

# SUSTAINABILITY – BEYOND ENTERPRISE RISK MANAGEMENT

## EXECUTIVE SUMMARY

Sustainability offers a new way of looking at risk that is broader than a traditional enterprise risk management (ERM) framework. By looking beyond economic, strategic and operational factors to include social and environmental considerations, sustainability allows corporations to consider emerging risk areas and to look for opportunities presented by risks that are overlooked by other analytical and systems-driven approaches. A more holistic point of view assures sound financial management, ethical corporate governance and transparency with respect to information provided to employees and other stakeholders. Sustainability requires that organizations strive for financial success while accepting responsibility for their impact on and relationships with a diverse group of stakeholders.

Sustainability, coupled with traditional risk identification and analysis tools, gives risk managers the information they need to make better, more informed decisions on an array of risks, including environmental, social, economic, operational and strategic issues. A risk management approach that incorporates sustainability provides management with useful data for identifying emerging issues and developing new and better products and processes that help protect corporate reputation and improve shareholder value.

In this report, Aon explores how to use sustainability as a platform for risk management, supplementing traditional risk management techniques and improving responses to all areas of risk. We show how sustainability can incorporate ERM techniques and highlight the benefits of considering a broader spectrum of risks and searching for opportunities that are derived from the process of identifying and analyzing risks from all aspects of the organization's operations and activities.

Our report covers the following topics related to sustainability:

- The Foundations and Evolution of Sustainability
- Components of a Sustainability Framework
- Sustainability and Risk Management
- Comparison of ERM and Sustainability
- Sustainability – Beyond ERM
- The Optimization of Sustainability Risks
- Implementing Business Sustainability Solutions

This report concludes that traditional approaches to risk management are not meeting client expectations with regard to emerging risks, including those risks that are becoming more apparent as businesses expand their global operations. These risks often involve social and environmental factors where an understanding of local laws, customs and traditions is as important as good business practices. By using sustainability as a platform for risk management, traditional concepts can be expanded to include emerging risk areas that are of growing importance in an increasingly global economy.

## INTRODUCTION

Sustainability is a process by which individuals or entities seek to integrate and produce balance among competing objectives in economic, environmental and social factors. Within business organizations, sustainability also has operational and strategic dimensions that assure sound financial management, ethical corporate governance and transparency with respect to information provided to employees and other stakeholders. It involves actions by which organizations strive for financial success while accepting responsibility for their impacts on and relationships with a diverse group of stakeholders.

While classic sustainability is not viewed as a risk management technique, it can be coupled with traditional risk identification and analysis tools to provide risk managers with additional information by which they can make better informed decisions on a broader array of risks including environmental and social as well as economic, operational and strategic concerns.

Today, the risks associated with social and environmental issues can impact shareholder value as much as strategic and operational issues. Sustainability also provides management useful information that can serve as the basis for identification and development of new and better products and processes to address those risks and add to shareholder value.

This report explores using sustainability as a platform for risk management to supplement traditional risk management techniques so the program is more responsive to emerging risks in the environmental and social areas. For example, traditional ERM does not generally address the myriad external implications of greenhouse gases and the global increase in CO<sub>2</sub> emissions while sustainability principles would evaluate the social and environmental ramifications of potentially linking corporate activities with global warming and natural disasters. (Table 1 summarizes the recent United States Supreme Court's decision on greenhouse gases).

Insert 1 – EPA Must Treat Greenhouse Gases as Air Pollutants

### U.S. SUPREME COURT RULES “AIR POLLUTANT” IN THE CLEAN AIR ACT INCLUDES GREENHOUSE GASES

- On April 2, 2007, in *Massachusetts v. EPA*, no 05-1120, the U.S. Supreme Court held that the EPA has the authority to regulate greenhouse gas emissions from new vehicles under the Clean Air Act.
- The EPA is also required to decide whether greenhouse gases contribute to global warming.
- Compliance with the Clean Air Act will likely extend to EPA regulation of other greenhouse gas emissions, including those from existing vehicles and fossil-fuel power plants.
- Losses resulting from claims due to greenhouse gas emissions may be barred by pollution exclusions in general and excess liability insurance policies.

