

SUSTAINABLE MANUFACTURING

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WORKING TOWARDS SUSTAINABILITY

Best Practices for Building an Environmentally, Socially and Economically Responsible Organization



Sustainability is a term continuing to evolve with changes in population, climate, new technologies, increased data and greater awareness. The term has different meanings depending on the application, business sector or community yet there are similarities within these differences in terms of best practices and performance indicators. Many Fortune 500 companies use governance, stakeholder engagement, disclosure and performance as the parameters to frame their sustainability reporting. Others simplify the definition to use environment, social responsibility

and economics as the triskele that forms their program. For municipalities and governments, it often is grounded on risk management especially as it relates to weather events and growing populations. The best practices, however, seem to be consistent as to what should be incorporated in a plan or report. Top priorities regardless of sector are greenhouse gas (GHG) reductions and renewable energy, water conservation and waste reduction.

Manufacturing enterprises have their own unique set of considerations when developing their sustainability plans.



Regulatory compliance, product quality control and assurance, and asset management of their manufacturing processes and buildings are often non-negotiables for doing business. Their sustainability program is often incorporated into these current systems as one stream-lined process.

For smaller companies, a thorough third-party audit is the starting point to see how best to incorporate sustainability goals into their compliance program. A baseline and timeframe can then be developed that best matches the goals and growth of the company. Often there are state grants that can assist companies in achieving their energy efficiency and renewable energy goals. These grant awards in turn help the state realize its own regional sustainability goals.

The better sustainability programs take into account not only cradle-to-grave management of their products, but also cradle-to-cradle systems and a process for reviewing where and when those systems are possible. Cradle-to-cradle is a phrase invented by Walter R. Stahel in the 1970s and popularized by William McDonough and Michael Braungart in their 2002 book titled “Cradle-to-Cradle: Remaking the Way We Make Things”. Production techniques are reviewed for efficiency and ways to make products essentially waste free. The concept views production as a mass balance equation more or less, with material inputs and outputs viewed as potential raw materials for recycling and reuse back into the manufacturing process. These “technical or biological nutrients” are recycled with no loss of quality to the product or repurposed for compost and consumption. This review often results in innovative new designs and ways of manufacturing that might not otherwise have been realized.

In other countries, such as Sweden, manufacturers will set up an industrial ecopark to assist with this mission. When there is no opportunity for a manufacturer to reuse their own waste streams, companies will team up with another company that can use them and site their manufacturing plants in the same ecopark.

However, in the USA there are a number of regulatory requirements that need to be considered to achieve this type of collaboration. With that consideration in mind, we will review the best practices of some companies that are state-side and what they are doing well in regards to their sustainability programs and reporting.

A report from Ceres, a not-for-profit organization focusing on sustainable businesses along with Sustainalytics, a firm measuring key performance indicators for sustainability, states that although there has been some leadership in sustainability for specific areas the progress made overall has been modest. The Ceres report highlights which companies are doing better in each respective area. (Confino, 2014).

Board Leadership

Alcoa has greenhouse gas (GHG) emissions reductions and energy efficiency as part of their environmental stewardship definition. A fifth of executive cash compensation is tied to this goal along with safety and diversity goals.

Xylem is another company that has shown management accountability by appointing key senior executives that are held accountable for the companies’ sustainability performance. The water technology provider has a sustainability steering committee and business risk committee that keeps their goals and communications moving forward.

Out of 613 companies reviewed, only 3 % of the best leaders in this category linked executive compensation with voluntary sustainability reporting targets that exceed regulatory requirements for greenhouse gas emissions. Only a third of the companies had board of directors’ oversight on the sustainability performance goals, which is a fundamental component for affecting change within an organization. Visible management level oversight in the form of performance goal review, along with a posted environmental policy statement with CEO and CFO signatures, are ways to increase performance in this area.

Stakeholder Engagement

PepsiCo presents its sustainability goals and strategies at its annual stakeholders meeting and discuss their challenges with climate change, water scarcity and public health in their annual report.

According to the Ceres report, a little over half of the companies are engaging investors on sustainability issues and performance. The top 3% use multiple approaches to bring the information to mainstream investors by communicating on sustainability performance and innovations at annual meetings, annual financial reports and directly discussing sustainability as part of agenda topics with shareholders. Company websites and social media are other platforms to communicate the goals and performance.

