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The Synergy of Environmental Health and Safety and Sustainability

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Introduction

Sustainability success results from continuous improvement. Kaizen is the Japanese word meaning continual process improvement. As safety professionals, we continually collaborate with internal and external stakeholders on joint problem identification and solution implementation. There is a large educational component to these efforts. We have become good teachers and good students. Success has been won by aligning safety and health innovation with business objectives. We struggled with and mastered "return on investment" and over and over again demonstrated that good safety practices contribute to business profitability. Efforts are emerging to incorporate safety and health metrics into sustainability reporting. There is an adage – the reward for good work is more work! All that we have achieved in the past has prepared us well for a collaborative leadership role in sustainability. There will be many exciting opportunities to advance the environmental health and safety agenda and innovatively contribute to sustainable profitability.

What is Sustainability?

The U. S. Environmental Protection Agency definition of sustainability states "Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations."[1] Environmental issues remain in the sustainability forefront due to the heightened publicity surrounding global warming, water supply scarcity, and waning natural resources. If there was a slogan for environmental sustainability it would be "don't deplete to compete". One third of the U. S. economy is currently based on the use of non-renewable resources that will not be available for future generations.

Most people think of environmental issues when considering sustainability, but those make up just one of three foundational pillars that also include economics and social equity. There are unpaid indirect costs and loss of potential future opportunities and resource use associated with each pillar that will impact future generations. Identification, assessment, and ownership of indirect costs are fundamental first steps towards resolving global sustainability issues.

[1] U. S. Environmental Protection Agency, "Sustainability", http://www.epa.gov/sustainability/, 2013

Environmental Sustainability

Global warming publicity and educational efforts to date have not effectively convinced the majority of the U. S. population to recognize climate change urgency The U. S. public is also unwilling to pay for some of the indirect costs through fees and chargebacks. A multi-country poll conducted by GlobeScan Radar found that public concern for environmental issues is at a 20 year low. [2] While a few studies reveal an increase in concern for climate change, the majority of polls indicate that the population does not believe it is a serious issue. Poll responders place responsibility for future corrective measures on the federal government, followed by state and local governments.

While government regulations are expected to be slow in coming, the U. S. federal government and military developed Executive Order 13514 "Federal Leadership in Environmental, Energy, and Economic Performance". This order mandates that federal agencies achieve 30 percent energy usage reduction.[3] The Depart of Defense's (DoD) Comprehensive Energy Strategy involves annual energy, water, and greenhouse gas emission reductions along with renewable energy and waste reduction goals.[4] These military and federal agency goals successfully leverage internal, manufacturer, and subcontractor innovation and competition. Future regulations will spur similar competition and "level set" with the establishment of common end points. Companies have reported that top climate change challenges include business unit coordination, strategic plan development, program expansion, and resource commitment. On the local level, rrecently Boston joined a number of other large cities announcing the Building Energy Reporting and Disclosure Ordinance to meet greenhouse gas and water reduction goals. More regulatory "level setting" is anticipated in the future.

Over the past ten years, companies have made a great deal of sustainability progress, but many are considered "halfway there" as their efforts may be incomplete, not encompass all three pillars, or are not integrated throughout the organization and supply chain.[5] Corporate public affairs and communications departments are highly tuned into sustainability integration and this is related to the trust and value consumers place on a "green" reputation, even in the absence of strong belief in climate change. Consumers are willing to pay more for "green" products and value a Corporate Social Responsibility (CSR) brand as "trustworthy".[6] Consumer perceptions may be based on marketing, not necessarily accountable metrics. Sustainability, in many cases, has not integrated throughout all company sectors and particularly financial, investor relations, and human resources which are key for support resources. [7] . The Carbon Disclosure Project's 2012 Global 500 report shows that the Standard & Poor (S & P) stock market index lists companies achieving sustainability progress. 96% of S & P companies reported board or senior

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[2] Environmental Leader, "Public Environmental Concern at '20 Year Low'", https://www.environmentalleader.com/2013/03/01/public-environmental-concern-at-20-year-low/, March 1, 2013.

[3] U. S/ Environmental Protection Agency "Executive Order 13514" http://www.epa.gov/oaintrnt/practices/eo13514.htm, 2013.

[4] White House, "Obama Administration Announces Comprehensive Strategy for Energy Security", http://www.whitehouse.gov/the-press-office/obama-administration-announces-comprehensive-strategy-energy-security, March 31, 2010.

[5] RobecoSAM AG, "The Sustainability Yearbook 2013", www.robecosam.com. January 2013, p. 18.

