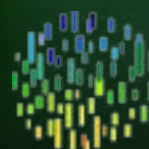# SHINE SUMMIT 2015

Innovating for NetPositive Impact
SUMMARY REPORT

HARVARD T.H. CHAN

SCHOOL OF PUBLIC HEALTH
Center for Health and the
Global Environment

shine
Sustainability and Health
Initiative for NetPositive Enterprise

Acknowledgements

Year Published 2015

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shine

Sustainability and Health
Initiative for NetPositive Enterprise

We are excited to share the inspiring ideas, conversations, and highlights of the first invitational SHINE Summit. Our inaugural Summit, with the theme "Innovating for NetPositive Impact," brought together thought-leaders in the academic and NGO communities with business leaders from across industries to discuss cutting-edge ideas and applied research in sustainability and health.

The Sustainability and Health Initiative for NetPositive Enterprise (SHINE), is a program based at the Center for Health and the Global Environment at the Harvard T.H. Chan School of Public Health. SHINE's mission is to bring NetPositive sustainability and health to the forefront of doing business, offering new models and approaches to fill the health, sustainability, and profitability gaps that businesses have traditionally missed in the current sustainability and business frameworks. Companies striving for NetPositive impact, from a systemic thinking perspective, understand the importance of making the health and well-being of the workforce a business driver and, therefore, globally assess the positive impact they have on the environment and people through their operations, products, and services. Some of the leading ideas that came out of the Summit include:

• **Handprints (our positive actions), which compensate for footprints (our negative actions), are an inspiring force for innovation within an interconnected world.** As evident in the presentations by Gale Tedhams of Owens Corning, Claire Castleman of Eaton, and Asheen Phansey of Dassault Systèmes, handprints are motivating and inspiring especially for those working directly on innovating new products and services. It's another factor that inspires out-of-the-box thinking for environmental and social innovation, rather than simply trying to reduce negative impact.

• **Companies are beginning to move beyond health and safety toward well-being, both within their operations and their supply chain.** In the last session, Michael Kobori of Levi's and Greg Kunkel of Next Jump, explained how their organizations' focus on the whole health and well-being of workers not only creates cultures that inspire better mental and physical health, but also adds to the performance and productivity of the workforce and to the profitability of the organization.

• **We envision a world in which businesses develop the organizational culture, situational awareness, and ability to use tools that measure and improve the well-being of their workforce and, in turn, understand how doing so leads to improved performance and better business outcomes.** Such a breakthrough would not only help fuel better health across industries,

but also help further companies' impact on the planet and economy. During the "Well-being in the Workplace" session, Fikry Isaac of Johnson & Johnson shared the company's vision to create a platform that inspires a global understanding and appreciation of health and its relationship and value to an organization's performance and financial vitality.

• **Handprinting uncovers and pushes the removal of blind spots in corporate sustainability.** Once we expand our view to include assessment of corporate impacts beyond the scope of environmental and social footprints, we recognize the potential power of policy influence. In our opening panel we heard from EPA's Vince Camobreco, and Harvard's Suerie Moon (from the Harvard Chan School of Public Health) and John Quelch (from Harvard Business School) about the potent sustainability-related influences that companies can—and already do—bring about through their direct and indirect influences on policy. Their contributions signaled a challenging but potent frontier in the quest to encourage and achieve planetary and human thriving.

• **Handprints reveal what footprints cannot—the positive impacts of companies' operations, products, and services on the planet and people— and the ripple effects of these positive actions.** In his dinner keynote address, Daniel Goleman, renowned psychologist, enlightened the audience with the powerful idea that when we increase our own

well-being we also improve the well-being of others because emotional states are contagious. He explained that by paying attention to ecological sustainability and human well-being, we attain a holistic appreciation for sustainability's potential as a system for positive impact.

• **When companies pay attention to the inner work life of their employees —people, productivity, and profit flourish.** Harvard Business School instructor, Teresa Amabile, brought this concept to the forefront in her session, "Employee Engagement & Productivity Through Meaningful Work." Considering the health of the business as a whole, paying attention to the workforce, and understanding what drives employee behavior and motivation creates tangible economic benefits.

• **We are at the start of a big re-think. Both Daniel Goleman and Harold Glasser, Director of Sustainability at Western Michigan State University, noted that the opportunity for a systems-level change that leads to exponentially more positive outcomes is happening right now.** Considering our impact on human health through our operations as well as measuring positive impact on the environment fuels motivation and sends ripple effects across the economy. SHINE is working with our members to build the requisite community, tools, knowledge exchange, and evidence-base for this powerful and positive shift.

Pursuit of a better engineering of health and well-being as part of the workplace, as well as the measurement of positive impacts on people and the planet, is the next frontier of corporate sustainability. We are seeing that companies—and investors—are ready to do business with a keener focus on the human aspect and on the positive and motivating outcomes that stem from this new approach to sustainability. Thanks for coming on this journey with us. With you, we will shed a new perspective onto sustainability that embraces and drives positive impacts on people, enterprises, communities, and the planet—and we all stand to benefit.

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Photo Credit: Trenton Michael

ABOUT SHINE

The Sustainability and Health Initiative for NetPositive Enterprise (SHINE) is a program within the Center for Health and the Global Environment at the Harvard T.H. Chan School of Public Health. We are dedicated to working with companies across industries to measure and motivate positive impacts on people and the planet—impacts such as raising population well-being through healthy workplaces and meaningful work, and raising the health of the planet through the conservation and regeneration of natural resources.

The Center for Health and the Global Environment was established in 1996 to study and promote an understanding of the consequences of climate change on human health. The Center is one of the most trusted scientific sources on this subject in the world. In 2013, the Center launched SHINE to engage businesses on the challenges of sustainability and health for people, in addition to the sustainability and health for the planet.

As part of a Center within the larger Harvard community, SHINE draws on the talents of affiliated faculty, student scholars, and its member companies. SHINE projects may include faculty and students from the Harvard Business School, the Harvard Kennedy School of Government, the Harvard Graduate School of Education, the Sustainability Management Program of the Harvard Extension School, and the Harvard Divinity School, as well as many alumni working in the public and private sectors across the globe. In addition to conducting research, SHINE convenes the annual SHINE Summit that brings together leading scientists and academics with business leaders to discuss the latest research in relation to sustainability and health, and to develop, access, and share new models to more effectively address the challenges that companies face.

Together with our member companies, SHINE is working to build the evidence base for ways in which we can generate handprints—actions that result in a reduction of harm, or in the improvement of people's well-being, or in the healing or sustainability of the planet compared to business as usual. Our aim is also to create positive "ripples" throughout the supply chain, from factories all the way to customers. Handprints cover a growing set of sustainability dimensions including human health, climate change, biodiversity, and water consumption. SHINE applies the NetPositive approach in two areas: the environment and health, leveraging new paradigms associated with the emerging trends in business, technologies, and systemic thinking.

In this way, we are advancing the methodology for measuring and increasing handprints, just as companies are increasingly measuring and reducing their footprints. Methods for assessment and reporting of footprints are increasingly being adopted by industry, governments, and other stakeholders as a way to bring accountability for, and reductions in, negative impacts on all manner of sustainability-related outcomes. These outcomes include climate, water, biodiversity, human health, and, increasingly, a growing list of social performance indicators. As a complementary counterpart to footprints, handprints bring the same quantitative lifecycle-based methods of assessment to bear on a much wider scope of action. Handprinting is impartial to where in the world benefits are created or negative impacts are reduced, and it sets up the possibility for companies to strive toward becoming NetPositive on more and more impact categories—creating benefits which are larger than their burdens (handprints bigger than their footprints). As we have seen with our members, such positive assessments of impact are much more motivating and inspire more creativity and ideas among workers to further a company's positive impacts on the environment.

Another source of research evidence is the measurement of well-being. If companies wish to create handprints to benefit people, we need better tools to assess current needs and measure success. Setting a standard to track well-being is one way to show progress and develop appropriate systems and strategies that promote and enhance well-being in the workforce.

Whether we are talking about the environment or human beings, the positive effects of this growing evidence base and generative results produce positive ripple effects. A company striving toward NetPositive via its products can influence the behavior and actions of its customers; equally, the same company that has developed appropriate programs, systems, and strategies to support the whole health of its workforce sends positive impacts that ripple throughout the community and employees' families.

Photo Credit: Patrik Nygren

HANDPRINTING

In the pursuit of sustainability, for both planet and people, reducing our negative impacts is the right place to start. And it's also a tragic place to stop, because stopping there—as we typically do in the dominant "harm minimization" mode of current sustainability practice—constrains the good you can do by the scope of the harm you are causing. Think about it: the more you shrink your footprint, the smaller becomes your sphere of remaining influence. Progress should and can beget more progress, not limit it!

~Gregory Norris, SHINE

Photo Credit: Mariano Cecowski

HANDPRINTING

Handprinting arose from the realization that reducing our footprint is only the "linear thinking" part of what the pursuit of sustainability needs to be about.   We can also help and empower other actors to reduce their footprints when embracing a "systemic thinking" model to benefit the community and the planet. In traditional sustainability assessment and management, we fail to incentivize, prioritize, or even manage for these equally powerful feedback loops or avenues of action. For example, from a linear thinking perspective, sharing innovations or otherwise empowering or enabling others to reduce their footprint has no impact on our footprint, and so it goes un-reported and un-prioritized. Also, corporate philanthropic activity or other positive efforts typically are measured in terms of effort but not outcomes, and certainly not using the same outcome metrics with which we report and manage our footprints. All of this has the consequence of limiting our global awareness and, therefore, our scope of action. It also has the consequence of setting a target, which we realize is unattainable (zero footprint), and engages us more in behaviors of constraint than of creativity and growth. The management of scarcity doesn't create abundance.

