Sustainability in the Workplace

A New Approach for Advancing Worker Safety and Health

OSHA®

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The U.S. Occupational Safety and Health Administration[1] (OSHA) recognizes that new strategies are needed to ensure that all workers return home safe, sound, and healthy from a day on the job. Workplace safety and health standards and their enforcement can have a huge impact on workers' lives—but the OSHA standard setting process is slow and even full compliance with standards will not prevent all work injuries and illnesses. There is much untapped potential to leverage other movements that are big, proactive, diverse in audience and stakeholders, future-thinking, and innovative to advance worker safety and health. Sustainability is one such movement that provides the potential to go beyond the Agency's traditional role and become a transformative force.

Rooted in the integration of environmental, social, and economic considerations, the sustainability movement has steadily gained power and traction. Individual organizations (companies, local and state governments, etc.) have been using sustainability as a platform for decision-making and transparency efforts. OSHA is not looking to redefine or reinvent sustainability; occupational safety and health (OSH) is already a component of existing conceptual models. However, in practice, the sustainability movement has focused more on environmental concerns, leaving key social and workplace considerations, such as OSH, behind.

Employers are only truly sustainable when they ensure the safety, health, and welfare of their workers.

The sustainability movement is going to continue to advance whether or not OSHA and the OSH community choose to actively engage. Where OSH is not part of the discussion, individuals, companies, and organizations that present themselves, their activities, or their products as sustainable may not be doing what is best for their workers. A building, no matter how energy efficient or healthy for occupants, is not sustainable if a construction worker is killed while building it. Furniture, no matter how responsibly the wood is harvested, is not sustainable if a woodworker loses a limb during manufacturing. The poultry supply chain, no matter how well free-range chickens are treated, cannot be sustainable when workers endure crippling musculoskeletal disorders while processing those chickens. Employers are only truly sustainable when they ensure the safety, health, and welfare of their workers.

OSHA has undertaken this project as a way to assess the current sustainability landscape, understand how OSH is integrated (or not) into sustainability efforts, and identify opportunities to leverage the sustainability movement to promote worker safety and health. This white paper was developed as a result of more than 80 conversations and the review of many articles, publications, reports, and frameworks. It lays out OSHA's understanding of sustainability, key areas where stakeholders are currently engaging, recognized opportunities and challenges, and potential actions that could advance OSH within sustainability discussions.

These ideas are just the beginning of the Agency's sustainability journey and future engagements with the sustainability community. OSHA welcomes feedback and dialogue to build on these efforts. The path forward is ripe for collaboration and innovation. Together we can work toward an integrated vision of sustainability that protects the environment for future generations, ensures long-term economic viability, and allows all people to thrive and flourish.

Engage with us @OSHA_DOL or sustainability@dol.gov

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Organization of this Document

This document, which focuses on the intersection of OSH and sustainability, is the product of OSHA's efforts described in Appendix A. It is organized to follow our exploration of the sustainability landscape—understanding what sustainability is and the connections between sustainability and OSH, identifying key areas of current activity in sustainability, gaining insight about the factors that are driving these activities, and finally outlining potential actions for leveraging sustainability to advance worker safety and health.

This document is intended for two distinct audiences. First, the OSH community and safety and health professionals can utilize this work to recognize new opportunities for their efforts and a path for moving beyond their traditional roles. Second, individuals and organizations engaged in sustainability from a variety of perspectives can utilize this work to understand how they can better articulate and integrate OSH issues into their work and the benefits of doing so.

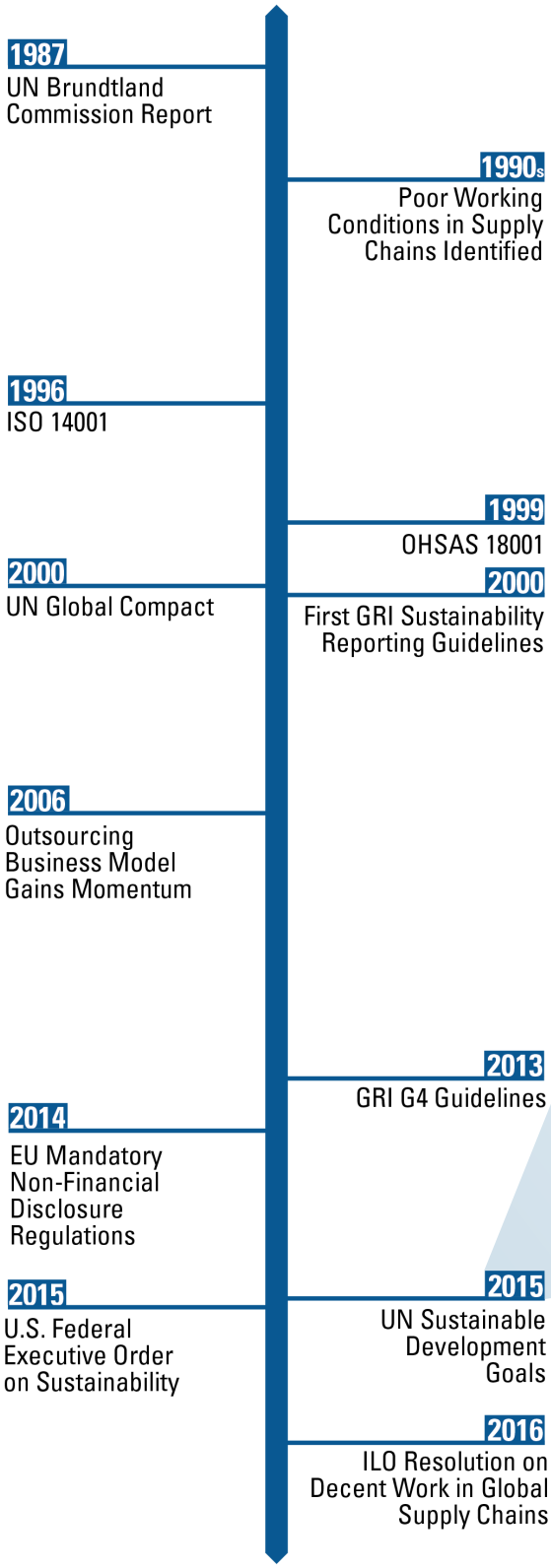
SUSTAINABILITY:
A MOVEMENT

While issues of environmental stewardship and worker safety and health achieved notoriety by the 1970s, sustainability began to emerge as a topic of interest following the release of the United Nations (UN) Brundtland Commission report in 1987.[2] This report provided the initial definition for sustainability and a call to action to preserve the societal, economic, and environmental systems on which we all depend.

> **"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."**
>
> – Our Common Future, UN Brundtland Commission (1987)

Since that time, progress has been made at both global and organizational levels on sustainability. In the early 1990s, poor working conditions in supply chains became highly visible as a result of consumer campaigns and have since continued to evolve towards increased accountability and transparency. At the same time, systematic approaches to both environmental and OSH management (e.g., ISO 14001, OHSAS 18001) were developed and integrated into global business practices. In 2000, the UN Global Compact made strides toward aligning business with global sustainable development principles and the introduction of sustainability reporting guidelines spurred growth in individual organizations (companies, local and state governments, etc.) using sustainability as a platform for decision-making and transparency.

More recent efforts have focused on increasing transparency, developing global and national goals, and addressing emerging issues (e.g., climate change, supply chain sustainability). For example, in 2014, the European Union issued a Directive that places mandatory disclosure requirements for non-financial and diversity information on large companies.[3] In 2015, the UN adopted 17 sustainable development goals (SDGs) as a part of the 2030 Agenda for Sustainable Development[4] and in the U.S., Executive Order 13693, Planning for Sustainability in the Next Decade, which sets goals for maintaining Federal leadership in sustainability, was issued.[5] In 2016, the International Labour Organization's (ILO) Committee on Decent Work in Global Supply Chains adopted a resolution and a set of action-oriented conclusions to bridge



Sustainability Timeline. Adapted from: Hill, D.C. and Seabrook, K.A. (2013). Safety & Sustainability: Understanding the business value. Professional Safety.

Worker Safety and Health Considerations in the UN Sustainable Development Goals

On January 1, 2016, 17 UN Sustainable Development Goals (SDGs), adopted in September 2015 at a historic United Nations (UN) Summit, officially came into force. Each of the goals, which include specific targets to be achieved over the next 15 years, are meant to inform and guide strategies for governments, the private sector, civil society, and individuals. Because of their wide acceptance and broad applicability, some organizations are using the UN SDGs to underpin their sustainability efforts.

