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CHEMICAL REACTION

New Services Help Chemical Customers Do More With Less

The long-beleaguered chemical industry is reinventing itself once again, and this time the changes are more than skin deep. A growing corps of chemical management services, or CMS, are transforming how chemical customers buy, use, and manage chemicals. Many CMS customers are saving money, improving processes, and dramatically cutting emissions and wastes.

The growth of CMS mirrors the rise in the notion of extended producer responsibility. In the chemical sector, that involves increased expectations that chemical manufacturers take responsibility for managing materials into and out of customers' manufacturing facilities. CMS's growth also can be attributed to increased interest in "servicizing" (see "At Your Service," *GBL*, August 1999) — "the emergence of product-based services which blur the distinction between manufacturing and traditional service-sector activities," according to the Boston-based Tellus Institute. Servicizing has evolved quietly over the past few years, though real-life examples of servicizing remain relatively scarce and, in many cases, less than profitable.

Not so in the chemical sector, where nearly everyone along the product supply chain has been under pressure to improve efficiencies while cutting emissions into air, land, and water. CMS customers appear to be doing just that, while reporting significant financial benefits.

There is ample rationale for improving the chemical supply chain. Studies show that for every $1 paid to purchase chemicals, up to $10 in additional costs can be incurred — in procurement, inspection, storage, compliance, training, hazmat waste collection, and many other costs. So, a facility purchasing $5 million in chemicals could spend up to $50 million more to manage them. At each step of the way, there are opportunities for errors or sloppy practices resulting in everything from improper labeling to

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CHEMICALS

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spillage to overstock — all of which can waste chemicals and cost companies money.

In the typical CMS business model, companies purchase chemical *services* instead of just chemicals. A CMS firm may handle all aspects of the chemical life-cycle, retaining ownership of the chemicals until they are used by the customer. Even then, the CMS may "own" the resulting waste stream.

For customers, the CMS value proposition is as simple as it is compelling, taking sales out of the business equation and replacing it with metrics of service — a shift from "selling more" to "managing better." The result is a step-change in the traditional relationships between chemical suppliers and their customers. In the new model, "CMS providers are paid for successfully delivering and managing chemicals across the entire chemical life-cycle," says Jill Kauffman Johnson of the nonprofit Chemical Strategies Partnership (CSP), which promotes chemical management services to industry. "The supplier's profitability is based on better performance and increased value from service, not on selling large volumes of chemicals."

Equally important is that in the CMS relationship, the true, full costs of chemical use are clear and can be managed at all levels.

Consider the success of General Motors' Saturn division in Spring Hill, Tenn, one of the pioneers of CMS. In 1989, Saturn began working with Henkel Chemical Management, a division of Henkel Surface Technologies. At the time, Saturn was setting up its innovative, "different" type of operation. One innovation was that Saturn chose to outsource many more aspects of its operation than had traditionally been done by US auto makers. Saturn turned to Henkel, initially to provide water-treatment services. The company now provides Saturn with chemical purchasing, warehousing, technical support, labeling, just-in-time delivery, and environmental tracking and support.

The arrangement has helped Saturn dramatically reduce the cost of chemical products and processes. This year, Saturn expects to reduce chemical costs by $1 million out of an annual $3.5 million buy.

According to CSP, the reduction of chemical volume accounts for the majority of savings realized at most companies. According to CSP's industry survey, CMS providers estimate that customers achieve net savings of 5% to 25% of chemical costs during the first year of a CMS contract, and that "savings continue to grow at a constant rate through the first three years of the contract" before dropping slightly by the fifth year.

Greener, Too

Such savings don't necessarily include the environmental benefits, which often are more difficult to track. CSP's survey found that in addition to the reduced waste resulting from curbing overbuying and improving processes on the shop floor, many CMS customers were able to eliminate certain toxic chemicals and to reduce emissions overall, enabling them to remain under the threshold for some reporting and emissions control requirements. "Several customers noted that the quality of data improved greatly, enabling them to properly track chemical usage, report their emissions more accurately, receive assistance in managing material safety data sheets, and become ISO 14000 certified," reports CSP.

Such benefits can stem from CMS providers that are willing to help customers solve vexing challenges. For example, Henkel tells of one customer's "environmental wish list," which included reducing chlorides consumed by the facility's paint shop. Chlorides had been infiltrating the plant's volatile organic compound (VOC) abatement (air scrubbing) system and causing significant corrosion, and increasing the plant's regulatory liabilities.

Henkel discovered that a common biocide used in the paint reclamation system was high in chlorides and a significant contributor to the corrosion problem. The oxidizing biocide was replaced with a nonoxidizing biocide, eliminating chlorides used in the system.