One way to "discover" handprinting is by setting our sights higher than zero, or in other words, on achieving NetPositive impact: doing more good than harm. When we set this goal, we realize that we must look beyond reductions in our own footprint in order to achieve it. And voila! A whole world (literally) of possibilities and abundance is opened up. Handprinting offers the opportunity to move from the mind set of "a powerless victim," impacted by the selfish actions of others, to the mind set of "an empowered innovator," contributing to a better future for the planet.

To measure handprints, SHINE applies Life Cycle Assessment methodology and the tools and databases that have been used to track and report environmental footprints. It further operates in concert with the growing set of international standards and reporting frameworks, which address the various dimensions of footprints, including carbon, water, toxics, and biodiversity, to name a few.

There are three steps in handprinting:

> **Step 1: Measure and reduce our own footprints**. Handprinting is an "and," not an "or," in relation to footprints. Thus, the kinds of actions that leading companies are already taking to reduce their own emissions, promote eco-efficiency in their supply chains, and dematerialize their goods and services, all count as handprint creations.

> **Step 2: Help, empower, and incentivize others to reduce their footprints.** For example, driving innovations in our supply chains—which reduce the footprint of goods and services sold to companies other than ourselves—count as part of our handprint even if they don't impact our own footprint. Making our products more efficient during use, or educating downstream customers in how to more effectively or efficiently use our products generates handprints. Sharing innovation with other businesses (e.g., non-competitors operating in our region) generates handprints. Even growing the demand for our products, if they displace products with a larger footprint, is a way to create handprints—and it is one that shareholders and business leaders are likely to resonate with easily.

> **Step 3: Take generative actions, which address the same types of impact categories for which footprints are causing harm.** As the most prototypical example, planting fruit trees can reduce the amount of carbon dioxide in the air, reduce soil erosion, and even provide for human nutrition and livelihoods. Direct or indirect promotion of healthy lifestyles among our employees and their families and communities are other examples of generative actions with direct and measureable health handprint outcomes.

HANDPRINTING

When handprints are greater then footprints for a particular product, service, or organization, the resulting effect is a NetPositive impact.

Just as footprinting embodies the principle of shared responsibility, handprinting embodies the principle of shared credit and co-creative relationships. Handprinting can expand the missions of organizations and the meaning of our own lives, moving us from a mindset that focuses on minimizing the harm we cause to one of being NetPositive healers of the planet. Handprints can re-energize the sustainability actions and intentions of both individuals and companies by positively fighting the entropy of the global system.

For more information on handprints and handprinting methodology, read "Environmental Handprinting," an article published in Trim Tab.

HEALTH AND WELL-BEING IN SUSTAINABILITY

Well-being has migrated from marginal to mainstream, finally coming to be seen for what it is: the best way, indeed the only way, to maximize not just happiness and fulfillment but productivity, creativity and, yes, profit. It's the only sustainable way forward, not just for individuals but for companies, communities and the planet.

~Arianna Huffington, Huffington Post

HEALTH AND WELL-BEING IN SUSTAINABILITY

SHINE aims to bring the health and well-being of employees and stakeholders to the forefront of sustainability and as a key driver of sustainability within an organization. In our view, the definition of health encompasses a holistic approach that incorporates the drivers of mental, physical and psychosocial health. SHINE focuses on identifying the health and well-being drivers within the structure of the workplace to affect behavioral changes and make a positive impact on overall health of the community of workers within an organization. We approach well-being from the upstream. We evaluate the current state of well-being in the workplace and, based on the findings, make recommendations regarding changes that need to be implemented in the organizational structure of that workplace (which is very different depending on geographic location, local culture, corporate headquarters versus factory, and industry or type of business). This is a resource-driven model of flourishing that goes beyond the individual to the organization, and beyond wellness programs to measuring the impact of the workplace structure on the health and well-being of workers.

To evaluate people's well-being at work, SHINE member companies are piloting the Well-being Index, a tool to evaluate how work experiences may affect employee health outlook, engagement, and productivity. Developed in conjunction with SHINE member company Johnson & Johnson, the Well-being Index measures health and performance together with workplace conditions that may contribute to these outcomes. Using this Index as a guide, companies learn ways to optimize the work experience, well-being, and performance, and contribute holistically to the sustainability mission of their organization. This research outcome is the goal of the SHINE business partnerships—to bring research results about work operations, work experiences, and well-being to the forefront of business and sustainability decisions through this field-testing of ideas. For more on SHINE's commitment to well-being please see Exhibit B in the Appendix.

THE SHINE SUMMIT

The SHINE Summit 2015 brought together corporate leaders who operate at the intersections of health, sustainability, human resources, health and safety, and operations, as well as experts from academia and NGOs, to discuss cutting edge ideas and explore applied research in health and sustainability. Our sessions and conversations focused on trends in sustainability, corporate influence on public policy in driving sustainability forward, innovative strategies that place health and well-being at the center of a sustainable workplace, and how corporations are working toward NetPositive environmental impact by applying the SHINE Handprinting methodology and Well-being measures.

This report provides a summary of the ideas, research, and accomplishments thus far in our journey to help organizations measure their positive impact in health and the environment. Each section corresponds to a session we had at the Summit and you can view the full agenda in Exhibit D in the Appendix.

Future SHINE Summits will be held in June of each year. The SHINE Summit 2016 will be held June 15th-17th on the Harvard Campus in Cambridge, MA.

If you would like to connect with any of the special guests that attended our Summit please contact Karoline Barwinski at KBarwin@hsph.harvard.edu.

Photo Credit: Ronald Sarayudej

THE EVOLUTION OF SHINE AT THE CENTER FOR HEALTH AND THE GLOBAL ENVIRONMENT: INTRODUCTORY REMARKS

John D. Spengler
Center for Health & the Global Environment

> *"Every one of us understands that our personal health is directly connected to the health of our planet, the health of our ecosystems and the health of our organizations and communities….Feel yourselves be a part of something that's transformative."*
>
> *~John D. Spengler,*
> *Center for Health & the Global Environment*

In his introduction at the Summit, John Spengler, the Director of the Center for Health and the Global Environment, challenged the audience to think about health as the driving force of sustainability on the planet. Changing the dialogue around sustainability to be inclusive of health and inclusive of making a measurable positive impact on the planet means redefining sustainability to include human health and its drivers. Corporations have the ability to directly touch millions of lives via the workforce, the supply chain, and customers and consumers. Taking on the challenge to think about how we touch the lives of others through our organizations is the first step toward a thriving human population.

Eileen McNeely and Gregory Norris teamed up to form SHINE in 2013, with such aspirations in mind. At the Center for Health and the Global Environment, the environment and health of humans are inextricably linked. Given the continuing evolution of corporate sustainability, the time is ripe to create an organization that would work with the private sector to develop and share new paradigms to bring on further meaningful change in our economy and our society. SHINE bridges health with corporate sustainability and empowers companies to ensure a NetPositive impact on their communities, stakeholders, and the planet.

KEYNOTE ADDRESS

Daniel Goleman
Psychologist, Author

This year's attendees had the distinct pleasure of meeting Daniel Goleman, renowned psychologist and author of books such as Emotional Intelligence and Ecological Intelligence: The Hidden Impacts of What We Buy. Goleman addressed the audience during a dinner keynote, passionately sharing the all-around positive benefits of measuring handprints, both for companies and people, and the potential ripple effects on the economy and society when we consider the well-being of people in the business context.

Simply measuring the footprint of a product, service, or action—whether personal or business-related—is not very motivating. "If you give people scary, depressing facts, they get scared and depressed!" said, Goleman. Rather, each one of us is a force for good; each one of us has massive potential impacts. On the simplest level, acts of kindness are more frequent than cruelty. Goleman called on everyone to act now even if we don't immediately see the full fruition of our positive actions.

He also said that, in this moment in time, we are at the start of a "big re-think." Sustainability's potential for more good requires measuring and furthering the positives— creating more sustainable energy, reducing water use, resource-efficient products and services, developing resource-regenerative products and operational strategies, looking at employees' whole health and well-being. And as we build the evidence base for NetPositive sustainability through applied research and handprints, organizations will have the tools to create NetPositive impacts on humans and the planet.

Photo Credit: Roman Boed

HEALTH & SUSTAINABILITY IMPACTS OF CORPORATE ACTION

"Every company is a health care company. That is the point that I am on a mission to persuade people."
~John Quelch,
Harvard Business School

Moderator

John Quelch
Charles Edward Wilson Professor of Business Administration, Harvard Business School

Speakers

Suerie Moon
Co-Director of the Project on Innovation and Access to Technologies for Sustainable Development, Harvard Kennedy School

Vince Camobreco
Environmental Protection Specialist, U.S. EPA

SHINE challenges companies and organizations to consider news ways to evaluate their impacts on the environment, health, and well-being. This session presented examples of corporate influence through policy and lobbying that results in either harms or benefits to health and the environment.

Photo Credit: Kee Seng Heng

HEALTH & SUSTAINABILITY IMPACTS OF CORPORATE ACTION

John Quelch
Harvard Business School
Public health influence & corporate responsibility

John kicked off the session with quick summaries of how companies have major impacts on public health, and vice-versa. He noted how Colgate, for example, has historically had a major impact on the prevention of oral disease, with 90% of the population worldwide now brushing their teeth at least once per day. In his work with companies he advocates "a philosophy of ABC: Above and Beyond Compliance. We get out in front and shape the regulations."