A number of the SDGs have direct and indirect connections to worker and labor issues. For example:

GOAL #8: Decent Work and Economic Growth

- Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment
- Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms
- By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

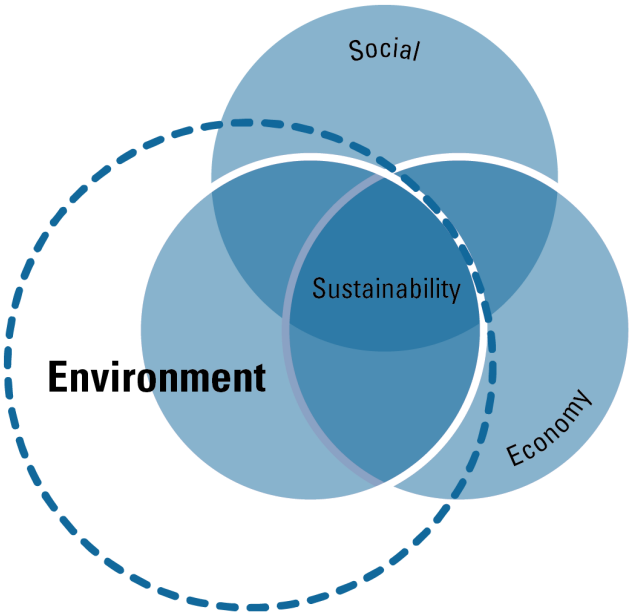
GOAL #12: Responsible Consumption and Production

- By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
- Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

http://www.un.org/sustainabledevelopment/

OSH-SUSTAINABILITY CONNECTION

governance gaps and address labor concerns throughout global supply chains.[6]



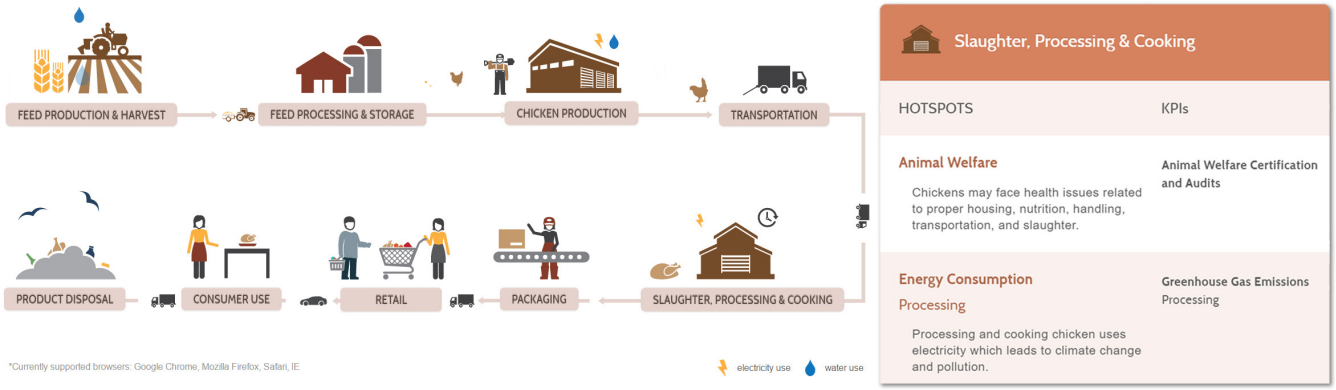
The three pillars of environment, society, and economy are frequently used to model how sustainability can be incorporated into an organization's mission, goals, and practices. The "three Venn" diagram is a well-recognized visualization of these pillars. Each of the pillars is considered essential for sustainable outcomes to be achieved. To date, the environmental community has effectively leveraged the sustainability movement to advance improvements in environmental outcomes, such as resource usage and emissions reductions, through increased awareness, the establishment of a collective vision, investment in innovations, and promotion of transparency.

The issues that are most often classified under the social sphere of sustainability (e.g., OSH, human rights, labor relations, community engagement, diversity, equity, benefits and compensation, the organization of work, supply chains, culture) are less understood and have gained less attention. This has led to people siloing sustainability; using the concepts of "environmental sustainability" and "social sustainability" rather than an integrated vision for sustainable outcomes. This singular focus on any one aspect of sustainability can result in unintended negative impacts (e.g., hazards to workers arising from improvements to reduce environmental impacts) or creating tension between goals (e.g., labor and environment).

Although there are many worker issues embedded within the concept of sustainability, there is a unique opportunity to advance OSH through this framework. In this context, OSH refers to the promotion of the safety, health, and welfare of workers. Utilizing

a sustainability framing provides a way to reimagine approaches for protecting workers and raises new issues to explore and opportunities for innovation.

Existing gaps in current sustainability thinking highlight one opportunity to leverage the power of this movement to advance OSH simply by being part of the conversation. For example, the work of the Sustainability Consortium,[7] a global organization of manufacturers, retailers, suppliers, service providers, non-governmental organizations (NGOs), civil society organizations, governmental agencies, and academics dedicated to improving the sustainability of consumer products, highlights how worker safety and health is often left out of current sustainability discussions. In mapping hotspots and improvement opportunities in product supply chains, this effort's methodology failed to identify any worker safety and health issues in the slaughter,



The Sustainability Consortium's Chicken Supply Chain Visualization. Screen Capture. 11/8/2016.

processing, and cooking of chicken. However, we know that workers in this industry suffer elevated rates of injury and illness, toiling long hours in difficult conditions.[8]

Fully articulating and integrating OSH within sustainability efforts can help expand the thinking of those already involved in sustainability and also provide a platform for OSHA and the community of safety and health professionals to move beyond traditional roles. Given the traction and the momentum of the sustainability movement, this type of engagement can be used as a transformative force to amplify the impact on the lives of workers, both inside and outside the workplace.

Shifting the Safety Curve. This graphic representation illustrates the commitment to safety in American workplaces, highlighting the range of current efforts. Fully articulating and integrating OSH within sustainability efforts provides an opportunity to drive a larger number of workplaces to make a stronger commitment to safety.

LESSONS LEARNED:

AREAS OF SUSTAINABILITY ACTIVITY

Current sustainability efforts are focused in seven areas of activity: reporting and metrics, investing and shareholder engagement, business, standards and certifications, procurement, education, and research. Based on our conversations with stakeholders, opportunities and challenges for advancing worker safety and health in each of these areas were identified. The project methodology and a complete list of those that participated in the project are included in Appendices A and B. It is anticipated that there will be continued engagement with identified and not yet identified stakeholders to further explore these topics.

The table illustrates stakeholders that provided insight into each of these areas and the primary topic of our conversations with them. As many of the stakeholders we spoke with are active in a number of sustainability efforts, the diagram is not inclusive of all efforts, initiatives, and areas of expertise that may be ongoing or planned by the stakeholders listed.

	Reporting and Metrics: Center for Safety and Health Sustainability (CSHS), Ceres, Corporate Knights, Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB)
	Investing and Shareholder Engagement: AFL-CIO, Bloomberg Intelligence, National Conference on Public Employee Retirement Systems (NCPERS), Pax World Management LLC, Sustainalytics, UAW Retiree Medical Benefits Trust, US SIF: The Forum for Sustainable and Responsible Investment
	Business: American Sustainable Business Council (ASBC), Aspen Institute, Baxter International Inc., Campbell Soup Company, C&A Foundation, GreenBiz.com, Kaiser Permanente, ORCHSE Strategies, Perry's Ice Cream Company, Phylmar Regulatory Roundtable – OSH Forum, Siemens Healthineers, The Dow Chemical Company, The National Association for Environmental Management (NAEM)
	Standards and Certifications: Aluminum Stewardship Initiative (ASI), American Chemistry Council (ACC), B Lab, bluesign technologies ag, Business and Institutional Furniture Manufacturers Association (BIFMA), Institute of Scrap Recycling Industries, Inc. (ISRI), National Institute of Standards and Technology (NIST), NSF International, Specialty Graphic Imaging Association (SGIA), Sustainable Apparel Coalition (SAC), U.S. Green Building Council
	Procurement: EcoVadis, Sustainable Purchasing Leadership Council (SPLC), UL, U.S. Environmental Protection Agency (EPA), U.S. General Services Administration (GSA)
	Education: Arizona State University, East Carolina University, George Washington University, Institution of Occupational Safety and Health (IOSH), Oregon State University, University of Massachusetts Lowell, Utrecht University
	Research: Campbell Institute, CPWR – The Center for Construction Research and Training, Harvard School of Public Health, National Institute for Occupational Safety and Health (NIOSH)