Financially, the material change was a virtual break-even, but the reduction in chlorides proved to significantly reduce

Select CMS Firms

- **Air Liquide America**: *www.us.airliquide.com*
- **Air Products and Chemicals**: *www.airproducts.com*
- **Arch Chemicals**: *www.archchemicals.com*
- **Ashland Chemicals**: *www.ashchem.com*
- **Nalco Chemical**: *www.nalco.com*
- **Castrol Industrial North America**: *www.castrolindustrial.com*
- **Haas Corp.**: *www.haascorp.com*
- **Henkel Chemical Management**: *www.chemmgt.com*
- **Interface LLC**: *www.interface-llc.com*
- **PPG Industries**: *www.ppg.com*
- **Quaker Chemical**: *www.quakerchem.com*

Chemical Management Case Studies

Customer	Supplier	Description and Benefits
Chrysler Neon Assembly Plant, Belvidere, Illinois	**PPG**	Under the "Pay as Painted" contract, PPG provides all auto body surface preparation, treatment, and coating chemicals (excluding solvents), and owns the chemicals until they are used. PPG is not paid until a quality car is produced, ensuring PPG's vested interest in the quality of the operation. Benefits to Chrysler include $1 million in savings after the first year, VOC emissions reductions, easier compliance reporting, and improved product quality.
Delta Air Lines	**Interface LLC Chemical Management**	Delta Air Lines began a CMS program in 1995, covering all stock and non-stock materials system wide, as well as gases. The supplier is paid a management fee and both partners share process efficiency savings. Delta has realized savings through cost avoidance (risk management insurance and out-of-date material), reducing material usage, and improving MSDS management.
Ford Taurus Assembly Plant, Chicago Illinois	**PPG/Chemfil**	PPG/Chemfil is responsible for all chemicals in the Ford plant excluding, paints, sealers, and lubricants. Because PPG/Chemfil's fee is fixed per unit of production, it works continually to improve chemical use efficiency. Ford's benefits include steady or declining chemical costs, improved inventory control, easier compliance reporting, reduced VOC emissions, and improved health and safety protection.
Navistar Engine Plant, Melrose Park, Illinois	**Castrol Industrial North America**	The fixed-fee Shared Savings contract, which covers coolants, cleaners, and associated additives, has produced dramatic results: coolant use has been reduced by more than 50% and coolant waste by more than 90%. Other benefits include reduced production downtime, improved health and safety, easier compliance reporting, and improved product quality.
Raytheon Systems Company	**Radian International LLC**	The contract covers the entire lifecycle of chemical management for all chemicals and gases, including procurement, inventory, delivery, waste disposal, and data management. The contract includes incentives for gainsharing, or "shared savings," for reductions in chemical use and purchase price, and in improved process efficiency.

Source: Chemical Strategies Partnership

oxidation and corrosion of the plant's VOC abatement system and virtually eliminated the need to replace expensive, specialty metal linings within the system. Says Henkel: "The system was returned to a high degree of efficiency, reducing regulatory charges for plant discharge."

Making the Move

So far, CMS has made significant inroads in only a handful of sectors — aerospace manufacturing, airlines, automotive, electronics, and metalworking — and mostly among larger customers. Smaller firms typically don't fit the customer profiles of CMS providers. "It's an economy-of-scale question," says Darcy Whaley of the Chemical Strategies Partnership. "For the CMS provider, it's a more sure deal if the customer has $10 million a year in purchases versus $500,000. The same amount of work is provided to both." Whaley says a few smaller manufacturers are finding value from CMS, and that CMS providers will gradually extend their offerings to these customers.

In studying the industry, CSP found a wide range of offerings among companies in the CMS field. There is no generally accepted definition of CMS, so the term is being widely used — and overused, according to some. "Everyone says they do CMS, but it's not clear that they do," says Whaley. "There's a need for common language." CSP's own definition, agreed to by 14 major CMS providers, states that "CMS goes beyond invoicing and delivering product to optimizing processes, continuously reducing chemical life-cycle costs and risks, and reducing environmental impact." Companies seeking CMS bids from providers will need to ensure they are comparing apples with apples, and conduct due diligence, such as interviewing a company's other CMS customers.

This challenge will only grow in coming months, as new CMS providers arrive on the scene. Darcy Whaley says there are between 15 and 20 new companies on her radar screen.

The Chemical Strategies Partnership, a project of the Pew Charitable Trusts and Heinz Endowments, offers a number of tools and services that may be helpful to companies seeking CMS services. Its *CSP Manual* offers tools for understanding and optimizing chemical management. The group also holds workshops, forums, and conferences aimed at promoting CMS.