[6] Shiverick, Reg, "The Business Case for Corporate Sustainability Tools", http://www.dakotasoft.com/files/callouts/dakotasoftwarewpthe-business-case-for-corporate-sustainability-tools.pdf, 2013, p.4.

[7] RobecoSam, p. 18.

executive climate change oversight, while 78% reported integration into their broader business strategy. 68% identified customer and reputation related benefits. Almost half of the companies identified potentials for new products, but only about 20% have dedicated low carbon product research and development programs.[8]

A variety of environmental sustainability reporting metrics have been developed for key issues including carbon footprint and power, fuel, and water usage. Carbon footprint refers to Greenhouse Gas Emissions (GHG) which arise from energy and fuel consumption and impact global warming. Reduction of carbon footprint efforts extends beyond facilities to also include employee travel, rental properties, distribution, supply chain and product life cycle. Many companies have developed highly successful carbon footprint reduction programs that include alternative energy sources, renewable energy credits and offsets, green building certification (LEED), products redesign, reuse and recycling, and energy recovery. Carbon footprint reduction success is front and center on most companies' sustainability web sites.

Water scarcity presents significant business continuity and ethical issues, particularly in water scarce regions and developing countries. One billion people in the world lack access to clean water. Competition for global water resources is increasing with burgeoning population and economic activity and declining water quality. Agriculture alone consumes 70% of the world's water resources and is an important focus. Water distribution comprises up to 40% of municipality energy bills and 3- 4% of U. S. energy.[9] From a product water usage perspective, 40% of the water usage footprint arises from the use of laundry products, particularly hand laundering in developing countries. Water sustainability success arises from the stewardship of managing this critical shared resource. Companies have addressed water sustainability through agricultural technical assistance to farmers in developing countries, more efficient growing and irrigation methods, leakage control, catchment basin design and tree planting, product design, water reuse and recycling, and pre-fill non-water bottle cleaning.

The Waste Management Hierarchy was established by the EPA's Pollution Prevention Act of 1990 and includes source reduction, recycling, energy recovery, treatment, and disposal. The addition of "rethinking" to "reduce, reuse, and recycle" has resulted in companies' achievement of "zero landfill waste", reduced environmental liability, and increased profitability. Product life cycle waste transparency, metrics, and reporting still pose assessment challenges but the largest gains are being realized from packaging reduction and recycling. Waste disposal has evolved from a basic material transport expense to a profit generator.

Sustainable buildings embody state of the art tenant preferences for large open airy and light areas. This design conflicts with building fire codes which limit open areas and links between floors to limit the spread of smoke and fire. Sustainable buildings meet international performance standards, such as LEED (US), BREEAM (UK), or Green Star (Australia) which similarly approach energy and water usage and indoor air quality, as well as pollution and waste management. Green buildings are more marketable to tenants, but there are no "green" credits for fire protection unless in combination with pollution prevention. The conflict between fire protection risk management and sustainable construction has led to unique design solutions developed by fire protection engineers charged with meeting building code flame and smoke containment requirements. This is often an expensive process and entails demonstrating that the new design will work as planned. A key part of this process is educating fire fighters on sustainable building features.

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[8] Ibid.
[9] EPA.

Sustainability Economics

The economics sustainability pillar addresses a balanced and transparent approach to economic growth with stewardship and accountability for actions impacting the environment, community, and workers. Success through active stakeholder and collaborative industry engagement drives innovation. Ideally accountability is transparently displayed through objective and performance audits, metrics, benchmarking, and reporting.

Corporations still face challenges trying to convince investors that sustainability success equates to shareholder value. Simply viewing it as a Corporate Social Responsibility obligation with related costs does not convey the full potential profitability realization. Sustainable practices have a demonstrated marketing appeal. Sustainability initiatives succeed beyond "green" sales with innovative environmentally-friendly technologies that are leaner and more productive.[10] There are many good economic reasons for corporations to report on sustainability, including risk transparency. Transparency builds trust for corporate ethics with stakeholders. Consumers and investors are increasingly factoring sustainability compliance into purchase and investment decisions. Some products now bear a "Quick Response" QR code which once scanned with a smart phone take the user to a web site with information on sustainability and ethical business practices that enhance company reputation. Many companies initiated sustainability programs because it was "the right thing to do" and enhanced reputation and brand. Amazing innovation and expense savings have arisen underscoring the profitability advantages of collaborative "rethinking".