REPORTING AND METRICS

The public reporting of environmental, social, and governance (ESG) issues began in the 1980s with corporate environmental reporting.[9] This expanded to corporate social responsibility (CSR) reporting, which now is essentially synonymous with sustainability reporting in many cases, the terms often being used interchangeably. Currently, sustainability reporting is becoming a common practice for organizations ranging from businesses to governments to NGOs. This sort of reporting is considered non-financial reporting and is most often voluntary. Organizations are self-selecting what issues are included in their reports. This selection can be based on a variety of mechanisms, including industry expectations, organizational values, data quality and availability, consumer demand, formal materiality assessment, or more recently, the UN SDGs. With this growth in disclosure, there has also been a move to increase the rigor of sustainability reporting through the development of organizations and tools to standardize practices and metrics. There have been a few efforts in some countries (e.g., European Union) to make ESG disclosures mandatory for companies of a certain size or in certain industries.

Material issues are ones that can "reasonably be considered important for reflecting the organization's economic, environmental and social impacts, or influencing the decisions of stakeholders."

– Global Reporting Initiative. (2016). GRI 101: Foundation. Global Reporting Standards. https://www.globalreporting.org/standards

The Global Reporting Initiative (GRI), established in 1997, developed a reporting framework that has become the most adopted model used for sustainability reporting around the globe. Since its initial version, the framework has undergone several iterations in an effort to increase rigor and applicability.[10] There are several other organizations, including the Sustainability Accounting Standards Board (SASB)[11] and the International Integrated Reporting Council (IIRC)[12], that are especially active.

Many people, regardless of their primary area of activity in the realm of sustainability, considered metric development and use critical challenges to be solved. It is essential to be able to identify what measures are important, when they should be reported, how they should be calculated and standardized, and how to compare across years, organizations, and geography. Efforts are ongoing through reporting organizations, trade associations, professional associations, standards development groups, investing and financial organizations, and companies themselves to address these challenges through the development of tools (e.g., The Vitality Group Reporting on Health Roadmap)[13], indices (e.g., The Harvard SHINE Well-being Index[14]), workgroups and collaborations, and recommended metrics and methodologies (e.g., the Center for Safety and Health Sustainability's Best Practices Guide for Occupational Health and Safety in Sustainability Reports[15]).

Essential Elements	**Organizational Structure and Reporting Relationships**	OSH staffing levels.
		Reporting relationships.
		Board of Director oversight.
	The Scope of the OSH Programs	Scope of coverage, including all organizational sites, facilities, business units, business operations, suppliers, and contractors, and noting any limitations or exclusions (e.g., subsidiaries, joint ventures (or other partnerships), and recent acquisitions or divestments).
	OSH Policy/Codes of Conduct	Summary of top-level OSH policy and/or codes of conduct.
	OSH Management System	Description of OSH management system (e.g., proprietary approach, nationally or internationally recognized standard or guideline).
		Date of certification or registration if the management system has been registered or certified by a third party auditor.
	OSH Program and Performance Auditing	Approach to external auditing of the OSH program and its performance.
	OSH Performance Reporting	Lost-time injury and illness frequency rate, lost-time injury and illness severity rate, and number of fatalities (all employees/ workers – 5 year period).
		Lost-time injury and illness frequency rate, lost-time injury and illness severity rate, and number of fatalities (all contractors – 5 year period).
		% of owned or leased manufacturing, production, or warehousing facilities that have implemented an OSH management system that meets a nationally or internationally recognized standard or guideline.
		% of owned or leased manufacturing, production, or warehousing facilities that have had their OSH management systems audited.
		% of direct/first tier suppliers' facilities that were audited for compliance with OSH standards.
Optional Elements	**OSH Targets**	Metrics that provide performance against continual improvement goals or targets (e.g., reduce lost time injuries by 20% over 3 years).
	OSH Involvement in Capital Investments	Programs and approaches to assure OSH oversight of capital investments for new construction or equipment, process redesign, expansion, modernization, etc., including trigger points that would initiate OSH oversight.
	Worker Involvement	Worker participation in areas such as OSH committees, union OSH representation, joint inspections and investigations, job safety analyses, risk assessments and other areas such as kaizen teams and strike teams.
	OSH Training	Nature and extent of training for all levels.
	OSH Risks	Description of risk management process used to identify and manage health and safety risks.
		Key OSH risks and mitigation strategies.
	Other Descriptive Items/ Metrics	Special programs such as safety fairs, campaigns, community programs and awards, recognition programs, wellness programs, return to work programs, third party manufacturing metrics, other indicative or predictive performance metrics (e.g., workers exposed above recommended exposures but with safety equipment, safety culture indicators, behavioral safety observations, workers at risk, etc.).

Proposed OSH Elements for Sustainability Reporting. Adapted from CSHS Best Practice Guide for Occupational Health and Safety in Sustainability Reports.

In addition to company reporting, there have been efforts to develop rankings and indices for use by groups, including investors, looking to incorporate the information reported by companies into their decision support tools. Some of the popular rankings and indices include: the Dow Jones Sustainability Index,[16] the Corporate Knights Global 100,[17] and the MSCI Global Sustainability Index.[18] The assessment of information for inclusion in these indices and rankings is highly dependent on what information is publicly available or self-reported. It is difficult to include health and safety as a factor in these rankings based on the sporadic nature of reporting on OSH and inconsistency in the metrics used when information is provided on these issues.

Opportunities

- **UN Sustainable Development Goals:** The nearly global acceptance of the UN SDGs offers a unified context for organizations to develop and advance their own sustainability goals and efforts. The SDGs provide targets that are applicable to governments, civil society, and the private sector. While not every goal and target will be applicable to every organization, a number of organizations, such as Unilever,[19] PwC,[20] The Dow Chemical Company,[21] and the World Health Organization,[22] are viewing the SDGs as an opportunity for developing strategy, accountability, and innovation.
- **Increasing the Salience of OSH as a Sustainability Issue:** To date, the inclusion of OSH in sustainability reporting is highly dependent upon industry sector. As sustainability reporting expands to include additional social aspects, there is an opportunity to increase the prevalence of reporting on OSH and the metrics that are used by more fully articulating and defining the path forward in this area.

How are you accounting for impacts on the safety and health of workers?

Challenges

- **Voluntary Nature of Reporting:** Currently, in the U.S., sustainability reporting is voluntary and most often not driven by regulation. NGOs, the investment community, and consumers are driving what is reported and are demanding more robust and effective disclosure. Even when people do report on OSH, the way the information is reported makes it difficult to compare. The voluntary nature of reporting means that the information available to investors and the public remains inconsistent and incomplete.
- **Leading Metrics:** Leading indicators, in addition to the more commonly used lagging indicators for OSH, are needed. These metrics can be difficult to develop and use due to comparability challenges, but also because there is a lack of industry-specific evidence of financial impact related to safety and health.
- **Disconnect Between OSH Professionals and Business Leadership:** Incorporating information into high-level reporting channels in organizations often falls beyond the normal functions of most OSH professionals. Primarily seen as technical specialists, they are not typically involved in discussions about business goals and opportunities.

INVESTING AND SHAREHOLDER ENGAGEMENT

Sustainable, responsible, and impact investing and shareholder engagement integrate ESG criteria into the investment process. Those engaging in these types of activities do so by considering ESG criteria from a variety of sources (e.g., financial disclosures, non-financial disclosures, and indices and rankings[23]) in their decision-making, as well as by utilizing shareholder engagement strategies, such as letters, resolutions, proxy votes, and meetings, to advocate for ESG issues.

In 2014, U.S.-domiciled assets under management incorporating ESG considerations into decision-making and shareholder engagement strategies rose to $6.57 trillion, a growth of more than 900% since 1995.[24] This growth is driven by a number of developments, including: (1) increased evidence of the impacts of ESG concerns; (2) increasing interest to seek out investments that fulfill personal values, goals, and institutional missions as well as aim for strong financial performance; (3) seeking hidden sources of financial outperformance over the long term; (4) pursuing an investment discipline that manages risk and fulfills fiduciary duties; (5) growing body of academic research that shows a strong link between ESG and financial performance; and (6) millennials who are looking to not only make a return on their investments, but to also make a difference.