## THE FOUNDATIONS AND EVOLUTION OF SUSTAINABILITY

The concept of sustainability grew out of a debate that began in the early 1970s over the relative merits of economic growth and preservation of the environment and social structures of developing nations. At that time, the United States had enacted a number of landmark environmental laws that acknowledged the damage caused by a century of industrial operations.

A grass roots environmental movement that began in the 1960s became a broadly supported public cause following oil spills off the coast of California and the discovery of dangerous pollutants in soil and groundwater in the vicinity of the Love Canal near Niagara Falls, New York. The U.S. Environmental Protection Agency was created in 1970 to help the government reign in uncontrolled industrial practices and assure a safe environment for future generations. The Clean Water Act and Clean Air Act were followed by laws that regulated the use, storage and disposal of hazardous chemicals and provided a mechanism to clean up abandoned waste disposal sites.

Europe, Asia and other industrialized regions of the world were dealing with similar environmental issues. An industrial accident in Bhopal, India resulted in a release of a deadly gas that killed and injured thousands of people living in the vicinity of a pesticide plant.<sup>1</sup> The meltdown of the reactor core at Unit #4 of the Chernobyl Nuclear Site in the Ukraine in April of 1986 further demonstrated the deadly potential of industrial and commercial processes, the lack of managerial control over these operations and the failure of emergency plans to address serious unexpected events.<sup>2</sup>

The final seminal event leading to a world-wide movement to control environmental damage was the release of more than 10 million gallons of crude oil when the Exxon Valdez ran aground in Prince William Sound on March 24, 1989. As a reaction to this accident, the U.S. Congress passed the Federal Oil Pollution Act of 1990, which required faster and more comprehensive cleanups following releases at sea, the phase out of single-hull tankers in Alaskan Waters by 2015 and tougher penalties for companies involved in spills.<sup>3</sup> Social issues were also becoming important, including the Apartheid activities in South Africa and poor working conditions as well as the frequent use of child labor in a number of emerging nations.

The blend of social, environmental and economic issues involved in sustainability was first conceived at a Stockholm United Nations Conference on the Human Environment in 1972. By 1987, this debate resulted in a formal proposal on sustainability, which emerged from the Brundtland Commission, a U.N. sponsored group convened to propose strategies for improving human well-being without threatening the environment. The Commission report contained a definition of sustainability that is probably the most widely-used even today: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."<sup>4</sup>

Five years later, the concept was fleshed out in 27 principles in the Rio Declaration on Environment and Development, which set forth economic and environmental concerns that were the primary focus of sustainable development. In 1997, British Economist, John Elkington, introduced the concept of "Triple Bottom Line", which acknowledged that corporate sustainability required not only economic bottom line but environmental and social performance as well.

Since these early developments, sustainability has become an integral part of the operations of many of the world's largest business organizations. Many of these corporations have developed sophisticated sustainability programs, which are supported not only by adequate funding but also support from the highest levels of senior management. Annual stewardship reports, some running as much as 200 pages or more, are distributed in hard copies or electronically to stakeholders.

Dozens of organizations have been formed to encourage and support the efforts of corporations, government entities and institutions to advance the development of sustainability. There are also a number of investment funds that apply sustainability ratings to the performance of corporations and publish listings of those that score high on these indexes. Some of the funds invest in high performing companies on behalf of pension funds, banks and individual investors. Stocks on these indexes have consistently outperformed stocks listed on the Dow Jones Average and other general measures of corporate performance.

## COMPONENTS OF A SUSTAINABILITY FRAMEWORK

From the beginning of the sustainability movement, many frameworks have been developed to incorporate its concepts into business, social, governmental and political systems. (Figure 1 below illustrates how sustainability incorporates social and environmental factors and expands economic issues that are broader than historic ERM).