Suerie Moon
Harvard Kennedy School
Health impacts of drug & medical policies

Suerie's research examines ways that companies can and do create both positive and negative public health impacts through their influence on policy, with a focus on pharmaceutical industry influences on access to medicine in developing countries. She began by summarizing the role of patents, as a social contract, regulated by states. She summarized changes in approaches to drug patents from pre-1994 to the present, a period in which many developing countries had to begin granting patents on medicines for the first time, creating new challenges for accessing affordable generic versions of lifesaving drugs. For example, addressing access to HIV/AIDS treatment in developing countries where greater than 90% of cases continue to occur: as of 2000, 0.1% of people had access to treatment, while this has risen to 37% by 2015. She described specific ways that companies have sought to influence patent statutes in countries including India and South Africa. She also described innovative approaches to managing drug patents during the past 15 years, such as licensing and patentability criteria, concluding that such policies can have significant public health impacts.

Vince Camobreco
U.S. EPA
Health and environmental effects of renewable fuel & vehicle efficiency standards

Vince summarized the rulemaking process within the US Federal Government, with a focus on his own personal experiences at the heart of rulemaking cases relating to biofuels. Vince cited examples on vehicle tailpipe rules where EPA consulted with industry and were able to set standards based on advances in innovation. As he pointed out, innovation impacts rulemaking (and vice-versa, in a feedback loop), and this can be one of its largest impacts: "You can be an early actor, as a car company, offering advanced vehicles... but when you look at [influencing] a whole law, you get orders-of-magnitude larger impacts." Participants went on to point out during the discussion period that setting a standard or rule in one country also increases the probability that the standards will change in other countries and regions.

Vince shared in-depth experiences developing models and assessments of the indirect land-use change (ILUC) impacts of rules, which promote the demand for biofuels. ILUC impacts were notable in that they are highly uncertain or difficult to estimate, while also being so potentially large in magnitude that their influence completely determines whether a particular bio-fuel is positive or negative in terms of life cycle climate impacts relative to fossil fuels. There is an interesting parallel between ILUC impacts being hard to estimate but too large to ignore, and the wider issue of this session addressing the footprints and handprints of policy influence itself.

EMPLOYEE ENGAGEMENT & PRODUCTIVITY THROUGH MEANINGFUL WORK: INTRODUCTION TO INNER WORK LIFE

"Inner work life is what drives organizational success or failure."
~Teresa Amabile,
Harvard Business School

Teresa Amabile
Edsel Bryant Ford Professor of Business Administration,
Harvard Business School

SHINE views work as an engine of human growth, sustainability, and development. From the human capital point of view, an environment that allows employees to flourish enhances productivity, innovation, solicitation and retention of a talented and committed workforce. The ultimate aim, as it is with sustainability, is to retain or attain a higher level of company-wide success.

EMPLOYEE ENGAGEMENT & PRODUCTIVITY THROUGH MEANINGFUL WORK: INTRODUCTION TO INNER WORK LIFE

Teresa Amabile set out on a quest to find a scientifically valid answer to the following questions:

- What makes people happy, motivated, productive, and creative at work?
- Should managers care how happy their employees are?

We all have preconceived notions of what these answers could be, but she discovered an answer to the first question that not many people readily think of: progress in meaningful work. In their study, Amabile and her colleagues recruited 238 people on 26 projects teams in 7 companies and in 3 industries whose projects required them to solve complex problems creatively.   Each day during the course of their team's project, each participant filled out a diary form that asked them specific questions about their perceptions, emotions, and motivations that day, as well as their experiences that day with their projects, their managers, their teams, and their co-workers. This resulted in 12,000 entries of real-time data on different people within different contexts, over a long period of time.

Amabile and her colleagues delved deep into the "inner work lives"—the perceptions, emotions and motivation levels—of employees, in her effort to understand how people experience work and whether inner work life affects performance. She found that, in fact, inner work life drives performance. When people experience positive emotions and strong intrinsic motivation for their work, their productivity, creativity, commitment, and collegiality all increase. Further, Amabile and her team found that positive emotions can predict creative thinking for the next day and possibly even the day after that. Positive emotion is expansive and liberating. On the other hand, when people experience negative emotions, their ability to perform work diminishes. Other researchers have since found that inner work life at one point in time predicts outcomes for a company at a later point in time, including employee retention, customer satisfaction, sales growth, and profitability. And a growing body of literature shows that inner work life has effects beyond a person's performance. Low autonomy, high stress, and unhappiness can make people more susceptible to common colds and even strokes!

And what drives inner work life, Amabile and her colleagues discovered, is making progress in meaningful work. This is what she calls the progress principle: Of all the positive events that can lead to positive inner work life, the single most powerful is progress in meaningful work. And of all the negative events that can lead to negative inner work life, the single most powerful is the opposite of progress – setbacks in the work.

Beyond revealing how much inner work life matters to employees and, in turn, companies, and how progress in meaningful work drives inner work life, the study found two sets of forces that influence progress and inner work life: catalysts (events that directly influence people's ability to make progress) and nourishers (interpersonal events that directly influence people's inner work lives). Catalysts include clear goals in meaningful work, autonomy, sufficient resources, help with the work when things are difficult, learning from problems and successes, open idea flow, and sufficient time (but not too much time). Nourishers are things such as respect and recognition, encouragement, emotional support, affiliation, and camaraderie. The catalysts and the nourishers are what every manager, at whatever level in the organization, can use to create positive cycles of progress and positive inner work life.

Everyday support for people and their progress leads to positive inner work life, which then leads to superior long-term performance, as Amabile and her team found with the companies they engaged in

EMPLOYEE ENGAGEMENT & PRODUCTIVITY THROUGH MEANINGFUL WORK: INTRODUCTION TO INNER WORK LIFE

their research. Paying attention to how people experience work is vital to productivity and performance. For optimum performance and successful projects, managers need to nourish people's inner work lives and, most importantly, catalyze progress in employees every day.

For more on The Progress Principle: www.ProgressPrinciple.com

WELL-BEING IN THE WORKPLACE: MATERIALITY & IMPACT IN WELL-BEING

Moderator:

Eileen McNeely
Co-Director, SHINE

Speakers:

Fikry Isaac
VP, Global Health Services, Johnson & Johnson
Chief Medical Officer, Health & Wellness Solutions

Gale Tedhams
Director of Sustainability, Product and Supply Chain, Owens Corning

Health is part and parcel of sustainability. This session explored the opportunities of expanding the current definition of health (i.e. disease avoidance and wellness, risk reduction) to "well-being" in order to explicitly target an engaged, productive, and flourishing workforce.

A focus on performance and subjective experience is at the heart of well-being programs. This means that, in addition to motivating individual behavioral change for disease avoidance, organizations can take charge of creating job arrangements with the optimal level of challenge and self-efficacy, mastery and nurturing supportive relationships between supervisors and workers, to promote optimal employee performance and well-being. At the cutting edge of health improvement, well-being is really the new wellness because, based on the latest research, employees who report a higher level of well-being today show reduced illness and mortality down the pike.

This session offered some insights into fostering a vision for well-being in the corporate sustainability strategy and some tools to measure progress.   Johnson & Johnson and Owens Corning, two of our SHINE member companies, demonstrated their approach to valuing, measuring, engaging, and promoting flourishing of the workforce and how this is tied to sustainability goals.

Photo Credit: Flazingo Photos

WELL-BEING IN THE WORKPLACE: MATERIALITY & IMPACT IN WELL-BEING

Fikry Isaac
Johnson & Johnson

> *"We are focused on helping people around the world live longer, healthier, and happier lives and this begins with our own employees. As business leaders we have an opportunity to create an environment where employees can actively engage in their health and achieve their "best self" at work, at home, and in their communities."*
>
> *~Alex Gorsky, CEO, Johnson & Johnson*

Johnson & Johnson (J&J), a global leader in health care, has a long history of exploring health in the context of work. As the current CEO puts it, J&J is "focused on helping people around the world live longer, healthier and happier lives and this begins with our own employees. As business leaders we have an opportunity to create an environment where employees can actively engage in their health and achieve their "best self" at work, at home, and in their communities." Just as health was engrained in the company's credo in 1907, so it is now in the 21st century.

While J&J has embraced disease risk and health care costs as the measures for success, and as such, improved the outcomes of its wellness program offerings, the future opportunities for further improvement lie in considering a new paradigm of well-being that goes beyond disease and captures everyday feeling, thinking, engagement, and performance as upstream predictors for health.

According to J&J, research consistently shows that Happiness (or well-being) matters for the organization, particularly when it comes to job performance, retention, and health. Here are some of the areas where this correlations occurs:

- Job performance is correlated with well-being. Employees who report being happier tend to perform better at work than employees who report low well-being.
- Happy employees are more likely to stay, leading to a higher rate of retention.
- Cardiovascular health increases, in other words, people's hearts work more efficiently, when well-being is high, even after controlling for health risks.
- Well-being leads to the potential effect of engagement and productivity.

Based on the above research, J&J's goal was to create a platform that "inspires global understanding and appreciation of health and its relationship/value to an organization's performance and financial vitality." J&J wanted to take into account traditional measures of health and wellness, as well as, evaluate employee engagement and well-being. How well-being and engagement translate into healthy business outcomes (financial, productivity), is a useful and critical measure of a company's overall reputation, sustainability, productivity, and health.

WELL-BEING IN THE WORKPLACE: MATERIALITY & IMPACT IN WELL-BEING

To implement this vision, J&J developed a cross-functional team from within the company's Global Health Services and Wellness and Prevention business and began refining the employee component with SHINE. Together, SHINE and J&J have developed a measurement for well-being—the Well-being Index (WBI)—that companies can apply to assess the impact of work and the workplace on human capital and health and well-being. The tool includes many standardized and validated questions in the public domain that measure the state of well-being and the antecedents of optimal human performance.

Currently, J&J and other SHINE member companies are piloting the employee well-being measure to use as a benchmark for reporting about the ways in which companies are responsibly and actively working to increase the sustainability of their workforce by promoting well-being.