U.S. Department of Labor Guidance on Incorporating ESG Considerations into Decision-making

In 2015, the U.S. Department of Labor issued guidance outlining the ways in which ESG considerations could be incorporated into decision-making. For example, they can be considered as "tiebreakers" when investments are otherwise equal with respect to their economic and financial characteristics. In cases where ESG factors may have a direct relationship to the economic and financial value of an investment, they can be considered as proper components of the fiduciary's analysis of the economic and financial merits of competing investment choices.

https://www.dol.gov/opa/media/press/ebsa/ebsa20152045.htm

As a field, sustainability is pushing heavily into investing for non-financial risks and opportunities. Human capital management,which includes considerations of workplace safety and health, encompasses a broad range of corporate practices that are of particular interest in this regard. According to the California Public Employees' Retirement System (CalPERS), "the scope of human capital management includes a company's direct employees, as well as the employees of vendors in the company's supply chain. In addition, human capital management encompasses a broad range of corporate practices, including but not limited to: hiring and retention, training, compensation, fair labor practices, health and safety, responsible contracting, and diversity and inclusion."[25]

While OSH is generally considered to be important, particularly as it relates to governance and leadership performance, metrics used to assess OSH performance are not consistent in use or application. This information gap makes it challenging, if not impossible, for OSH to be considered material to an investor's decision-making process. Information about safety and health performance is only required in quarterly and annual reports to the U.S. Securities and Exchange Commission (SEC) from mining companies (see box for additional detail). There are several efforts underway to make similar information more broadly available in these types of financial filings. Other efforts to date have focused on gaining the attention of chief executive officers (CEOs) and board members through non-binding shareholder resolutions.

Required Mine Safety Disclosures, U.S. Securities and Exchange Commission

In December 2011, the U.S. Securities and Exchange Commission (SEC) announced new rules implementing the Dodd-Frank Wall Street Reform and Consumer Protection Act's requirement that mining companies disclose safety information in the quarterly and annual reports they file with the SEC.

Items required for disclosure include but are not limited to:

- The total number of flagrant violations under Section 110(b)(2) of the Federal Mine Safety and Heath Act (Mine Act).
- The total number of imminent danger orders issued under Section 107(a) of the Mine Act.
- The total dollar value of proposed assessments from MSHA under the Mine Act
- The total number of mining-related fatalities.
- A list of the mines that receive notice from MSHA of a pattern of violations of mandatory health or safety standards that are of such nature as could have significantly and substantially contributed to the cause and effect of coal or other mine health or safety hazards under Section 104(e) of the Mine Act.

Any occurrence of a violation, order, or other event from the list of required disclosures must be reported; no materiality threshold applies.

https://www.sec.gov/news/press/2011/2011-273.htm.

In 2016, researchers found a decrease in mining-related citations and injuries among the mines owned by SEC-registrants as compared to those that are not registered.

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2680296.

Opportunities

- **Risk Approaches:** Viewing OSH as a business risk rather than an operational function can drive its inclusion in internal audits and enterprise risk analysis. A number of practitioners in this field have identified the advantage of expanding audit and risk analysis beyond financials to include applied approaches, policies, and control mechanisms.
- **Materiality of OSH:** U.S. law requires publicly listed companies to disclose material information, defined by the U.S. Supreme Court as information presenting "a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of information made available."[26] However, there is no universally agreed upon definition for materiality in relation to non-financial factors, such as OSH. There has been criticism of efforts to develop universal

materiality determinations based on industry sectors as some feel that materiality varies at a smaller scale (i.e., from company to company). While the method used in the determination of materiality may still be debated, access to information and data is a common need no matter the method. Even lagging indicators can provide information about potential risks to investors. These data need to be publicly available and able to be aggregated and identified to the parent company (e.g., stock ticker identifier).

- **Transparency:** Organizations are trying to push information release requirements through the SEC. The SEC recently asked for public feedback on business and financial disclosures required by Regulation S-K,[27] through a concept release. A joint report released by several coalitions noted that more than 26,000 comments were submitted to the SEC, with many commenters expressing clear support for expanded and enhanced disclosures, including disclosures on sustainability topics.[28]

- **Emerging Topics:** There are a number of macro trends that are contributing to interest in ESG considerations including supply chain risks, climate change, human capital, and rising economies. As many engaging in ESG opportunities are interested in long term investing (e.g., 20-30 year time horizons), investors are not as constrained by conventional economic frameworks or deterred by the complexities of working towards solutions in these areas.

What data do you need to make OSH a central component of your investment and financial decision-making?

Challenges

- **Education:** Sustainable, responsible, and impact investing and shareholder engagement that integrates ESG criteria into decision-making are still considered specialized areas of activity, although they are becoming more mainstream. Business schools are beginning to incorporate these concepts into their programs, and some educational courses and certifications that include ESG topics are available, but additional training and curriculum are needed to increase the knowledge base for these types of investing strategies.

- **Reporting is Not Required:** To date, companies have not had to report their safety and health data to OSHA, though this will change for a certain subset of companies that are required, beginning in 2017, to electronically submit their injury and illness data.[29] Even where companies are voluntarily making their safety and health information publicly available there have not been widespread or accepted efforts to harmonize this reporting for consistency, strength of metrics, or verification. Investor efforts to comprehensively incorporate ESG information into investment decisions are hindered by this lack of comprehensive, comparable, and reliable data.

BUSINESS

As the idea of sustainability within businesses has matured over the last decade, many leading companies are making it a key part of their growth strategy for the future. There have been several drivers for this, which include: increased importance of transparency and reporting, supply chain and customer demand, regulations and voluntary standards, green procurement and contracting, and investing. To meet these demands, sustainability is seen as a way to package and express the core values of a company to outsiders.

"For many organizations, sustainability has evolved from a 'feel good' exercise to a strategic imperative that focuses on economic, environmental and social risks and opportunities which, left unattended, can potentially threaten the long-term success of strategies and the viability of business models."

– Demystifying Sustainability Risk, Committee of Sponsoring Organizations of the Treadway Commission (COSO) (2013)

With these trends, there has also been a move to elevate sustainability positions within companies. While no two organizational structures are alike, the GreenBiz "State of the Profession" report found that there has been a significant increase in the number of vice presidents of sustainability reporting directly to corporate senior executives or the board of directors.[30] Others have also noted that adding Environmental Health Safety & Sustainability (EHS&S) performance into an executive's compensation structure can be a successful strategy for integration.

Over time, businesses have started to move from a focus on environmental sustainability to one that also embraces social aspects. For many businesses, worker safety and health is a non-negotiable value (e.g., "zero harm") that has always been a part of the business model, regardless of how a company views sustainability. In some of these cases, OSH efforts are also seen as a natural fit under a broader sustainability umbrella (e.g., "people, planet, profit"). A recent report by the Campbell Institute at the National Safety Council, which brings together world-class performers in EHS across industry sectors and regions of the world, similarly found that leading companies are taking on "a broader, more holistic view of sustainability, of which safety plays a key role."[31]

To identify focus areas for future sustainability work, as well as reporting, companies have been moving toward detailed materiality assessments to identify those issues that are of importance for both the company and stakeholders. These assessments often include extensive surveys and interviews with internal, as well as external, stakeholders. Worker safety and health is regularly identified as a key issue in these assessments.

Some other strategies currently being used to address worker health and safety issues include: evaluations of the maturity of OSH management systems, design processes that include OSH, culture and perception surveys, worker engagement through EHS committees and teams, close call systems, internal recognition programs, toolkits for workers and managers on safety and health issues, and audits of company and supplier facilities.

Highlighting Worker Safety and Health in Sustainability Reporting

In their annual sustainability report, Baxter International Inc. provided information beyond the typical injury and fatality rates to describe their performance on worker safety and health. In addition to analyzing the main sources of work-related injuries and serious incidents to identify trends and opportunities for improvement, they also highlighted several initiatives on safety program management, including the launch of a "Safety Connection" intranet portal, a key resource that defines critical safety behaviors and provides tools and resources to enhance employee ownership of safety.