Figure 1 - Business Sustainability Platform



Most theorists have included elements of the following components in their models of sustainable development:

1. **Economic** – The ability of an enterprise to survive and thrive through operations that fully internalize all costs (including ecological costs), and plan for and provide responses for both predictable and unpredictable future events. Economic performance includes prudent financial planning and the use of appropriate risk management systems to assure the continued ability to operate profitably. A sustainable business is also transparent in its operations with respect to the stakeholders it serves, its employees, and the communities in which it operates and sells its goods and services.
2. **Environmental** – The ability to produce goods and services with a net zero ecological impact. Environmental performance includes using processes and systems that are non-polluting, conserving of energy and natural resources (especially those that are non-renewable), economically efficient, safe and healthful for workers, communities and consumers. Sustainable manufacturers implement pollution prevention practices, use recycled and non-toxic input materials wherever possible and produce safe and recyclable products in recyclable packaging.

3. Social – The incorporation of principles that assure opportunities for full participation of stakeholders in all activities, benefits and decision-making. Social performance includes a philosophy that values human and natural capital and seeks to tap widespread resource productivity improvements coupled with effective design to allow more people to enjoy satisfying employment and financial well-being measured in terms of security and social contact rather than consumption.
4. Operational – The incorporation of efficiencies and effectiveness in the structure and activities of an entity so that other objectives are achievable. Operational performance includes systems to monitor and measure activities and outputs to provide the feedback necessary for continuous improvement. It also includes communications that assure internal knowledge of performance and external harmony with stakeholders, customers and communities.
5. Strategic – The adoption of business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and environmental factors that will be needed to assure continuing performance in the future. Strategic performance includes selection and concentration on products that meet the current and future needs of a broad array of customers. It also involves decisions with respect to where manufacturing or other operations will be conducted, where products will be marketed, suppliers that can meet current and future needs and contractors that provide cost-effective equipment and services. Hiring management that understands and embraces corporate values, and provides leadership and vision that inspires performance and investor confidence, is also part of strategic performance.

Implementation of a sustainability program starts with an understanding of corporate principles and values. The fundamental values that unify an entity's actions are a way of thinking about the work and the people that are derived from where the company has been, where it is today and its quest to continue delivering value into the future. Principles remain unchanged even though the enterprise itself may undergo substantial change over time. The values associated with the corporate principles flow through every aspect of the entity, providing the energy that drives sustainable performance.

## SUSTAINABILITY AND RISK MANAGEMENT

The heart of sustainability is a fundamental immutable value set that involves parallel care and respect for ecosystems and for people. The result against which success is measured is the achievement of both human and ecosystem well-being. In order to succeed and to provide shareholder, employee and community value through sustained economic performance, an entity must be able to recognize and respond to risks.

Traditionally, risks have been considered primarily from a negative point of view – that is, risks caused losses and losses were charged against earnings to the extent they were available or against assets when earnings were inadequate. There is, however, a positive aspect to risks. Risks are a part of every undertaking of a business enterprise. The desire to take risk and the ability to understand it are fundamental drivers behind our global economy. Without it, no one would make investments or take the initiatives required to be successful.

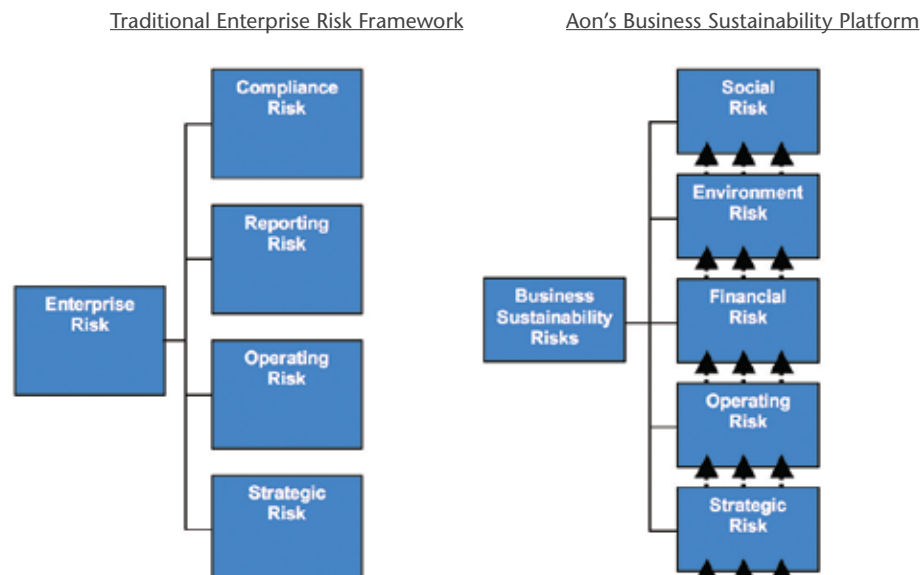
Several aspects of risk must be evaluated as an integral part of a sustainability process. This includes identification, analysis and management of risks that affect current operations. It also includes paying attention to changes in the corporation, changes in the environment in which the entity exists and changes in the world that may directly or indirectly impact future success.