The tool is flexible, with a core set of items and additional modules for tailoring approaches relevant to a particular company's culture, products, or services, such as modules that evaluate particular worksite resources and their impact on well-being. In this way, the tool may be used diagnostically and prescriptively.

The tool has four main sections:

1. Well-being—items in this section provide both affective and evaluative aspects of well-being. Subjective well-being has been associated with overall health and work performance.
2. Productivity—items in this section measure the number of employee healthy days and subjective report of work performance.
3. Engagement—these items capture feelings at work (vigor, dedication, and absorption) that have been previously associated with job resources, health, and work performance.
4. Culture—these items capture the availability of work resources (i.e. supervisor and coworker support, participatory decision-making, challenge, etc.) that have been previously associated with health and work performance.

In addition, the survey includes a subset of questions about personal characteristics for context.

WELL-BEING IN THE WORKPLACE: MATERIALITY & IMPACT IN WELL-BEING

Gale Tedhams
Owens Corning

"There is huge synergy potential when companies holistically address the positive elements of environmental and human impact in a purposeful manner."

~Gale Tedhams, Owens Corning

Founded in 1938, Owens Corning is an industry leader in glass fiber insulation, roofing and glass fiber reinforcements. At Owens Corning, sustainability has economic, environmental and social benefits. The following diagram offers a look at how the three areas interact at the company.

The sustainability strategy at Owens Corning is also a business strategy. Owens Corning is striving to be a NetPositive company in the following areas:

- Operations Sustainability
- Product and Supply Chain Sustainability
- Innovation and collaboration to deliver energy efficiency and durable material solutions at scale
- Employee safety, health and engagement, and community vitality

WELL-BEING IN THE WORKPLACE: MATERIALITY & IMPACT IN WELL-BEING

Well-being strategy at Owens Corning starts with safety. With a goal of zero injuries, the RIR, or number of employees injured per 200,000 hours, has decreased from 5.74 in 2002 to 0.56 in 2014, a 90% decrease.

A drive toward NetPositive sustainability allows Owens Corning to work towards the idea that the world is better off with Owens Corning in it. Gale says, "there is huge synergy potential when companies holistically address the positive elements of environmental and human impact in a purposeful manner." The company began its NetPositive journey with SHINE by first focusing on environmental handprints of its products and it is currently applying the results of the Well-being index survey.   Growing the company's Handprint encompasses the following:

- Insulation—energy efficiency improvements in buildings
- Composites—vehicles light-weighting via steel replacement
- Roofing—end-of-life shingle recycling for road paving
- Transportation—carrier fuel switch from diesel to natural gas
- Safety, Health, and Wellness—path to flourishing

There are four pillars to Owens Corning's path to Flourishing:

1. **Healthy and Safe Work Environment**—employee fitness and nourishment, disease prevention/ outcomes, safety program, environment for human performance
2. **Meaningful and Supportive Work**—100% leadership development, communication, engagement, meaningful and shared goals, skill development for job complexity, optimal work flow and design, supportive environment, personal and professional development
3. **Company Practices Instill Pride**—Sustainability, strong code of conduct, corporate giving, support to our communities, respected brand/ image, leading through our values, inclusive workplace, and diverse workforce
4. **Company Investments in People**—Competitive and caring, training and development, retirement and financial planning, health and social benefits, work/life balance support, broad-based incentive programs

Owens Corning was the first company that applied the SHINE Well-being Index. Employees reported on performance, organizational climate, and physical and mental health. The web-based survey was administered to 6,792 U.S. employees in November 2014 directly by SHINE to maintain employee confidentiality. All survey communications and protocols were approved by the Harvard T.H. Chan School of Public Health Human Subjects Review Board. Responses were voluntary and all results were reported back to Owens Corning anonymously in aggregate.

Owens Corning presented the preliminary findings noting the type of important information the Well-being Index offered about the mental health and engagement of the workforce beyond what is typically collected. The vision of Owens Corning's new sustainability strategy will refocus the emphasis from mainly a "healthy body" to also include a "healthy minds campaign", based on these results.

WELL-BEING IN THE WORKPLACE: MATERIALITY & IMPACT IN WELL-BEING

In the coming months, SHINE will:

1) Merge survey and health analytics data by analyzing causal pathways (i.e. relationship between work life, personal health risk profile, and work injuries), ,
2) Engage stakeholders to develop and implement new targets and strategy on the flourishing pathway, (inform actions to decrease number of poor sleep days, poor mental health days, or days unable to function), understand work/home life or upstream conditions that may affect safety performance and risky health behaviors),
3) Test and learn internally after launch of new programs, and
4) Re-survey to measure Handprints or positive improvements in well-being. Handprints or positive improvements in well-being.
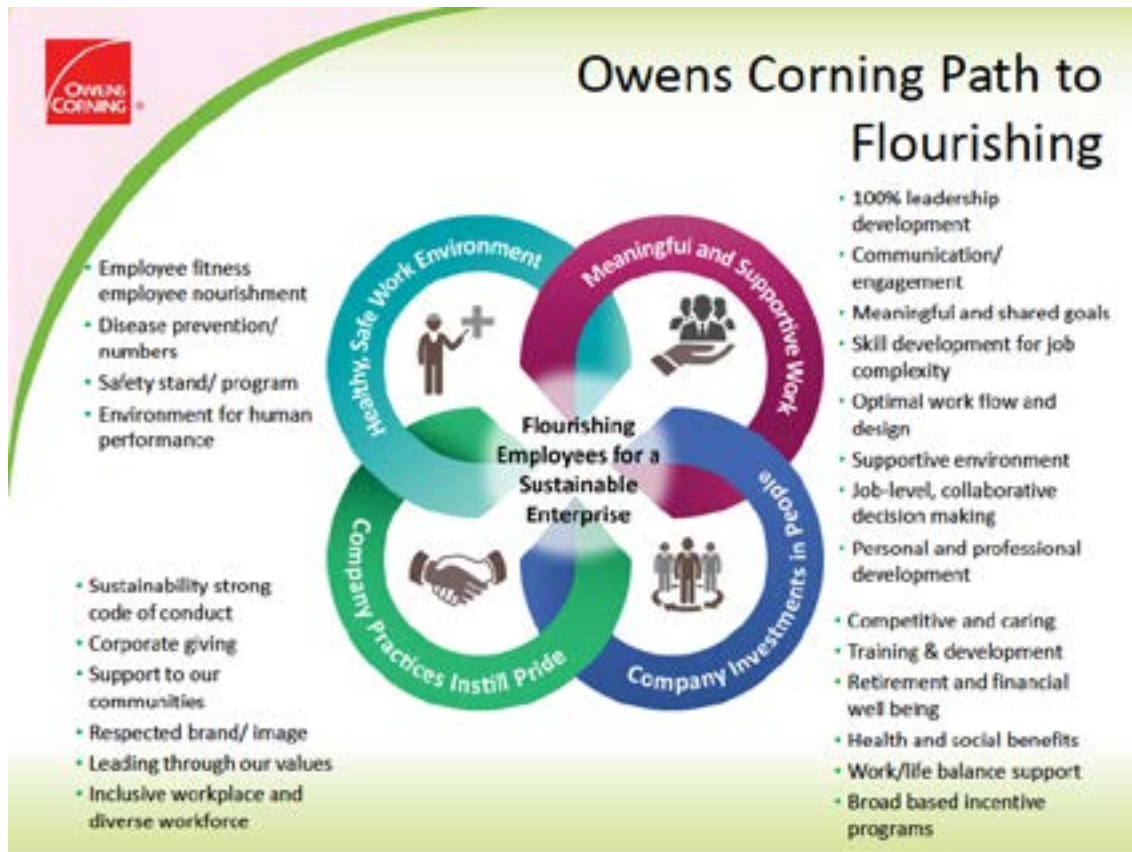
As Owens Corning continues on the path to flourishing and develops the methodology for well-being Handprints with SHINE and other SHINE members, the company aims to continue reinforcing the cycle of NetPositive impact. "When a company actively chooses to contribute to the thriving of its workers, the company 'gives more than it takes' enabling the success and sustainability of the larger community."

INNOVATING FOR SUSTAINABILITY: ASSESSMENT METHODS & EXAMPLES

Moderator:

Gregory Norris
Co-Director, SHINE

Speakers:

Asheen Phansey
Manager, Sustainable Innovation Lab, Dassault Systèmes

Claire Castleman
Sustainability Analyst, Eaton Corporation

One of the most direct and important routes for companies to generate handprints is through innovations that involve the goods or services that they provide to the market. Product-related handprint-generating innovations can take many forms, some of them classically part of the domain of "design for environment" (DfE) and others quite newly introduced by the handprinting framework.

During the past year, several SHINE companies, with the help of SHINE researchers, have begun advancing the frontier of our understanding and assessment of the ways that innovation can generate handprints. A set of ongoing case studies with these companies have tested and prompted further expansion of the handprint accounting framework that is embodied in the publicly available Handprint Calculator tool (http://www.lumina.com/handprint/). In this session at the Summit, SHINE Co-Director Greg Norris provided an overview of Handprint Accounting Methods, and then Claire Castleman of Eaton and Asheen Phansay of Dassault Systèmes presented results of these case studies, reflecting also on the impacts that engagement in these activities are having within their companies.

Photo Credit: Doug Ellis

INNOVATING FOR SUSTAINABILITY: ASSESSMENT METHODS & EXAMPLES

Claire Castleman
Eaton

As a power management company operating in the electrical, hydraulics, aerospace, and vehicle segments, Eaton helps customers manage power efficiently, safely, reliably, and sustainably. While Eaton is responsible for its own greenhouse gas (GHG) emissions from its operations (3%), the emissions from the use phase of their products make up the majority of their footprint across the value chain (87%), a reality that offers the company an immense opportunity for positive environmental impact. (The remaining emissions come from its supply chain (8%) and a mix of other energy use (2%)). This opportunity aligns with Eaton's mission to help customers manage power and address their customers' most pressing energy challenges.