CMS awareness is on a steady growth curve, says CSP's Jill Kauffman Johnson. "In the past year, there's been much, much more interest. I think the concept is catching on. We find that people need to hear the concept three times before actually going out and doing it. They've all heard it at least once now."

For more information about the Chemical Strategies Partnership, visit www.chemicalstrategies.org, *or contact Jill Kauffman Johnson (jill@ceaconsulting.com or 415-421-3405).*❖

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The earth is a bottom-line issue.

Nearly every choice you make can affect your company's environmental performance — and, potentially, its financial performance. Today, companies of all sizes and sectors are striving to integrate environmental thinking into strategic business decisions and create more environmentally sustainable businesses — while improving their financial performance, enhancing their reputations, and achieving competitive advantage in the marketplace.

The definition of "environmental responsibility" is changing. Among leadership companies, it now includes

- having a comprehensive view of one's operations, strategies, and facilities with an eye to cutting waste and emissions . . .
- maximizing the efficiency of all assets and resources . . .
- improving the quality of products and services . . .
- creating new market opportunities; and . . .
- enhancing reputation and relationships with customers, employees, communities, regulators, and other stakeholders.

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A LOOK AHEAD

Ten Green-Business Trends to Watch in the New Millennium

Finally, it's 2000: The hype is over; the reality begins. And wherever you stand on the outlook for this new decade/century/millennium — whether it will bring feast or famine, war or peace, enlightenment or apocalypse, the ridiculous or the sublime — there's one thing upon which nearly all can agree: For at least the next six months, nearly every soul on the planet will have trouble correctly dating letters, checks, and forms.

The new year also means the conclusion of the Decade of the Environment — or so the era was dubbed back in 1990. Indeed, for many firms, the '90s saw nothing short of an environmental revolution. It seems laughable now, but consider: In 1990, a large company could announce it would banish polystyrene foam coffee cups from its premises and launch a modest recycling program at headquarters — and make a few column-inches in the *Wall Street Journal*. In contrast, today's stories about business and the environment seem far more substantive than symbolic.

So, what will become the headlines of the new decade? Unlike just about everyone else, we don't fancy ourselves prognosticators — we fully subscribe to the observation attributed to Yogi Berra that, "It's tough to make predictions, especially about the future." In our humble opinion, the next few years will see a few leapfrogging leadership firms reinvent themselves around environmental or sustainability principles, but most companies grappling with whether and how to integrate these principles into their operation in a way that creates value without engendering dramatic change.

In other words, to quote another Yogi-ism, it's "déjà vu, all over again."

Rather than making bold forecasts, we'd like to begin the decade by sharing some of the stories, trends, and themes upon which we're training our professional lens, the grist that will inevitably feed our editorial mill over the coming months.

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Doing all this isn't easy. It requires new kinds of business relationships, both internally and externally, and new types of communication with trading partners up and down the supply chain. It takes innovative thinking to measure and report your company's environmental progress, and new and creative, effective partnerships with trading partners, government agencies, communities, customers, and others. **It requires timely, reliable information.**

That's where THE GREEN BUSINESS LETTER fits in. Each monthly issue brings the latest tools, strategies, research, and hands-on tips to help your company make environmental responsibility a source of business value and competitive advantage. From corporate strategy to facilities management, personnel policies to product development, **we help you make good, green choices — every single day.**

Here are just a few examples of the stories you'll find:

- **Market-based solutions** to environmental problems
- The latest data on **consumer and business attitudes**
- **Win-win alliances** with stakeholder groups
- **Leaning on suppliers** to cut waste, emissions — and costs
- Who's creating **zero-waste factories** and closed-loop products
- Effective environmental **communication strategies**
- Hands-on strategies for cost-saving **energy-efficiency measures**
- **Green-marketing strategies** that work (and those that don't)
- How to **motivate employees** on environmental issues
- Creating more value from **reduced materials use**
- Strategies for innovative **green product design**
- Keys to a successful **corporate environmental report**
- PLUS . . . industry benchmarks, green business awards, market research, useful web sites, events, book reviews, and much more.

What Readers Say

"My **single most valuable source** for current and cutting-edge information on business environmental practices. It's succinct, informative, easy to read, full of valuable resources, and most important, is structured in a way that allows for a quick scan from which I can pull relevant information."

— *Nancy Hirshberg, Director of Natural Resources, Stonyfield Farm, Inc.*

"Provides the best insight, in a brief, compelling way, to what is going on with corporate environmentalism. I particularly like it for its writing on trends and emerging issues — and it's practical. I always come away learning something. **It's the best environmental newsletter around**.

— *Bob Langert, Director of Public and Community Affairs, McDonald's*

"By far the **best source of environmental information** out there."

— *Michael Keany, Johnson & Johnson Health Care Systems*

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