Graphic courtesy of Baxter International Inc.

Opportunities

- **OSH as Innovation:** Given the past focus on the environmental aspects of sustainability, OSH can be seen as an innovation area as businesses increase their focus on social aspects. OSH professionals, if engaged appropriately, can use sustainability to drive issues of worker health and safety forward. Worker engagement can also help identify opportunities for innovations that improve not only safety and health, but also business performance.
- **Expanded Understanding of Worker Issues:** Within their sustainability frameworks, many organizations are now moving toward an expanded understanding of worker and workplace issues. This understanding includes a focus on the many aspects of work that need to be addressed in order to reach a truly sustainable workplace that ensures workers are flourishing. This includes providing a healthy, safe work environment, but may also extend to community engagement, volunteering, and other aspects of company practices (e.g., leave policies, wages, employee ownership).
- **Rankings:** Some businesses, especially those that are publicly traded, are motivated to improve their performance to achieve high ranks on various lists, such as the Dow Jones Sustainability Index or the Corporate Knights Global 100. Other companies, even if not public, do not want to see themselves at the top of lists of underperformers in any respect.
- **Collaboration:** Business leaders recognize that many of their sustainability goals cannot be achieved alone. Convening of groups of sustainability leaders, EHS managers, and others that are similarly situated in companies will likely take on more importance going forward.

What strategies typically used in sustainability activities (e.g., innovative partnerships, environmental and ethical guidelines) can you use to improve health and safety in the workplace?

Challenges

- **OSH as Cost:** For many businesses, OSH is still viewed largely as a cost to business, rather than as an investment. This is especially the case where lost-time incident rates and fatality rates, the two most commonly used indicators of safety and health performance, are low; people think the problem is solved and further investment in these issues is not needed. Consideration of leading indicators that focus on the ongoing risks to worker safety and health may help dispel issues of complacency around OSH.

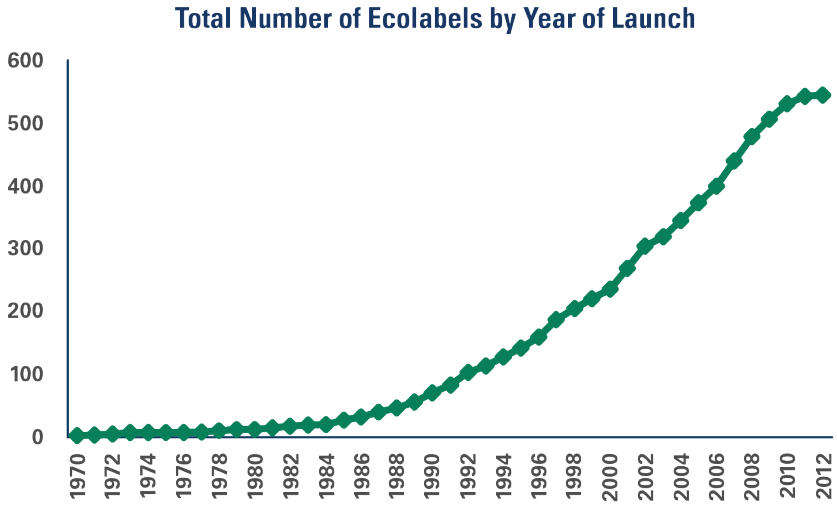
- **Lack of Consistency in OSH Reporting:** Even where businesses are regularly considering OSH within their sustainability goals, there is a lack of consistency in global reporting of these issues that makes it challenging to compare, even across the various entities within a global company.

- **Supply Chain:** As business becomes ever more global, supply chain management and engagement is increasingly seen as the next frontier in sustainability. Because worker health and safety issues may be more pronounced in global supply chains, it will continue to be a challenge to highlight the importance of these issues in U.S. supply chains. When evaluating goods and services for sustainability, it is important to also consider safety and health implications for those who are actually performing the services or manufacturing the goods throughout the supply chain, not just those using the final products.

- **Scalability:** As many large, global businesses have made substantial progress in sustainability over the last decade, many small businesses are in the beginning stages of understanding how they can incorporate these issues into their business models to remain competitive. Adapting leading approaches for small and medium enterprises (SMEs) will be critical to ensure that they will be able to take advantage of these innovative and beneficial strategies.

STANDARDS AND CERTIFICATIONS

Over the last several years, the development and use of standards and certifications to define sustainability has exploded, resulting in hundreds, if not thousands, of standards, certifications, and labels for products, materials, and businesses. The graph, based in part on information from the Ecolabel Index, the largest global directory of ecolabels, depicts the rapid growth in predominantly consumer-facing labels, which make up just a small portion of the overall standards and certifications picture. Currently, the Ecolabel Index is tracking 465 ecolabels in 199 countries and 25 industry sectors.[32] Much of this development has been in the environmental, or "green" space, but there are others that address discrete issues that fall under the social aspect of sustainability (e.g., child-labor-free), as well as those that attempt to incorporate all aspects of sustainability (e.g., B Impact Assessment).[33]



Evolution in the Total Number of Environmental Labelling and Information Schemes © OECD. Taken From: Gruère, G. (2013). "A Characterisation of Environmental Labelling and Information Schemes", *OECD Environment Working Papers*, No. 62, p. 23, OECD Publishing. http://dx.doi.org/10.1787/5k3z11hpdgq2-en.

Even where broader environmental and social aspects are targeted by a standard or certification, some explicitly include considerations of worker health and safety (e.g., Responsible Care,[34] Sustainable Green Printing Partnership (SGP),[35] Aluminum Stewardship Initiative (ASI),[36] Business and Institutional Furniture Manufacturers Association (BIFMA)[37]). Where these issues are considered, compliance with existing laws and regulations is often the criterion for evaluation. In some cases, considerations of systems to manage occupational hazards or an evaluation of lagging indicators are also included. Other standards, while not explicitly focusing on worker safety and health, do present opportunities to consider impacts to workers through their consideration of "human health" impacts (e.g., Leadership in Energy and Environmental Design (LEED)[38]).

The development of standards and certifications involves several key players: standards development organizations, who convene stakeholders and facilitate the development process; certifiers, often, but not always, a third party who completes the auditing associated with the

standard; and users, who undertake the process to get their products, materials, or businesses certified to a particular standard. In many ways, the composition of stakeholders at the table in the standards development process can determine what factors will be emphasized. The process for developing standards and certifications, the mechanisms used to determine how standards are met (e.g., weighting systems, point systems, mandatory/voluntary credits), and the ways in which auditing or certification occurs can all vary greatly from standard to standard.

Supply chain demand is a key driver for both the development and uptake of standards and certifications. In some supply chains, external pressures from governments, NGOs, and consumers have resulted in industry participants coming together to provide a common standard or certification for their industry (e.g., Responsible Jewellery Council,[39] Electronic Industry Citizenship Coalition[40]). In other supply chains, this pressure has manifested itself as the creation of multiple tools, standards, and systems (e.g., apparel industry—bluesign,[41] Higg Index,[42] supplier codes of conduct). In some cases, industry sectors feeling pressures from their supply chain have developed their own standards to better suit their industry when existing frameworks or standards are too broad to be useful to them (e.g., SGP).

Benchmarking Performance and Providing Resources for Improvement

As part of the American Chemistry Council's Responsible Care® program, safety and health performance is measured and publicly reported to provide information about how companies that are certified to the Responsible Care Management System have improved over time and how they compare to others in the industry that are not certified. Employees in member companies and partner organizations can also take advantage of the Responsible Care network's resources, including the opportunity to: pose questions about specific issues and survey the network for solutions; receive mentoring from other members; access toolboxes, excellent practices, tutorials, and checklists on various topics; and participate in periodic webinars and workshops.

Graphic taken from ACC Responsible Care Fact Sheet. http://responsiblecare.americanchemistry.com/FactSheet.

For some standards, trade associations, industry sectors, and parts of the supply chain that are demanding participation by suppliers (e.g., brands, retailers) also provide technical support. In other cases, communities of users have come together to share their experiences and provide support for others that are similarly situated (e.g., LEEDuser[43]).

Standards and certification also influence other areas of current work in the sustainability landscape. For example, some reporting frameworks look to established or commonly used standards and certifications to drive their evaluations. Businesses striving to be more sustainable also look to standards and certifications to showcase their leadership and to align practices throughout their supply chain. Institutional and business to business procurement efforts also use standards and certifications to set their requirements for what products to purchase or suppliers to engage.