Eaton's sustainability strategy is centered around four main points:

1. Build a world-leading class of products and communicate the sustainability benefits of Eaton's product portfolio
2. Achieve internal environmental footprint reduction goals
3. Engage all employees in understanding and driving the company's sustainability strategy
4. Drive transparency and reporting of goals and accomplishments

A handprint at Eaton is the lifecycle footprint of the "business as usual" product minus the lifecycle footprint of an innovated product. It's about "bending the curve" of Eaton's trajectory toward NetPositive impact. Eaton measures handprints of its products using the same units the company uses for measuring the environmental footprint of a product— GHG emissions, water use, and human health, for example. The company then applies Open Life Cycle Analysis (OpenLCA) data and information from engineering and sales teams to calculate the "business as usual" footprint and impact of innovation. In turn, the total handprint is the lifetime handprint of every product sold per year until it reaches the innovation relevant time horizon (the time until the innovation becomes "business as usual" again). The key for applying the handprinting concept in a business context was being transparent about the assumptions and comparisons used in handprint calculations.

Eaton has experienced the following benefits from handprinting:

- A broadening of Eaton's perspective to more ways its products benefit society
- A pulling-together all of Eaton's sustainability work— footprint reduction, product efficiency, community involvement, etc.
- Thinking about handprints fuels creativity, innovation, organic growth
- More complete accounting of the sustainable benefit of Eaton's products and processes
- Opportunity to better engage customers, employees, other stakeholders
- Creation of the potential for NetPositive impact: product handprints that drastically outweigh operational footprint

INNOVATING FOR SUSTAINABILITY: ASSESSMENT METHODS & EXAMPLES

A few examples of the handprints of Eaton's products include:

- Redesigning a truck transmission in ways that make it both lighter in weight and higher in fuel efficiency than the prior model, so that truck fuel efficiency increased by 1.9%
- Redesigning an uninterruptible power system (UPS) to increase its efficiency from 94% to 97%, with the ability to operate at 99% efficiency.
- Designing a new hydraulic pump, which enabled a higher pressure power generation system on the Airbus A380 to achieve weight reductions that improved fuel efficiency.

At Eaton, handprinting aligns with the company's sustainability strategy as well as its culture of innovation, both of which are drivers of organic growth and lead to more leading-edge thinking. While the manufacture and use of Eaton's products generate an environmental footprint, accounting for innovation and other positive impacts provides a more complete view of the positive value Eaton provides to its customers and society.

INNOVATING FOR SUSTAINABILITY: ASSESSMENT METHODS & EXAMPLES

Asheen Phansey
Dassault Systèmes

One of SHINE's five founding member companies, Dassault Systèmes (or 3DS), a France-based company, provides software applications and services worldwide. Some of its offerings include: SOLIDWORKS for design, simulation, technical documentation, and data management; CATIA, an engineering, design, and systems engineering software; GEOVIA, which models and simulates the earth; and BIOVIA, which provides a scientific collaborative environment for biological, chemical, and materials experiences. The company strives to combine science, technology, and art to contribute to a sustainable society and is helping to advance the SHINE methodology for assessing the handprints of innovation.

Given the scope of industries with which 3DS works—transportation and mobility, aerospace and defense, marine and offshore, industrial equipment, consumer goods, life sciences, and energy, to name a few—the company has an immense opportunity to help its customers reduce their environmental impact. Considering this breadth of industries, the Company can influence 5% of the global human footprint when taking account all of its products. 3DS views sustainability as not only the company's responsibility, but also a business opportunity.

The following diagram demonstrates 3DS' impact on revenue generation, operational efficiency, competitive advantage and risk mitigation by leveraging the ability of its products to enhance eco-design, engineer for sustainability, enable sustainable systems, and reduce energy and waste to name a few of the benefits of working with 3DS.

INNOVATING FOR SUSTAINABILITY: ASSESSMENT METHODS & EXAMPLES

One of the ways that 3DS helps customers reduce environmental impact is through simulation technology. In 3DS' world, its software enables the innovation and, in turn, a reduction in negative environmental impact, whether through the use of fewer resources or greater energy efficiency of a product.

A great example of this are the applications of the company's 3DEXPERIENCE platform. These apps can help a company that makes plastic bottles reduce materials used to make the bottles, thereby cutting costs, reducing the fuel required for transportation, and making recycling more efficient. The benefits of the sustainable innovation enabled by the 3DEXPERIENCE platform include:

- Bottle designs that cut plastic resin use by as much as 27%
- The ability to accurately simulate multiple load conditions simultaneously, reducing the need for physical prototyping
- A 50% reduction in design cycle times
- Improved communication for more efficient and effective problem-solving
- Over 20% reduction in design revisions

At 3DS the ultimate goal is to create a product sold in the marketplace that uses fewer resources and has a smaller environmental footprint. SHINE's handprinting methodology has enabled 3DS to promote better design behavior and measure the results. For example, 3DS has:

- Encouraged Eco-design: by providing better design dashboards
- Replaced Physical Reality with Virtual Reality: by improving sustainable engineering
- Implemented Green Manufacturing: to simulate and create better production environments
- Revolutionized Product Development: by using big data, 3D printing, Internet of Things

While the handprinting methodology is still being refined and tested, 3DS expects that this methodology will eventually be used to evaluate a social or environmental return on investment and to determine which innovation to fund from an R&D perspective.

3DS' products and technologies already enable customers to not only save on capital expenditures, but also reduce their environmental impact. The handprinting methodology in turn enables 3DS to quantify the positive impact it is creating and, in doing so, motivates its engineers and technicians to keep innovating.

THE WAY FORWARD: EMERGING IDEAS IN SUSTAINABILITY & WELL-BEING

"Emotional, physical, mental, and spiritual health ignites performance."

~Greg Kunkel,
Next Jump

Moderator:

Heather Henriksen,
Director, Harvard Office of Sustainability

Speakers:

Greg Kunkel
Senior VP & Co-Founder, Next Jump

Michael Kobori
Vice President, Sustainability, Levi Strauss & Co.

Harold Glasser
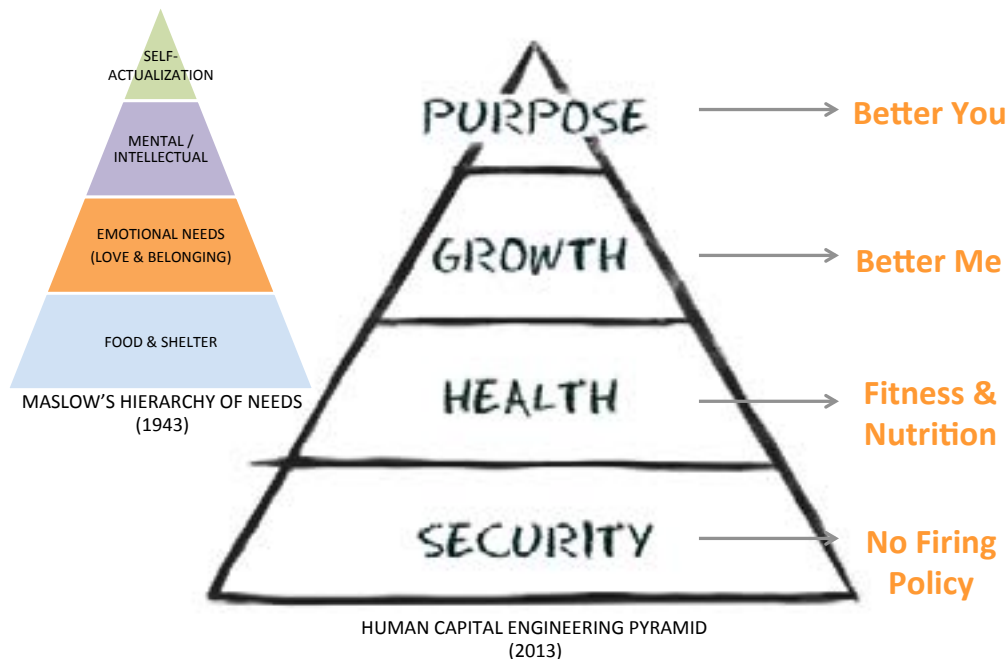*Executive Director, Campus Sustainability, Western Michigan University*

This session showcased a holistic appreciation of the connectedness of human health and well-being into the mission of sustainability. SHINE challenges companies to consider health and well-being as an integral part of sustainability and a successful and thriving organization. This entails seeing well-being as the basis of effective organizational and management strategies. In this session, Harold Glasser of Western Michigan University, presented on the idea of second-order change, and Michael Kobori of Levi's and Greg Kunkel of Next Jump shared how their organizations are pushing the envelope on the health and well-being of direct employees and those within the supply chain.

THE WAY FORWARD: EMERGING IDEAS IN SUSTAINABILITY & WELL-BEING

According to Harold Glasser, as sustainability and health leaders, we have already been driving at the first order solution—becoming less unsustainable or less bad. A second order solution, on the other hand, inspires innovative, out-of-the-box thinking that requires a system structure change. This means striving toward NetPositive impact. It means looking at measuring health and well-being from a whole new perspective and understanding that it must be a part of our sustainability and business strategies. It means pursuing change so transformational it improves quality of life for all.

Levi Strauss & Co. and Next Jump are two companies that are striving for just this.

Next Jump, a tech company, has not only been recognized as one of the best-led companies, but also for its success in health and wellness. Next Jump's "audacious goal," as the company calls it, is to "change the world by changing workplace culture." To do this, the company focuses on setting up a work environment that enables people to thrive. The company repurposed Maslow's Hierarchy of Needs (1943) to create the Human Capital Engineering Pyramid (2013).

