few top sources,

including [GreenBiz.com](http://GreenBiz.com), [SustainableBusiness.com](http://SustainableBusiness.com), [In Business magazine](http://In Business magazine), and the [Sustainable Jobs Fund](http://Sustainable Jobs Fund). In addition, Bryan and I suggest:

- Starting the effort with an evaluation of the size of the community and its basic needs: foods, beverages, furniture, housing, and infrastructure.
- Conducting an economic analysis on which of those needs could be met in the community, by the community, in a near self-sustaining way. If there are opportunities, why not pursue them to meet the needs of the community and keep the spending for those needs inside the community?
- Paying special attention to those that could also meet needs outside the community as a means of drawing revenue into the community.
- Partnering with local, county and state social-services agencies that can provide funds and/or programs to help with transitioning and training skills for the unemployed and underemployed.

Many small business opportunities fit into this niche, including partnering with fledgling businesses seeking a foothold with small, dedicated regional facilities. The trick is to identify appropriate community needs and match them with resources, obtain seed funding, and finding the right business partners. [Back to Top](#)

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**Q: How might September 11 have changed funding opportunities for environmental technology entrepreneurs?** **Steve:** September 11 and its aftershocks might create a pause in the flow of activity and rearrange some environmental management and sustainability priorities, but there should be few long-term impacts. In my opinion, the more important impacts are macroeconomic -- the relevant event is that all investment has reduced and that there is very little venture capital going anywhere lately. That said, there is still activity; it's just that very little of it has gone into environmental technology -- less than 1% of the total by some counts and far less than that by others. The Oct. 23, 2001, edition of [Business News New Jersey](#) exemplifies this in an excellent special edition devoted to technology investment. The only mention of the environment in the edition, however, is one article that focuses on the lack of investment in the state's park system -- hardly a measure of significant investment interest in the environmental sector. According to Joel Makower, founder of [Green Business Network](#) and co-founder of [Clean Edge](#), "For the past year, even before September 11, there has been a major retrenchment among venture funders, angels, and others. But VC money hasn't dried up. There will always be opportunities for those with the right business plan at the right time." I sense that the best bets still appear to be fuel cells and distributed energy systems, though those areas are pretty well saturated by now. I think that indoor air quality and drinking water treatment arenas might become stronger in the years to come as companies try to maximize worker productivity and maintain or retain water supplies. The financial benefits to the ultimate investors of any new technology, however, will have to be tangible and substantive to receive funding. [Back to Top](#)

**Got A Question?** Send your question about environmental management issues to [Experts@GreenBiz.com](mailto:Experts@GreenBiz.com) We can't guarantee that we'll answer every question, but we'll try.

----- [Steve Rice](#) is the founder and president of [Environmental Opportunities, Inc.](#), a strategic environmental management advisory firm and has worked for both Exxon and BASF in a variety of environmental management positions. [Richard MacLean](#) is president of [Competitive Environment Inc.](#), a management consulting firm in Scottsdale, Arizona. He also serves as the Director of the [Center for Environmental Innovation, Inc.](#) and has held executive level health, safety and environmental positions in several Fortune 500 companies.

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