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GREENING THE VALUE CHAIN: PART 2 – HOW TO GET STARTED ON SUSTAINABILITY.

By Enrique Medina, MS, CIH

The business case for sustainability is now accepted by most of the leading global enterprises. Leading companies with extensive supply and demand networks in sectors such as semiconductors, electronics, communications, pharmaceuticals, automotive, chemical, and aerospace have a great need for standardized metrics and indicators of sustainability performance that can be applied across the supply chain[1].

Sustainability, which for purposes of this discussion incorporates environmental, and health and safety management systems, and corporate social responsibility programs, requires a phased approach to implementation. The level of the sustainability programs vary greatly across the corporate spectrum. What is possible and desirable in terms of sustainability should be based on where a particular company is in its development process.

The Three Stages of Sustainability

Using environmental and health and safety (EHS) programs as a benchmark for sustainability, enterprises generally fall into one of three developmental stages. Companies with regulatory compliance driven programs represent Stage One. At this stage, the focus of EHS activities is on meeting compliance obligations with respect to air and water pollution, hazardous waste, hazardous materials, and worker health and safety. There may also be recycling programs, or goals to reduce energy and water consumption. The EHS function is managed as a collateral duty by a facilities or human resources middle manager at the plant level, and by a coordinating position or directorship at the corporate level. Typically, accountability for EHS performance is not formally incorporated into management objectives or board-level review.

Stage Two companies are those that are implementing environmental management systems, occupational health and safety management systems, or both either through internal corporate initiatives or by means of third-party certified programs such as ISO

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[1] Acceleration of Eco-Operation: Achieving Success and Sustainability in the Supply Chain. BPM Forum, 2009.

14001, OHSAS 18001, OSHA's VPP, or Mexico's "Industria Limpia (Clean Industry) and others. Some companies also have corporate citizenship programs in the communities where they operate. Companies at this stage tend to establish goals for reducing energy consumption, carbon footprints, water use, hazardous and solid waste generation, and increase recycling efforts and employee volunteerism. Some use key performance indicators to track environmental, worker health and safety, and community involvement performance. Accountability is formally established at both facility and corporate levels, and is usually supported by a formal audit program managed by the corporate legal department, which reports results to the board of directors.

Companies in Stage Three are those with robust EHS management systems that are now developing and implementing sustainability strategies with defined goals and objectives. At this stage, they have already addressed the "low-hanging fruit" opportunities of stage two companies, and are focusing on life cycle analyses, design for environment, green procurement, developing supply chain sustainability benchmarks, and corporate social responsibility (CSR) programs. Performance and accountability are clearly defined throughout the organization, with internal or third party auditing and certification, and board-level reporting and responsibility. These tend to be industry leaders with more transparent sustainability and CSR performance reporting and disclosure to employees, shareholders and the general public.

Clearly, not all companies fit neatly into one of the three stages described above. These stages are useful in assessing the current status of a facility as a starting point in the process of greening the value chain.

How to Get Started

Top management commitment and involvement are essential for a successful sustainability program. A 2009 study of Fortune 500 companies that measured external "green" recognition as a proxy for sustainability performance concluded that companies that manage their sustainability efforts higher within the corporate organization received more external recognition for their sustainability efforts than did the average company.[2] The sustainability leader in these companies was no more than one or two levels removed from the chief executive, located in the legal, public affairs or a dedicated sustainability department, and reported directly to the board of directors.

In addition to top-level leadership, management at the facility and business unit level must also be able to recognize the benefits before embarking on a sustainability effort.

The first step is to conduct a Baseline Sustainability Assessment at the facility level or at a representative number of facilities in the case of a business unit assessment. By applying specific evaluation criteria across a range of business functions, the BSA will establish the current stage of green development; identify opportunities for improvement, and provide a first order cost-benefit analysis of embarking on the effort. The results of the assessment will allow management to make the decision on whether or not to proceed.

[2] Where Sustainability Lives: Linking External Recognition to the Organizational Structures that Support Sustainability, published by Framework:CR, June 2009

If favorable, the next step is to develop a sustainability vision that is aligned with the values of the organization and is integrated into the existing manufacturing and core business functions, such as Green and Lean. This vision will guide strategic planning, and help to define goals and objectives, as well as performance indicators and metrics.

The third step involves educating employees at all levels of the organization about the Green & Lean Vision, and training them on their roles in the process. Selected individuals can then be invited to participate in developing the company's sustainability strategy.

The strategic planning team will be selected in the fourth step to establish the sustainability goals and objectives for the organization and set internal and external benchmarks for assessing performance. Indicators and metrics can start to be developed in this step.

The fifth step involves developing an Action Plan for Green & Lean implementation, identifying specific priority projects, implementation teams, and timelines. This takes place at the process level and involves team leaders, supervisors, and managers. It is important to assemble multi-functional teams representing production, facilities, maintenance, logistics, EHS, quality control, engineering, purchasing, sales, human resources, and other areas as needed.

The implementation steps must also include follow-up activities, evaluation, feedback, standardization, and training to ensure continual improvement.

Integrating Green & Lean

A typical approach to lean implementation that can be adapted to initial sustainability projects involves the following steps:

1. Develop a Sustainability Vision.
2. Select Green leaders to develop goals and objectives.
3. Form a multi-disciplinary Green implementation team (GIT).
4. Train the GIT on sustainability concepts and tools.
5. Choose first Green project, i.e. 5S+safety, energy efficiency, waste reduction, carbon footprint, etc.
6. Implement the pilot project, evaluate outcomes, develop benchmarks and revise.
7. Implement the Green project across the facility or organization.
8. Evaluate and measure outcomes. Develop metrics.
9. Train supervisors in Green practices.
10. Introduce new element of Green strategy.

There are a number of resources available on lean and green issues to help organizations get started. EPA's "Lean Manufacturing and the Environment" website[3] contains useful

[3] http://www.epa.gov/lean/leanenvironment.htm

information on lean manufacturing methods, case studies, publications and related links on opportunities for environmental improvements through lean processes. Also, the Society of Manufacturing Engineers' Lean to Green Sustainability Work Group[4] sponsors the annual "Lean to Green Manufacturing Conference", and presents Lean to Green webinars to advance learning and collaboration among lean and green practitioners.

Alliance Consulting International has the expertise in EHS program development, auditing, greenhouse gas verification, and regulatory compliance in a wide range of manufacturing and business environments to help you implement a sustainability strategy for your organization. If you have any questions or would like to discuss this article or other health, safety or environmental issues, please contact us at (619) 297-1469 or send us an email at emedina@pulse-point.com.
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Alliance Consulting International
Partners in Environmental and Occupational Health and Safety
3361 28th St.
San Diego, California 92104
(619)297-1469
(fax (619)297-1023
emedina@pulse-point.com
www.pulse-point.com

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[4] www.sme.org/leantogreen