SELF-ACTUALIZATION

MENTAL / INTELLECTUAL

EMOTIONAL NEEDS (LOVE & BELONGING)

FOOD & SHELTER

MASLOW'S HIERARCHY OF NEEDS
(1943)

PURPOSE → Better You

GROWTH → Better Me

HEALTH → Fitness & Nutrition

SECURITY → No Firing Policy

HUMAN CAPITAL ENGINEERING PYRAMID
(2013)

Using this repurposed pyramid as a paradigm, Next Jump revolutionized the work environment for their employees, most of whom are engineers, in powerful ways. In support of the bottom half of the pyramid, Next Jump came up with a "no fire policy" and transformed the workplace to support a culture of health. First, instituting a "no fire policy," while a radical step, has given employees the security and flexibility to take risks. Secondly, the company created a fitness and nutrition program that incentivizes employees to take better care of their health both at work and at home. While Next Jump's fitness and nutrition programs have evolved and improved over time the company was committed to making it work for its entire workforce. The changes, which included making facilities accessible, fostering team competition,

THE WAY FORWARD: EMERGING IDEAS IN SUSTAINABILITY & WELL-BEING

and creating recognition programs, led to 90% of employees—the majority of whom are engineers—committed and motivated to working out twice a week and seeing results in their health.

Next Jump provided an example of one of its software engineers who greatly benefited from this culture of security and health at the company. The company said when this software engineered was hired, she did not exercise regularly or eat well. After some time at the company, however, she started to change her diet, to exercise more frequently, including participating in the yearly 5k, and lost approximately 30 pounds while doing so. In turn, the transformation towards a healthier lifestyle also contributed to her high performance, which her managers recognized, leading to a promotion and a role with greater responsibility. Overall, Next Jumpers feel a palpable increase in energy, get sick less frequently and seriously, and sleep better. As is evident at the company, the security and health paradigm at the bottom half of the pyramid support employee growth and purpose, the top half of the pyramid. The company's ultimate philosophy is "Better Me + Better You = Better Us" —a fitting mission they are clearly fulfilling every day.

Taking this evolved perspective on employee well-being in a different direction, Levi Strauss & Co., an apparel company, envisions a world where people in its supply chain have better lives because they're making Levi's products.   In 1991 Levi's was the first multinational apparel company to establish a comprehensive workplace code of conduct for its manufacturing suppliers. Since then, Levi's has been constantly refining and adding rigor to how it engages with its suppliers.   Thinking more holistically about the company's impact on human lives, Levi's recently began to go beyond the factory to care for the workers in its supply chain. In 2014, the company completed pilots for its Improving Worker Well-being initiative in Bangladesh, Cambodia, Egypt, Haiti, and Pakistan.   The initiative seeks to "move beyond a 'do no harm' compliance model and instead collaborate with suppliers to improve the lives of apparel workers in locations where its products are made." Levi's surveys the workers to tailor the program to topics they care about the most. Two of these are women's health and financial inclusion.

Engaging directly with suppliers, Levi's provides them with the tools to integrate the well-being programs into their on-going operations.   This initiative sets a new standard for sustainability, responsibility, and health in the supply chain and Levi's suppliers have already seen a significant return from these programs. SHINE will be working with Levi's to measure the impact of well-being interventions in the supply chain. This work will help to define the most robust indicators for individual and organizational performance and provide insights about how brand can influence their suppliers to produce positive social impacts.

Companies are beginning to see a world in which health and well-being of the workforce is fundamental to doing business. They see health as not just tied to wellness programs that inspire and support behavior change after work; rather, they see health within the context of the workplace. Together we are tackling the health and well-being challenges that John Spengler so eloquently outlined in his introduction. Health and well-being are intrinsically tied to the physical, psychological, and social experiences of the workplace, where so many of us spend the majority of our waking lives.   Together we are building a future in which companies are able to measure the state of health and well-being of their workers, both within their organizations and in the supply chain, and link it to individual performance and organizational profitability; a world in which both individuals and companies flourish.

CONCLUDING REMARKS: WHERE WE ARE GOING

CONCLUDING REMARKS:
WHERE WE ARE GOING

The SHINE Summit 2015 was an inspiring, collaborative, and invigorating forum where the potential for scale through cooperation was clear and evident. The enthusiasm and transparency of the companies who participated in the honest sharing of ideas and challenges created the kind of genuine interactive environment that is sure to raise the bar for future practice and progress in NetPositive sustainability and health.

In this spirit, as part of the event, we asked participants to share their 5-year sustainability wish list. The responses ranged from a desire for companies to drive more effective climate change policy to wanting holistic employee well-being to be recognized as a competitive advantage and imperative for business performance. (For more of these inspiring ideas please take a look at Exhibit A in the Appendix.)

The real value of SHINE collaborations comes from the shared learning between the academic and business partners—bringing research evidence to bear on future business decision-making. For example, piloting the well-being measures in SHINE companies opened the door to discussions about the numerous opportunities to more fully engage employees by considering their work experiences as fundamental to their performance and their health. Further, by setting the bar at NetPositive, companies consciously act to change their impact on people, communities, and the planet for the better and the count of handprints shows how progress is made. The NetPositive framework is also a wellspring of innovation—for example, we noted from Eaton that "big things come in small packages" or that small changes may have huge positive impact! Ripple effects in the supply chain and consumer use can be really big!!

And speaking of ripple effects, SHINE will be working with the Levi Strauss Foundation to influence "ripples" of positive impact on the well-being of workers in its global supply chain. Also on the horizon for SHINE: We will be inviting investor groups to consider how NetPositive, handprints, and worker health and well-being are material to company value.

By including positive environmental impact and health and well-being under the NetPositive umbrella, SHINE is enabling companies to cast a much wider—and more impactful—search for avenues of action that bring about sustainable outcomes. This is, in turn, also inspiring employees who already work on sustainability within the companies, and drawing others into the initiatives. SHINE's work on Handprinting and NetPositive is also starting to shape the wider global movement on NetPositive, as both SHINE staff and leaders from member companies participate in and shape dialogs in this space.

We look forward to continuing the collaborations and conversations throughout the year and at next year's event. SHINE Summit 2016 will take place from the evening of Wednesday, June 15, 2016 through Friday morning June 17, 2016. The Summit will be preceded in the same venue by the 5th International Seminar on Social Life Cycle Assessment, a global meeting of academic and applied researchers in this field.

To learn more about SHINE and for more resources please visit our website:
www.chgeharvard.org/SHINE.

GLOSSARY OF TERMS

Engagement—the level of energy, dedication, motivation, enthusiasm and focus of an employee that ifpositive helps further the mission, reputation and economic growth of an organization

Flourishing—Engagement, resilience, and well-being

Handprints —Actions that result in a reduction of harm, or in the improvement of people's well-being, or in the healing or sustainability of the planet, compared to business as usual.

Handprints of Innovation— Handprints are changes to business-as-usual impacts, on each and every sustainability impact measure, such as water consumption, climate change, human health, and so-on. Innovation is one way to create handprints, through the ways in which it changes business-as-usual. Examples include making an existing product more eco-efficient, bringing positive changes in supply chains on environmental or human impact dimensions, and the creation of new products.

Handprinting— the creation of Handprints.

Human Capital—The health, knowledge, motivation, and skills an individual possesses that's viewed in terms of value or cost to an organization

Health—"Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (World Health Organization)

IRTH—(Innovation-Relevant Time Horizon: This measures the number of years over which the innovated good or service is treated as a different with respect to business as usual.

Performance—The level of engagement and productivity applied for execution of duties and responsibilities

Well-being—Subjective rating of the quality of life that derives from the experience of purpose, social connection, learning, mastery, and self-efficacy, and one's satisfaction with their health, safety, security, and general welfare. "There is general agreement that at minimum, well-being includes the presence of positive emotions and moods (e.g., contentment, happiness), the absence of negative emotions (e.g., depression, anxiety), satisfaction with life, fulfillment and positive functioning." (downloaded from Center for Disease Control: http://www.cdc.gov/hrqol/wellbeing.htm)

APPENDIX

EXHIBIT A
5-Year Wish List—Sustainability is evolving

The following is a consolidated list of the 5-Year Wish list compiled from participant comments. We look forward to engaging with our present and future partners in advancing the potential for NetPositive sustainability to make real positive impact on the planet and the health and well-being of our communities.

Environmental

- Companies to drive government action on climate
- Organizations (companies, NGOs, governments) to collaborate on infrastructure sustainability
- Sustainability function in the company goes away
  (i.e. sustainability is part of everyday business;
  everyone "does sustainability")
- Recognizing that our GHG emissions are a ticking time bomb
- Corporations to drive governments to reach global climate agreement
- Commitment to net-positive-energy buildings
- Exceed the indoor air quality standards for ventilation, noise, lighting and filtration
- Increased accountability re: science-based environmental action
  (having goals and targets mean something)

Health

- Organizations that address health and well-being in employees have spillover impacts for families and communities
- Companies get rewards for health and sustainability performance
- Development of measurement methodologies that integrate social benefits of health care products and services with environmental impacts (e.g. handprint of health care)
- Integrate health and wellness into an organization so that employees and local communities live full, productive, and healthy lives.
- Calculation standard for health/social/ well-being impacts
- Employee health and wellness recognized as a competitive advantage and imperative for business performance
- Link wide-range of employee behaviors and work/life challenges to sustainability. Include: workplace aggression, overwork, income inequality, accessibility to flexible work arrangements, financial literacy, career development opportunities, mental health support, work design that supports parents and people with disabilities, diversity and inclusion, LGBT issues.