Study results from Harvard and the London School of Economics acknowledge the enhanced performance of sustainability inclusive business models which lead to higher stock market returns and profitability, lower debt costs, and reduced volatility. Sustainability advantages raise the rate used to calculate the internal rate of return for innovation and projects enabling greater resource allocation and competitive positioning.[11] An Ernst and Young survey found that 66% of executives observed increased sustainability questions from investors, particularly on energy and greenhouse gas emission management. A PricewaterhouseCoopers study identified that 1 out of every 8 dollars invested went to sustainable and responsible investing.[12]

Increased efficiencies and revenue growth from innovation are most successful when integrated throughout the organization. The leveraging of new technologies leads to step wise further innovation and cumulatively all sustainable practices leads to improved risk profiles and brand reputation. One exciting example is the profitable development of new lightweight polymers finding application in lightweight vehicles manufacture supporting fuel efficiency and emissions reduction. Future environmental and safety regulations will drive innovative competition and growth while providing common achievement endpoints. Corporate boards lament the lack of business language communication from sustainability departments validating the financial impact. These Environmental Social Governance (ESG) factors have been linked to higher performance and corporations struggle with the assimilation and communication of

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[10] Environmental leader, "When Sustainability Becomes a Challenge, Opportunities for Innovation Abound", August 22, 2012.

[11] Environmental leader, "4 Steps to Getting Buy In", http://www.environmentalleader.com/2013/02/25/sustainability-4-steps-to-getting-buy-in/, February 25, 2013.

[12] Shiverick, p. 5.

performance indicators.[13] Corporate Sustainability Officers and leaders must be able to communicate sustainability and technological advancements in financial terms. ESGs will expand beyond liability and risk management issues as reporting and financial sustainability models develop.[14] The Deloitte 2012 Sustainability Study found that 61% of corporate CEOS expect their engagement in sustainability to increase over the next two years fostering integrated understanding and communication.[15] Strategic high-level executive and governance engagement is critical to sustainability expansion, collaboration, and success

The Dow Jones Sustainability World Index represents the top 10% of the largest 2500 Dow Jones Stock Market Index companies. NASDAQ has a similar index. Assessment criteria used to score companies includes long-term economic, environmental, and social sustainability indices. An Emerging Markets Sustainability World Index has recently been developed as these businesses have a better long term success record. Investors are particularly interested in sustainability ratings in Emerging Markets and this effort will encourage sustainability participation.[16]

Corporate sustainability goals and metrics are increasingly being incorporated into corporate reports and web sites. Up to 70% of a company's expenses and 86% of the carbon footprint are attributable to their supply chain so supply chain sustainability programs enhance the likelihood of downstream companies being selected as preferred vendors. Supply chain sustainability efforts are currently in their infancy so there are appreciable marketing advantages for sustainable downstream supply chain businesses. With the expansion of global outsourcing, companies face new risk management, liability, CSR, and reputational risks related to supply chain partners. A 2010 Accenture-UN Global Impact Study found that 88% of CEOs understand that sustainability should be integrated into their supply chain, but only 54% report achieving that goal. While companies are actively engaged or developing their own sustainability assessments and programs that address climate change, environmental, adverse weather events, water shortage, and human equity issues at home, their supply chains often do not. The supply chain is not being held accountable or accountable to the same degree as the outsourcing company. Many companies lack supply chain strategic assessment tools and resources. Supply chain scorecards, procurement data systems, contractual obligations, codes of conduct, and training should be implemented throughout the supply chain and address business continuity in addition to sustainability. Supply chain sustainability presents broader positive reporting results for companies and highlights desirable subcontractors and vendors who can benefit from marketing these efficiency and safety attributes. The integration of sustainability across the supply chain increases communication and oversight and fuels collaborative innovation resulting in "green and lean" profitability.

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[13] Environmental Leader, "The Primary Habit for Effective Sustainability", http://www.environmentalleader.com/2013/03/06/the-primary-habit-for-effective-,sustainability/, March 6, 2013.
[14] Ibid.
[15] Ibid.
[16] RobecoSAM AG, "Dow Jones Sustainability indexes", http://www.sustainability- indexes.com/index.jsp, 2013.

Social Equity Sustainability Includes Safety

The social equity pillar is quite broad, especially for developing countries, and incorporates issues such as human rights, child labor, slavery, food and water, health care, living conditions, and worker safety. The International Labour Organization developed the term "decent jobs" in the past as one of seven priority sustainability areas. This term broadly includes safety but focuses also on more basic human rights already a part of developed countries' cultures. The positioning of safety issues as a critical component of the social equity pillar is gaining momentum.

Safety Sustainability

Safety issues belong in the social equity sustainability platform because they entail the stewardship of human resources. There were 3.1 million recordable nonfatal injuries and illness and close to 1 million lost time cases in 2010 (U. S. Bureau of Labor Statistics) in the United States alone. Safety and health organizations in the U. S. and Europe are seizing the opportunities presented by social equity sustainability to campaign for the inclusion of occupational health and safety (OHS) metrics and reporting. "What gets measured gets done." "Green jobs" safety, arising from new sustainability technology, has also become a significant emerging issue.