Less than 10% of the companies in the report engage stakeholders in the materials assessment process and the insights or innovations that have been realized. Although almost half of the



companies have a program that engages employees on the various sustainability issues, less than 10% of that number has a system in place throughout the company with any formal accountability metrics. One approach that is useful is having environmental goals as part of the performance review for the areas that actually impact various environmental reduction goals. The manufacturing, maintenance, administrative and R&D areas will then seek out



the EHS manager to ensure that they understand how their work affects the various environmental permits and sustainability goals for their company.

Procurement

Starbucks is continuing its effort to reach its goal to ethically source 100% of its coffee beans, a goal they had set to accomplish by 2015. The company is working to engage with suppliers and local communities to accelerate investments in sustainable farming.

The Ceres report indicated that a third of the companies have some form of engagement with suppliers on sustainability performance, but only 14% have a formal supply chain program for review. Additional programs such as auditing their suppliers and point of origin of materials are ways to ensure awareness and possible opportunities in waste reduction, sustainability goals and product innovation.

Water Risks

The report identified 103 of the companies as water intensive and out of that number about half assess water related business risks. A quarter of those companies are making water stressed regions a priority in conservation efforts. Depending on the business, this can include conservation, water quality and human health and watershed protection.

Coca-Cola is one company that has been working to improve the efficiency of its water usage and is planning a third-party evaluation of its water management to identify further improvements.

Eco-Design

Life cycle assessments (LCA), sustainable materials and eco-design criteria are the hallmarks of reviewing the eco-design process. Philips, the healthcare, electronics and lighting company has been incorporating an eco-design process as part of its sustainability program for some time. In reviewing the process at the beginning of the design, cost savings, new innovations and better ways to design as well as waste reductions and energy efficiency are often discovered before the product is ever manufactured to scale.

Nike also integrates sustainable design across its product portfolio. In 2013, they created the Making app to allow the data in its materials sustainability index to be publicly available.

This app allows designers across the industry to make more sustainable decisions for their design to have a lower environmental impact.

It is at the eco-design phase that cradle-to-cradle considerations can be built into the design process to realize the greatest goal achievement in regards to sustainability and waste reduction.

Human Rights

Johnson & Johnson, the pharmaceutical and consumer goods manufacturer has a detailed policy that incorporates these principles not just in its overseas operations and supply chain, but also to all of its workplaces. The company has a credo that clearly lays out their responsibilities to their employees, the environment and its stakeholders. They also have the Universal Declaration of Human Rights (UDHR), International Covenant on Civil and Political Rights and International Covenant on Economic, Social and Cultural Rights that address their policy on human rights.

More than half of the companies have codes of conduct for suppliers that address human rights as part of their supply chain process and questionnaire. However, 79% have no formal human rights policies for their direct employees such as an employee's right to freedom of association and collective bargaining.



Biodiversity

The utility company PG&E has an environmental policy that references habitat and species protection and reports on these findings as it relates to their work.

The Ceres report shows that after evaluating 126 companies only eight had a formal policy on biodiversity. In light of the current rate of extinction of species, attention to biodiversity needs to be specifically addressed. This issue was particularly lacking in the food and beverage industry as well as the energy sector.

Disclosure and Transparency

When it comes to reporting and communicating sustainability data, 93% of Global Fortune 500 companies publicly disclose information on their sustainability programs, goals and measurement metrics. On the global level, this is often a prerequisite for conducting business in other countries that have more progressive environmental regulations and policies in place.

However, the number drops significantly when we look at how many of those companies seek out third-party verification on their reporting systems. Lastly, the Ceres report shows that over half of the 30 oil and gas companies fail to publish any sustainability report despite their significant impacts.

Confino, J. (2014). Best Practices in Sustainability-Ford, Starbucks and More. The Guardian.

McDonough, W., Braungart, M., & Hoyer, S. (2002). Cradle-to-Cradle: Remaking the Way We Make Things. North Point Press.

However, General Mills recently committed to a robust risk assessment process that is to be undertaken in partnership with a third-party. The goal is to sustainably source 10 of their grain commodities.

In summary, by building on the successes of other companies, sharing best practices and undergoing a third-party evaluation on how best to improve or start a sustainability program with goals that incorporate your individual business needs and brand image, companies can move ahead of the curve in realizing new product innovation, cost savings and stakeholder investments. Having a sustainability program in place not only assures success on the global scale but also locally in the communities where your company resides. When so many other competitors are already doing it, you may have to ask yourself- what's the price to not have a program?

For more information on getting started with a sustainability program, writing an annual sustainability report, or conducting an audit, Susan McKeever-Duys can be reached at 845-391-8360 x2605.



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