Sustainability

- Better integration of sustainability with business strategy
- Better connection of human health and environmental health
- Increased involvement of the financial sector in sustainability
- Investors to demand more rigorous sustainability performance
- Companies to compete with each other to market sustainability to consumers
- Rejection of economic growth as indicator of success
- Consider: footprint, handprint, heartprint

APPENDIX

EXHIBIT B

SHINE'S Commitment to Well-being in Sustainability

The business and sustainability case for employee well-being

We all know that businesses thrive when employees are happy, healthy and engaged. While attraction and retention of talented employees is one measure of profitability, companies inevitably face the growing challenge of rising health care costs. Often, employer-sponsored health care as it exists within the U.S. health care system, means that companies bear the burden of rising insurance premiums and health care costs—especially if the company is self-insured. As such, employer concern for the health and well-being of employees is a business necessity.

For the past few decades, companies have increasingly offered wellness programs geared toward reducing the risks for chronic disease as a way to manage rising health care costs. While this intention is a good one, the impact of these programs on the prevalence of chronic disease is widely disputed and the return on investment is difficult to prove. The value of wellness programs is debated, in part, because they focus on disease management, a lagging indicator of human performance, and are tightly dependent on the quality, cost, and utilization of health care services

Businesses are learning that, rather than focusing on disease management, determining the state of well-being and engagement of workers, when measured effectively, can help to address both health care costs and drive performance. Workers' perceptions of their state of well-being and engagement captures up-to-the minute performance information that is predictive of future work and health outcomes, and offers more opportunities for the employer to make a difference in how well individuals and organizations will thrive.   By imparting meaning and purpose, learning, skill development, and social connection, in addition to evidence-based health and wellness programs, management can use the workplace experience as an important lever to improve workers' state of well-being and engagement.

The logical connection between employee well-being, engagement, and productivity   is the reason that companies are moving from a containment model for disease and health care costs to a strategy that aims to improve engagement and, ultimately, a thriving employee population. This is the new model of sustainability that cares for people and lends to the sustainability of the planet. In fact, many believe that building resiliency into our workforce enables people to care about the planet because, when individuals' needs are met, they

APPENDIX

are better able to care for others (see Maslow's hierarchy of needs)! SHINE is excited about undertaking research to establish the evidence that healthy and engaged employees are much more inclined to care for the environment and advance the sustainability mission of their organization.

What role does SHINE play in the issue of well-being?

If well-being and engagement are to be the guidepost, then how do we know when we've arrived at the goal? How do we know where to steer the course? And how do we manage the work experiences that foster development across a diverse workforce?

The first step toward answering these questions requires developing a metric that accounts for well-being and engagement. This metric needs to consider a systems view of the inputs in order to understand how to improve well-being.

A couple of years ago, SHINE took on this challenge with the help of Johnson & Johnson and devised a Well-being Index that benchmarks the culture of health, the work experience, and employee well-being and engagement. The vision was to create a standard that could be applied across industries and work environments to communicate socially responsible performance in this area. In addition, these metrics would be used by SHINE researchers to generate knowledge about ways to improve health and performance under a diverse set of conditions and among different work populations throughout the supply chain.

A new guide for sustainability: Innovating work-systems for well-being

SHINE works with partners to tackle a number of questions about the work experience and well-being. For example:
- How do flexible work schedules impact well-being across diverse work settings (e.g., offices and factories) and diverse workers (e.g., younger and older workers)?
- What are the main predictors to well-being at work?
- How does family caregiver-support impact employee well-being and productivity?
- How can companies influence the well-being of workers in the supply chain?
- What work experiences best predict mental health in the workforce?
- How do environmental conditions, such as building conditions, impact well-being at work?

How do companies make well-being a centerpiece of their sustainability strategy?

Companies may engage with SHINE to apply the Well-being Index. SHINE researchers collect information from employees confidentially through on-line and mobile device-readied surveys. Once data is collected, SHINE researchers aggregate results to benchmark employee well-being and engagement, propose new research questions, and communicate advances for sustainability reporting.

APPENDIX

HARVARD T.H. CHAN | SCHOOL OF PUBLIC HEALTH
Center for Health and the Global Environment

shine

Understanding the role of the work context in the promotion of physical and mental health in a large US manufacturing company
David Hurtado ScD[1,2], Arif Jetha PhD[1,3], Eileen McNeely PhD[1]

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Background/objectives

- Various aspect of the work context can play an important role in promoting health and minimizing long-term work disability of employees

- This study sought to examine the relationship between job characteristics, work context features, and the risk of unhealthy physical, mental and sleep days

- Findings from this study may help to inform organizational programmatic and policy change

Methods

- A survey was administered to employees of a large US manufacturing company asking about demographic factors, job and work context characteristics, and family dynamics

- Information on number of unhealthy physical, mental, and sleep days was also collected

- Multivariable log-Poisson models were designed to examine the relationship between study variables and health outcomes

Sample characteristics

Demographic characteristics
- Total sample recruited = 2401
- Mean age = 45.83 (SD = 11.6)
- Male = 74%
- Non-Hispanic White = 82%
- Married or living as married = 75%

Job characteristics
- Job tenure = 14.5
- Post-secondary education = 64%
- Hourly workers = 31%
- Manufacturing workers = 29.4%

Health characteristics

- Mean number of days in the last month of:
  - Poor physical health = 2.5 (SD = 5.8)
  - Poor mental health = 4.5 (SD = 7.0)
  - Without enough or poor sleep = 9.2 (SD = 8.7)

- Production workers reported significantly more days of poor health when compared to office workers ($p < .05$)

Work context characteristics related to health

Multivariable model examining relationship between work context and risk of an additional unhealthy day

Notes: [1]Standardized variables showing the risk of an unhealthy day per one-standard deviation change; [2]Models adjusted for age (continuous), sex, race/ethnicity, marital status, educational attainment and tenure; *p<0.05; **p <0.001; p<0.0001

Study implications and recommendations

- Building a psychosocial workplace culture characterized by greater job engagement, trust/respect, and control may promote employee health

- Health outcomes may also be improved by offering greater opportunities to balance work and family responsibilities

- Safety climate and environmental interferences have a complex relationship with physical and mental health and require greater investigation

- Special attention should be paid to promoting health among production and hourly workers who were more likely to report a greater risk of an unhealthy day

- Flexible work arrangements and strategies to minimize job demands could be examined as ways to improve mental health and sleep days

APPENDIX

HARVARD T.H. CHAN | SCHOOL OF PUBLIC HEALTH
Center for Health and the Global Environment

shine
Sustainability and Health Initiative for NetPositive Enterprise

Success Factors to Implement Handprint in Innovation Processes

Innovation is a key factor to be a NetPositive company. This research will provide a framework to implement the handprint in the innovation process and enhance the transformative capacity of companies.

Significance and Objectives

- This research will contribute to understand how handprint can be used to manage the innovation process in order to increase and accelerate sustainable impacts.

- The objectives of this research will be to determine a framework to implement handprint in the innovation process and the key success factors that should be addressed during the implementation.

- It will help companies to accelerate the use of handprint in the innovation process and succeed in the generation of positive impact.

Meet The Team

Cristiano Machado
Master Candidate
Sustainability and Environmental Management

Gregory Norris
Thesis Director
Program Co-Director, SHINE

Upcoming Activities

The methodology to achieve the objectives of this research will be a case study with a US company, to determine the key success factors and the framework to implement handprint. This model will be tested and refined in pilot projects. Upcoming activities:

- Develop the case study with a US company that uses Handprint, to understand the key success factors to implement handprint and to develop the framework to its implementation.

- Interact with Brazilian companies, to present the Handprint and conduct pilot tests in the Brazilian context. A pilot with a petrochemical company will start on August, 2015.

- Increase the interaction of Shine with Brazilian companies.

- Document and present the results in a Master Thesis and white papers.

Insights

- Handprint can be used to shift the paradigm of sustainable innovation from footprint reduction into positive benefits increase.
- An expected outcome will be the evaluation of conjoint use of handprint and footprint in the innovation process. This will support companies' decision in how to manage innovation.

Discussion

- What are the benefits of a conjoint use of handprint and footprint in the innovation process?
- What are the tools and metrics that should be used as drivers of the positive impact?

APPENDIX

Life Cycle Assessment of Video Games
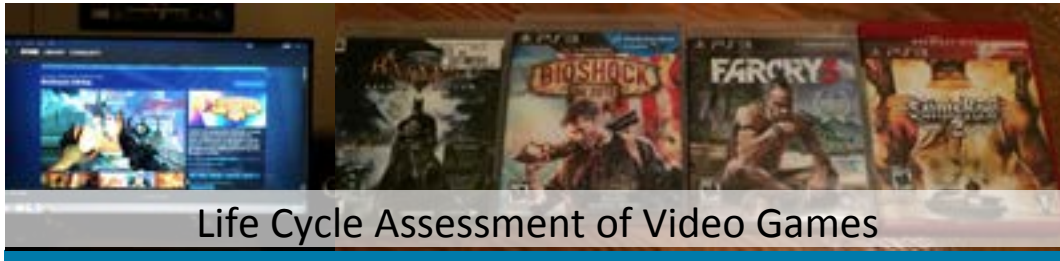
Video games are transitioning into the eighth generation. Consumers can now purchase games either on optical discs, such as Blu-rays and DVDs, or download them on online stores. Does this choice present an opportunity for handprinting?

Why Study This?