Opportunities

- **Technical Support:** Given the rapid development and updating of standards and certifications, there is a place for providing input on worker safety and health into these processes. Where standards and certifications do have options that include an evaluation of this aspect, there may be opportunities available to provide tools, resources, and expertise to support implementation and facilitate use.

What factors would you incorporate into sustainability standards and certifications to ensure the safety and health of workers is protected?

Challenges

- **Credibility:** With so many standards and certifications available, credibility is a key challenge. Methods to determine whether a certified business or product is in fact more "sustainable" or has superior performance for all of the evaluated aspects need to be developed, especially for entities that use standards and certifications as part of their decision-making.
- **Benchmarking:** A lack of benchmarking also contributes to the inability to understand whether there are actual improvements or differentiation between those businesses and products that are certified as "sustainable" and those that are not.

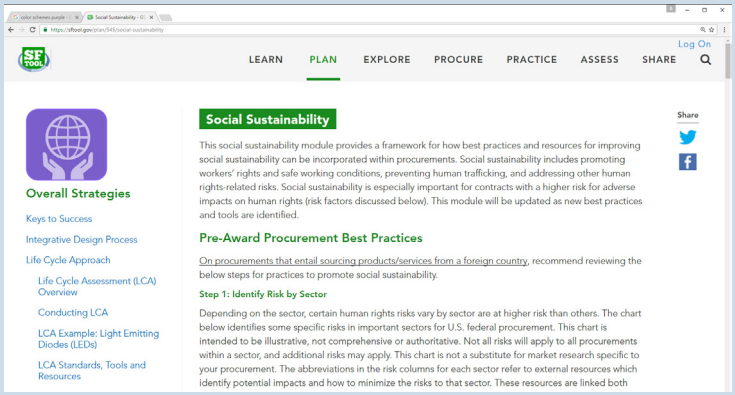
PROCUREMENT

Procuring products and services is a critical activity for both businesses and government organizations, especially those that are not involved in making products or delivering services themselves. As such, procurement is a key avenue these entities can utilize to advance sustainability.

The U.S. General Services Administration (GSA)[44] and the U.S. Environmental Protection Agency (EPA)[45] have been leaders in this area, implementing the sustainable procurement goals for products and services for the federal government.[46] On its Sustainable Marketplace website,[47] EPA provides assessments and recommendations of specifications, standards, and ecolabels in order to provide federal agencies and vendors "a transparent, fair, and consistent approach to using private sector standards and ecolabels that create positive, measurable, and meaningful change in the environmental performance of products and services procured by the U.S. Government. GSA has created SFTool.gov,[48] which includes modules for incorporating various aspects of sustainability into procurement. Other federal agencies (e.g., U.S. Army,[49] U.S. Postal Service[50]), as well as state and local governments (e.g., California,[51] Seattle[52]), are linking their procurement practices, focusing mostly on environmentally preferred and "green" purchasing options, to sustainability goals.

Incorporating Social Sustainability into Procurement

GSA's Sustainable Facilities Tool (sftool.gov) provides assistance to take action to make buildings, purchases, and operations more sustainable. The tool's social sustainability module provides a framework for how best practices and resources for improving social sustainability, including promoting workers' rights and safe working conditions, preventing human trafficking, and addressing other human rights-related risks, can be incorporated within procurements.



Screen capture. 11/8/2016.

While there is a lot of action within governments around sustainable procurement, businesses are also looking to incorporate sustainability aspects into their everyday procurement practices. For example, some companies are using collaborative platforms like EcoVadis[53] to access evidence-based ratings that help buyers make better decisions about their suppliers and help suppliers validate their sustainability management systems with an eye toward continuous improvement. Major retailers have also been using similar tools, such as GreenWERCS,[54] to evaluate the chemical content of formulated products before making a decision to stock it on their shelves. Additionally, groups, such as the Sustainable Purchasing Leadership Council (SPLC),[55] have formed to provide a collaborative space in which organizations and individuals can come together to enhance clarity, consistency, and coordination around sustainability in procurement.

There have also been attempts at shifting consumer purchasing through the development of online databases and apps, such as the Good Guide®[56] and Skin Deep®.[57] These efforts have focused largely on educating consumers about the chemical content of the cleaning and beauty products that they use every day, making the direct connection between the use of these products and personal adverse health impacts (e.g., asthma, endocrine disruption, cancer). While these efforts have demonstrated some impact on consumer purchasing of specific products, making general information about the environmental and social impacts of products available to consumers has not been shown to similarly drive purchasing decisions. Those with experience in these types of efforts still find that business to business purchasing, rather than business to consumer purchasing, provides a greater opportunity to influence decision-making through information and support tools.

Opportunities

- **Magnitude:** Procurement has the potential to make a large impact given the magnitude of purchasing by businesses, governments, and consumers.
- **Focus on Services:** While many procurement efforts to date have been focused around products, there is a trend to also consider the procurement of more sustainable services. Services may provide a better opportunity than products for worker health and safety to become a part of the sustainability conversation.

Are the sustainable products and services you are procuring also safer and healthier for workers?

Challenges

- **Existing Standards, Certifications, and Labels:** Although procurement is a driving force in sustainability, purchasing decisions are most often predicated on standards, certifications, and labels that outline which criteria should be considered. Until these standards, certifications, and labels include OSH aspects, it may be difficult to use these tools to advance OSH.
- **Narrow Focus on Environmental Aspects of Sustainability:** Given that many of the existing standards, certifications, and labels have been developed from the environmental perspective, many procurement programs focus on "environmental performance standards" and "ecolabels," rather than broader "sustainability standards." As more standards and labels that are inclusive of social, as well as environmental aspects, are developed, this narrow environmental framing could be a barrier.

EDUCATION

Educational opportunities for future health and safety professionals and business leaders can be found within a range of academic areas including public health, engineering, construction management, business management, environmental management, and finance. Often these curricula are siloed such that potential synergies, for example, between safety and health and business, are not recognized. OSH professionals educated in this way are often not prepared to make a business case for improving safety and health practices beyond compliance. Similarly, business leaders are not prepared to recognize how OSH can be used as an innovative strategy that will realize benefits for their organization. Ensuring that worker safety and health moves beyond a workplace function to an integrated business strategy is critical to the success of both OSH professionals and business leaders.

Given that many schools and universities are not currently educating across these disciplines, a whole population of current professionals would benefit from additional training opportunities that address these synergies. For example, the Institution of Occupational Safety and Health (IOSH)[58] is in the process of developing a competency framework for OSH professionals that includes not only technical capacity, but also business strategy issues.

Opportunities

- **Curriculum and Training Development:** Further integration and inclusion of social sustainability concepts into education and training for next generation and current professionals can bring attention to safety and health as a business strategy.

How can you prepare EHS professionals to be involved in the strategic decisions made by sustainability policy makers and executive management?

Challenges

- **Institutional Barriers:** The lack of institutional interdisciplinary opportunities has constructed silos around various academic programs. There are limited mechanisms available to create a space for discussing cross-cutting issues. Barriers to revising or adding new topic areas to curriculum also preclude this sort of interdisciplinary engagement from occurring.

RESEARCH

Much like education, research conducted by academics, NGOs, government agencies, and membership organizations is siloed; researchers study labor issues or sustainability, but not usually both. Research that connects occupational safety and health and sustainability is occurring in a limited manner in specific fields (e.g., green jobs, chemical management, life cycle assessment). In general, even though workers are vital to the long term success of organizations, when most people look through the conventional lens of sustainability, they do not understand that workers should be included.

Opportunities

- **Business Case Development:** One of the primary areas of research needed surrounds the development of business cases demonstrating the integration of OSH and sustainability. In particular, the way that costs are accounted for, as OSH costs are often transferred elsewhere, challenges traditional economic models.
- **Horizon Scanning:** Emerging issues impacting workers (e.g., aging workforce, worker well-being, nanotechnology, green chemistry) are a potential path for integrated sustainability research. For example, climate change is one of the most talked about areas of sustainability and workers have been and will continue to be disproportionately impacted. It will be critical to recognize exposures, anticipate hazards and responses, and possible adaptation mechanisms for these responses (chemicals, pathogens, conflict, heat, etc.).

How could new research support the inclusion of OSH in sustainability strategies?