OHS has not been widely incorporated into the broad sustainability agenda, which is itself evolving. OHS is a critical portion of the sustainability human equity pillar considering the magnitude of the global workforce and diversity of exposures, accidents, and disease. The lack of recognized and accepted uniform standard metrics has impeded company reporting within a sustainability framework. The Global Reporting Initiative pioneered the first global sustainability reporting framework and released the updated version G4 in May 2013. Past versions were criticized for limited safety metrics but GRI agreed to address this more comprehensively in G4.[17] The development of meaningful safety and health reporting metrics is poised to significantly impact the advancement of safety and health globally.

The Center for Safety and Health Sustainability (CSHS) arose in 2010 from a global partnership between ASSE, AIHA, and IOSH to address injury and illness prevention. CSHS published the February, 2013 "Current Practices in Occupational Health and Safety Sustainability Reporting" report which presents an analysis of company sustainability reporting as well as the quality, completeness, and comparability of occupational health and safety metrics performance indicators. The report provides a 'snapshot" of occupational health and safety sustainability reporting and also was intended to help GRI improve OHS indicators in G4. This development of meaningful safety and health metrics is poised to significantly impact the advancement of safety and health globally. The report's major findings included; great variability in terms and definitions, nonstandard data, low corporate GRI OHS indicator reporting, absence of information regarding contract and temporary workers, and lack of occupational disease reporting. The Center observed that even sustainable organizations do not engage in OHS reporting or use GRI recommended indicators. The Center's report concluded with recommendations for standardization of terms, definitions, data collection methodology, and indicator reporting within a multiple year framework. Extended reporting for temporary and contract workers and across the supply chain was also emphasized due to absence in current reporting[18].

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[17] Global reporting initiative, "G4 Developments", https://www.globalreporting.org/reporting/latest-guidelines/g4-developments/Pages/default.aspx, 2013.

[18] Center for Safety and Health Sustainability, "Current Practices in Occupational Health and Safety Sustainability Reporting", http://centershs.org/, February 2013.

The business case for sustainability is proven over and over again through the success stories on many corporations' sustainability web sites. Sustainability initiatives drive improved business efficiencies and innovation. Corporate success is shifting from being defined primarily by financial profit and expanding to integrate sustainability governance, which positively impacts environmental and social issues. Corporate leaders must clearly recognize and understand the internal and external stakeholder benefits of sustainability and support collaborative advancement opportunities. Collaboration supports the diversity of innovation discussions and ownership of a sustainable business culture. Sustainability should be integrated throughout all levels of an organization with metrics, benchmarking, audits, training, and communication. The evolution to sustainable performance requires the effective engagement of committed leadership and stakeholders through a practice of continuous improvement. Transformational corporate leadership embodies communication and expertise in risk management, benchmarking, and understanding of direct and indirect costs on global and regional scales.

Safety professionals skillfully can advance the environmental health and safety sustainability agenda through the development of achievable goals and a "roadmap". Program structure and processes can be found in ISO 14001 – environmental management, ISO 18001 – safety and health management, and ISO 14064 – climate change. Metrics development resources can be found on the U. S. EPA Clean Energy web site, GRI, UK BSI Publicly Available Standard 2050, and the Greenhouse Gas Protocol. The biggest impact areas should be targeted first that include vulnerable and high volume areas. The goals and metrics must be meaningful and have "traction", but also be achievable and not overly aggressive. Sustainability development should include employees, stakeholders, and supply chains. Embrace opportunities for beneficial partnerships and expertise sharing, particularly for developing country supply chains. Sustainability efforts shape corporate culture and the "payback", after a lot of hard work and "rethinking", can be quite significant.

Conclusion: The Sustainability Compass

In conclusion, sustainability and affiliated metrics reporting presents a "horizon of continuous improvement opportunity" for the achievement of both, business and environmental health and safety objectives. Companies publishing and achieving sustainability metrics develop a "world citizen" brand that is very marketable to consumers and investors who are seeking companies with ethics. Transformational and collaborative leadership is required to integrate sustainability throughout the corporate culture and even throughout the supply chain. The ability to communicate meaningful successes through benchmarking metrics to internal and external groups emphasizes the validity of efforts. Environmental health and safety professionals are well positioned for sustainability leadership collaboration and to promote the value of formal safety metrics. A wide variety of tools and metrics systems are available to assist,

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