- Video games made $93 billion in revenue in 2013
- Games are bigger than movies, which grossed $35.95 billion worldwide at the box office in 2013
- Grand Theft Auto V, first released in fall 2013, pulled in $1 billion in revenue within 3 days of release
- Statistically, you are or know someone who is a gamer
- Similar studies have been done on other media
  - Printed vs. eBooks (eBooks were a handprint)
  - DVD vs. streamed movie (streaming was a handprint)
 - CD vs. iTunes download (iTunes was a handprint)

The Researcher

Cathryn Buonocore
Candidate for Master of Liberal Arts
Harvard Extension School
Sustainability and Environmental Management

The LCA Methodology

- This study focuses on a format difference, and starts after a game is developed
- Optical disc life cycle: raw material extraction and manufacture, distribution to consumer, gameplay and use, disposal
- Digital game life cycle: uploading the data onto a server, consumer purchase and download, use, deletion
  - The first and final listed steps may be negligible within the life cycle
- Experimental component
  - A digitally downloaded installed to a hard drive should use less energy to run, and that is testable with a gaming console, a disc and a download, and a home appliance energy reader

Results

- Handprints? Yes!
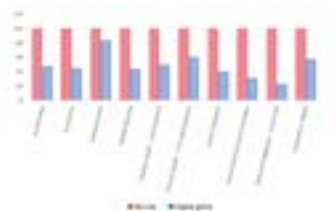
Discussion

- 2013 was the first year in which digital downloads outsold optical discs
- What does this mean for the games industry?
- What does the digital revolution mean for other forms of entertainment?

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HARVARD T.H. CHAN | SCHOOL OF PUBLIC HEALTH — Center for Health and the Global Environment

Understanding Factors Associated with Well-Being in the Workplace

Joseph Asemota, MBBS MPH[1,2]; Brent Coull, BS, MS, PhD[1]; Eileen McNeely, RN, MSc, PhD[1,2]

[1]Harvard T. H Chan School of Public Health [2]Harvard Center for Health and the Global Environment

Background

Despite the increasing interest in the concept of wellbeing, its measurement still remains elusive to researchers, which is likely due to its conceptual multidimensionality. Thus, we sought to evaluate wellbeing from the perspective of the workplace as the workplace activities constitutes a large proportion of the daily lives of many individuals and appears to contribute significantly to overall wellbeing.

Materials and Methods

Using data obtained from the from the SHINE database, we performed a polychoric analysis to derive factor scores for potential predictors of wellbeing. We also derived a factor score for wellbeing from the variables that indicated the various facets of workplace wellbeing. We subsequently used regression analysis to determine the effects of the predictors on wellbeing.

Demographics

Regression model equations

Results

- The analysis showed that seven of the identified indicators were significantly related to workplace wellbeing.
- The significant indicators include work flexibility, work life balance, psychosocial environment, job control, job engagement, job demand and health safety.
- Statistically non-significant indicators were income, tenure, health culture and physical environmental interference.

- Happiness in the workplace can be predicted by the same seven indicators found to be significant for workplace wellbeing.
- Workplace happiness is positively correlated with work flexibility, work life balance, psychosocial environment, job control, job engagement, health safety and inversely related to job demand.

- Similar to wellbeing and workplace happiness, job satisfaction was shown to be positively correlated with work flexibility, work life balance, psychosocial environment, job control, job engagement, health safety but negatively correlated to job demand.
- In addition, a strong workplace health culture was shown to significantly improve job satisfaction.

Schematic Diagram Showing Wellbeing Modulating Factors

Conclusion

Wellbeing in the workplace is mediated through a series of factors. Improving the wellbeing mediating factors within the workplace can have a significant effect on the overall wellbeing of workers and ultimately enhance their productivity. Thus, there is a need to develop strategies that provide workers with adequate job control, improve job engagement, enhance work-life balance and the psychosocial environment, improve workplace safety and occupational health as well as control the demand on the worker.
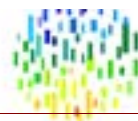
APPENDIX

EXHIBIT D
SHINE Summit 2015 Agenda

SHINE Summit 2015
Thursday, June 4, 2015 – Friday, June 5, 2015
Knafel Center, Radcliffe Campus
18 Mason St., Cambridge, MA 02138
(*Thursday Dinner: Harvard Faculty Club* – 20 Quincy St, Cambridge, MA 02138)

THURSDAY, JUNE 4, 2015

3:15-3:30PM	**Opening Remarks** *Jack D. Spengler* Director, Center for Health and the Global Environment

SESSION 1: CORPORATE SUSTAINABILITY IMPACTS THROUGH POLICY INFLUENCE

"Business leaders will increasingly have to concern themselves with the public good - at least those public goods and issues that influence their business risks and opportunities....The ability to identify and prioritize these public goods and issues, and then determine the best strategies for addressing them, either individually or collectively, will be an increasingly important mark of good business leadership in the years ahead - not replacing, but complementing the ability to remain competitive, productive, and profitable"

~ Jane Nelson, *CSR Initiative, Harvard Kennedy School*

3:30 – 5:00PM	**Panel: Health & Sustainability Impacts of Corporate Action** SHINE challenges companies and organizations to consider news ways to evaluate their impacts on the environment, health and wellbeing. This session presents examples of corporate influence through policy and lobbying that results in either harms or benefits to health and the environment. The question raised is whether these activities should be made transparent in sustainability reporting for a true cost accounting of corporate impact and value creation. *Public health influence & corporate responsibility* **Moderator: *John Quelch*** Charles Edward Wilson Professor of Business Administration, Harvard Business School *Health impacts of drug & medical policies* ***Suerie Moon*** Co-Director of the Project on Innovation and Access to Technologies for Sustainable Development, Harvard Kennedy School *Health & environmental effects of renewable fuel & vehicle efficiency standards* ***Vince Camobreco*** Environmental Protection Specialist, US EPA
5:00–7:00 PM	**Reception and Poster Exhibit**

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APPENDIX

7:00–8:30 PM	**Dinner & Keynote at the Faculty Club Library*** *(directions below)* ***Dr. Daniel Goleman,*** Author, Ecological Intelligence: The Hidden Impacts of What We Buy

FRIDAY, JUNE 5, 2015

8:00–8:10 AM	Short meditation led by **Jeanne Mahon**, Director, Harvard Center for Wellness
8:10am–9:00 AM	**The Big Picture: SHINE Past, Present and Future** ***Eileen McNeely*** Co-Director, SHINE, Center for Health and the Global Environment ***Greg Norris*** Co-Director, SHINE, Center for Health and the Global Environment

SESSION 2 - PART A: EMPLOYEE ENGAGEMENT & PRODUCTIVITY THROUGH MEANINGFUL WORK

"Our research shows that inner work life has a profound impact on workers' creativity, productivity, commitment and collegiality. Employees are far more likely to have new ideas on days when they feel happier. Conventional wisdom suggests that pressure enhances performance; our real-time data, however, shows that workers perform better when they are happily engaged in what they do."
~ Teresa Amabile, *The Progress Principle, Harvard Business School*

9:00–10:30 AM	**Progress, Engagement & Creativity at Work with Q&A** ***Teresa Amabile*** Edsel Bryant Ford Professor of Business Administration, Harvard Business School
10:30–11:00 AM	**Break** (SHINE Member Photo in Knafel Center Garden)

SESSION 2 - PART B: WELL-BEING IN THE WORKPLACE

"Well-being has migrated from marginal to mainstream, finally coming to be seen for what it is: the best way, indeed the only way, to maximize not just happiness and fulfillment but productivity, creativity and, yes, profit. It's the only sustainable way forward, not just for individuals but for companies, communities and the planet."
~ Arianna Huffington, *Huffington Post*

11:00 AM–12:30 PM	**Case Presentations: Materiality & Impact of Well-being** ***Eileen McNeely*** Co-Director, SHINE, Center for Health and the Global Environment ***Fik Isaac*** VP, Global Health Services, Johnson & Johnson Chief Medical Officer, Health & Wellness Solutions ***Gale Tedhams*** Director of Sustainability, Product and Supply Chain, Owens Corning
12:30–2:00 PM	**Lunch**

APPENDIX

SESSION 3: INNOVATING FOR SUSTAINABILITY

"Businesses have been slowly moving towards a model that recognizes the impact they have on society and the environment, putting increasing amounts of budget and resources towards mitigating that impact. But just minimizing the amount of environmental damage a business does is no longer enough. This is one of the major reasons that the concept of "net positive" is gaining traction with sustainability leaders. ...Those leaders that do get there — especially those that get there first — will benefit from the innovation inspired by the process, earn a reputation for sustainability leadership that will last for decades, and know that they have helped to shape the future of business, and the world, for the better.
                          ~ Mark Reynolds*, Carbon Trust*

2:00–3:30 PM	**Innovating for Sustainability: Assessment Methods & Case Examples** ***Asheen Phansey*** Manager, Sustainable Innovation Lab, Dassault Systèmes ***Claire Castleman*** Sustainability Analyst, Eaton Corporation
3:30–3:45 PM	**Stretch Break**

SESSION 4: THE WAY FORWARD

3:45–4:45 PM	**Emerging Ideas** This portion of the Summit will showcase a holistic appreciation of the connectedness of human health and well-being into the mission of sustainability. SHINE challenges companies to consider health and well-being as an integral part of sustainability and a successful and thriving organization. This entails seeing well-being as the basis of effective organizational and management strategies. We will discuss how organizations are applying this idea in the everyday workplace. **Moderator: Heather Henriksen,** Director, Harvard Office of Sustainability ***Greg Kunkel*** Senior VP & Co-Founder, Next Jump ***Michael Kobori*** Vice President, Sustainability, Levi Strauss & Co. ***Harold Glasser*** Executive Director, Campus Sustainability, Western Michigan University
4:45–5:15 PM	**Wrap-Up** ***Greg Norris*** Co-Director, SHINE, Center for Health and the Global Environment ***Eileen McNeely*** Co-Director, SHINE, Center for Health and the Global Environment

*Everyone will begin walking over to the Faculty Club from the Knafel Center at 6:30pm. The Faculty Club is located at 20 Quincy St, Cambridge, MA, a 10 minute walk from the Knafel Center. Map on reverse.