Challenges

- **Funding:** Researchers need funding for their work. As the requests for proposals and review procedures often follow traditional processes, it can be difficult to secure funding for research and activity in areas that have not yet been proven to provide fruitful outcomes or are interdisciplinary in nature (e.g., worker impacts from climate change).
- **Traditional Publication Venues:** The target audience for much of the research related to sustainability does not necessarily read academic journals, which is where researchers tend to publish. Innovative communication channels could be better utilized to disseminate research outcomes.
- **Scope:** Much of the research being conducted in safety and health and sustainability is occurring in discrete and specific areas potentially limiting its applicability.

LESSONS LEARNED:
DRIVERS AND LEVERAGE POINTS

As noted in the mental model described in Appendix A, there are a number of drivers and leverage points for integrating OSH into sustainability. These are potential areas of influence where gaining traction can impact multiple areas of activity in the sustainability movement.

Demand

- Demand is a key driver of the sustainability system. The environmental sector has linked to sustainability through demand and has communicated how going beyond compliance is a smart business decision. Identifying where and how OSH expertise and awareness can be used to drive consumer (e.g., investors, NGOs, public) and supply chain (e.g., business to business interactions) demand may drive conversation and action that can better protect workers.

Costs

- Costs and benefits associated with OSH are not well established and may be externalized. Better demonstrations of the costs associated with failing to fully integrate OSH in the business model (e.g., business case) are critical for driving behavior change and highlighting opportunities for innovation.

OSH Perception

- OSH is perceived as: (1) only a responsibility of OSHA or designated OSH professionals; (2) compliance focused; (3) costly; and (4) a sustainability problem in global supply chains, but not necessarily in the U.S. Until these perceptions change, it will be difficult to elevate safety and health into sustainability discussions. This is an area where there are at least two leverage points: (1) the OSH community—helping safety and health professionals see their role and understand the impact they have on their organization's sustainability efforts and strategies and (2) sustainability-focused organizations and advocates—ensuring that others working in sustainability efforts understand that OSH is an important factor and should be integrated into their work.

Compliance

- Moving beyond a compliance mentality is necessary to achieve sustainability. To leverage action, there must be a compelling case that doing more than is required makes sense for business.

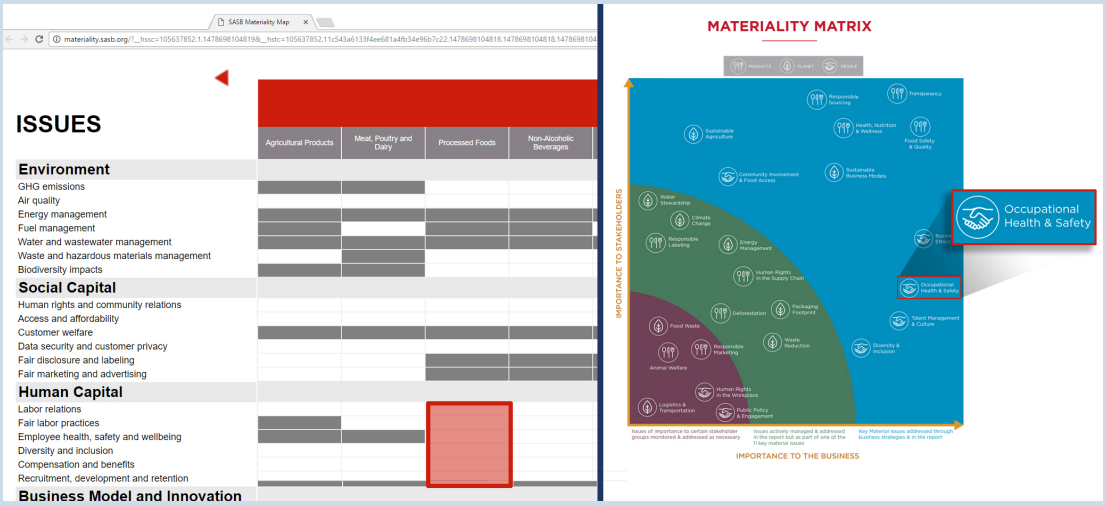
Materiality

- Materiality, the identification of factors that have an impact on business performance, is the basis for sustainability metrics, standards, and reporting. Where a factor is not considered to be material, it is not measured, included, or reported on. Data demonstrating the materiality of OSH is available in only a limited number of sectors. Leveraging the use of OSH data to support findings of materiality can elevate the importance of safety and health within sustainability discussions.

Defining Materiality

There are many different perspectives on what is "material" for an organization. A financially-driven understanding of materiality, which is used by SASB and others in the investing sphere, highlights only those issues where there is clear evidence of financial impact. For large, global companies, many issues, even those that the company itself or its stakeholders might find to be material, would not meet this definition. Impacts would have to be tremendous to amount to evidence of financial impact in this situation.

The difference between a financially-driven understanding of materiality and the stakeholder-driven materiality assessments currently conducted by many organizations is illustrated by the disparate results between the material issues identified by SASB for the processed foods sector and those identified by the Campbell Soup Company's own materiality assessment—occupational health and safety, as well as other human capital issues, were identified by Campbell's as key material issues, while SASB did not identify any topics related to human capital as material.



SASB. Materiality Map™. http://www.sasb.org/materiality/sasb-materiality-map. Screen capture. 11/8/2016.
Campbell Soup Company. 2016 Corporate Responsibility Report: Materiality.
http://www.campbellcsr.com/Strategy/Materiality.html. Screen Capture. 11/8/2016.

POTENTIAL ACTIONS

After considering the trends, opportunities, challenges, and drivers identified through this project, there are a number of pathways for utilizing sustainability to advance worker safety and health. There are multiple potential actions within each pathway that can spur progress toward the full integration and articulation of OSH within sustainability. These actions can be taken not only by OSHA, but also by other individuals and organizations engaged in OSH or sustainability efforts.

Business Case for Sustainability

- **Research scoping and implementation**
  Identify less well-developed topics, such as the burden of poor OSH performance and the benefit of innovation and performance beyond compliance, to support a business case for safety and health. Based on the outcomes of these scoping activities, take action in the areas with the greatest potential impact. This could include evaluating effectiveness of standards, understanding the influence of business structures and models on safety and health outcomes, and gathering business lessons learned and best practices.

- **Testing in the field**
  Move beyond cases studies that are theoretical, anecdotal, or limited to individual organizations into practical applications where effectiveness can be assessed and documented.

- **Influencing metrics and standards**
  Examine whether the metrics and standards being used as the basis for reporting, procurement, investment decision-making, and the evaluation of performance and improvement, include worker safety and health measures, how they have evolved over time, consistency of their use, and their rigor and representativeness. Where gaps exist, identify and validate reliable indicators of OSH attributes and promote their widespread use.

Data Systems

- **Building data streams and systems**
  Understand what data on safety and health exist, where these data come from, and how they can be connected and distributed to enhance decision-making. Identify what data need to be developed to better link OSH to sustainability.

- **Improving data accessibility**
  Make worker health and safety data transparent, readily available for use, and easy to integrate into decision-making.

- **Creating connections between data systems**
  Orient data systems toward supporting materiality determinations and incentivizing employers to have strong human capital performance. The systems should allow for comprehensive data searches, such as linking company profiles to lagging and leading safety and health performance indicators (e.g., injury and illness rates, membership in recognition programs).

Stakeholder Engagement

- **Creating a dialogue around OSH and sustainability**
  Engage individuals representing the OSH community as well as multiple disciplines of sustainability to discuss next steps for integrating OSH into sustainability, horizon scanning, networking, and providing technical expertise.

- **Collaborating to advance OSH and sustainability activity**
  Collaborate with diverse stakeholders interested in addressing similar challenges or opportunities to share resources and expertise. Collaborative efforts around OSH and sustainability could include: data and information gathering and product development for specific audiences, such as industry sectors, small businesses, purchasers, or the investment community; solutions-oriented forums for companies to engage with each other; and mentoring programs for the development of leadership or technical skills.

- **Recognizing leaders**
  Highlight leaders that are successfully incorporating worker safety and health into their sustainability efforts. This aligns with the high value stakeholders place in this type of recognition for their efforts and innovations, as well as existing recognition programs that are already linked to sustainability. Recognizing these leaders also helps to share and promote their excellent practices.

- **Leveraging powerful global efforts**
  Expand engagement to include meaningful relationships with stakeholders that are global in scope and considered best in class in their areas of activity to drive demand throughout the supply chain.

- **Operationalizing for replication and scalability**
  Engage SMEs to advance the development and implementation of innovative safety and health practices. Opportunities exist to tailor tools, standards, certifications, and resources for organizations of all sizes.

Strategies for Success

Ensure that any activities undertaken to advance worker safety and health in sustainability are as inclusive, meaningful, and productive as possible by:

- **Thinking more broadly**—A narrow focus can limit the potential for making broad impacts. It is important to recognize that there may be multiple pathways to gain traction and drive change.
- **Innovating and disrupting**—Business as usual won't allow for transformation. It is critical to explore new and different approaches, as well as adapt existing processes and procedures to allow for growth.
- **Contextualizing**—Know what is going on and who the key players are in order to align with current activities, build credibility, reach the appropriate audience, use the most effective mechanisms of engagement, and identify new opportunities to push forward.
- **Collaborating**—Establish mechanisms for communicating in order to build trust, facilitate dialogue and information exchange, and give credit and value expert input where it is due.

Education

- **Exploring professional development opportunities**
  Identify professionals that would benefit from a greater understanding of the impact that OSH has on business, how to reach them, what materials would be useful, and what messages would resonate. Develop resources and identify venues for meeting these training needs.

- **Creating multi-dimensional next generation professionals**
  Cultivate educational opportunities that integrate worker safety and health into a broad range of academic disciplines, such as public health, business, sustainability, and others. These opportunities can include cross-disciplinary training, coursework, internships, research, degree program requirements, and degrees (e.g., finance and industrial hygiene; environmental and OSH management).

Communications

- **Generating mass appeal**
  Mainstream worker health and safety concerns by sharing compelling stories and informative sound bites through social media, news feeds, blogs, and ad campaigns. Build on these messages to spur action by the public.

MOVING FORWARD

Sustainability is a powerful social movement. Over time, it has gained political will, economic force, and public recognition. OSHA and others have the opportunity to **leverage** this power; to take advantage of the **momentum** that has already been generated; to **transform** the way that worker safety and health is viewed and understood; and ultimately, to **advance sustainability in the workplace**.

Engage with us @OSHA_DOL or sustainability@dol.gov

APPENDIX A.
METHODOLOGY

In February 2016, OSHA began formal efforts to explore opportunities to leverage the growing sustainability movement to advance the protection of workers. Following a short period of research, OSHA began to reach out to existing partners and stakeholders to hold conversations regarding their expertise, involvement, and knowledge concerning sustainability within and outside their organizations. A framework (see box) was developed to assist in guiding conversations to learn about the current status of sustainability awareness and activities, discover challenges and/or opportunities for the inclusion of occupational safety and health, and identify additional resources to direct the project's progress. Using these conversations and continued research as a base, additional stakeholders were identified using a snowballing methodology. Approximately 80 conversations were held with stakeholders engaged in a variety of areas of activity related to the sustainability movement with most conversations taking place between March and June, 2016. Although many stakeholders were involved in this initial effort, additional conversations could provide more robust information and context about the identified areas of sustainability activity.

From the notes taken during this period of exploration, efforts were undertaken to detect commonalities and differences in identified sustainability topics, recognize gaps and areas where additional research was needed, and make connections to OSHA's work.

Interview Question Framework

Status

- What is your role in your organization?
- Where are you currently working in the sustainability space? What about occupational health and safety?
- Do you have any efforts to link sustainability and occupational health and safety? If yes, how did you come to this connection?
- What have you tried? How was it received?
- What challenges have you faced?

Communications

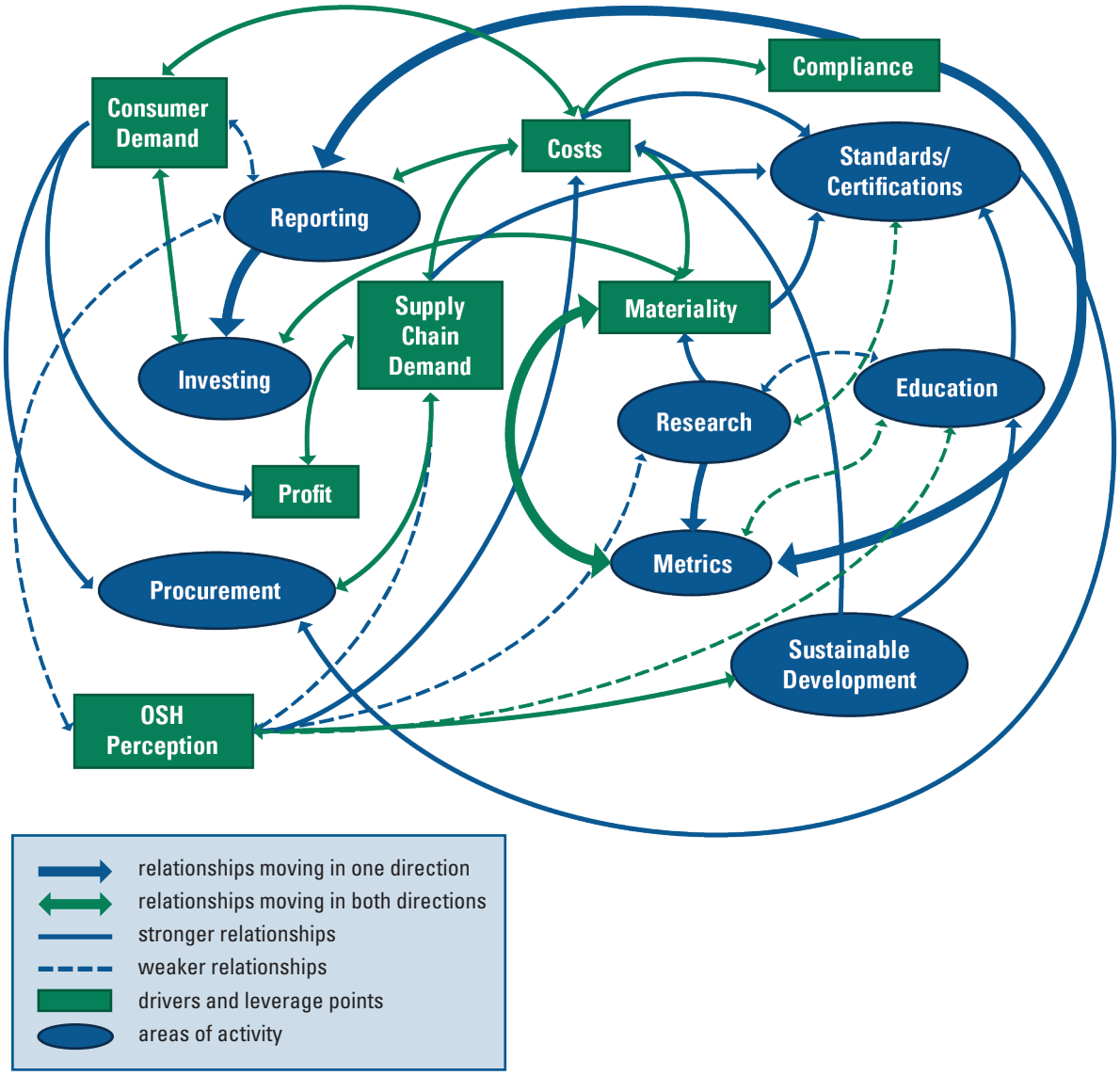
- Who is your audience? Who do you target? Do you intend to broaden?
- Who do you talk to? Occupational health and safety? Sustainability? Corporate responsibility? Other?
- Do you have feedback mechanisms in place?

Moving Forward

- What do you need to keep moving forward? Are there gaps? Opportunities?
- What role do you think OSHA can play?
- Who else do you think we should be speaking with?

Mental Model

As this research effort began, an attempt to visualize the landscape of activity around sustainability was made. The original model was updated as research and conversations developed. This graphic represents a moment in time and highlights potential linkages between topics and actors, mechanisms for activity, and leverage points for the inclusion of OSH. It served as a model to guide research and potential engagement. As the sustainability movement continues to advance and unfold, the landscape of sustainability will also continue to shift and evolve. This systemic view can facilitate the identification of engagement efforts to maximize impact.



Mental Model of Sustainability Landscape

APPENDIX B.
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