With respect to new opportunities, the firm must be able to identify, analyze and address risks associated with new business ventures. Lastly, the risk management program must be expanded to address emerging sustainability risks such as social and environmental risks, some of which may not be fully evolved or capable of measurement in the same sense that corporations normally evaluate traditional risks.

## COMPARISON OF ERM AND SUSTAINABILITY

Unlike sustainability objectives which include social and environmental considerations, Enterprise Risk Management's (ERM) typical program starts with the establishment of corporate objectives in strategic, operational, reporting and compliance areas. (Figure 2 compares the traditional perspective on risk with Aon's approach to business sustainability).

Figure 2 - Comparison of ERM and Sustainability



An example of traditional enterprise risk is the ERM Integrated Framework developed by the Committee of Sponsoring Organizations (COSO) and supported by the Institute of Internal Auditors. The COSO Framework contemplates eight interrelated components derived from the way management runs an enterprise. These are:

- Internal Environment – Encompasses the tone of the organization and sets the basis for how risk is reviewed and addressed. In sustainability models, this factor is the set of principles or values that guides corporate decision-making and flows through the organization to motivate performance. In the ERM model, this step involves the development of a risk management strategy and determination of risk appetite.
- Objective Setting – Assures that the corporation has a process to set objectives and that the chosen objectives support and align with the entity's mission and are consistent with its risk appetite. In the sustainability model, this component would refer to strategic factors.
- Event Identification – Identification of internal and external events that affect achievement of objectives. Some events are risks and others represent opportunities. In sustainability models, this step is part of economic performance. Identifying opportunities might also be part of strategic performance, whereby the entity selects products, manufacturing bases and markets for its goods and services.

- Risk Assessment – Considers the likelihood and impact of risks as a basis for determining how they should be managed and what resources may be required. In the sustainability model, risk assessment is part of strategic and economic performance.
- Risk Response – Selection of a set of risk responses to align risks with the entity's risk tolerance and appetite. This is also part of strategic performance as well as economic performance in a sustainability program.
- Control Activities – Implementation of policies and procedures to assure that risk responses are effectively carried out. In a sustainability model, control activities typically fall within operational performance.
- Information and Communication – Identifying, capturing and communicating relevant information in a form and in a timeframe that enable people to carry out their responsibilities. This is also part of operational performance in a sustainability program.
- Monitoring – Ongoing management activities and independent evaluations are used to monitor and adapt the program as changes occur. In a sustainability model, monitoring and constant feedback are part of operational performance, with the information developed being applied to economic, environmental, social and strategic performance as well.

ERM is an evolving process that has not been fully implemented in most organizations. Where components of an ERM program are not fully evolved, the entity may have to substitute less sophisticated tools to make risk management decisions. This should not discourage risk managers from working towards a more comprehensive understanding of its risks and better decision making tools that are the ultimate objectives of ERM.

The principles discussed above also apply to the evaluation of risks associated with new business ventures. The team working to develop the opportunity must include event identification as it relates to the new product, new acquisition, new market or other proposed change in operations. This may require considerable research and the use of independent consultants where the situation includes complex decisions. The evaluation of the risks in such cases is an integral part of anticipating the opportunity. The risk management process should include the risk responses necessary to mitigate those risks that threaten the success of the venture.

## SUSTAINABILITY – BEYOND ERM

The analysis of sustainability risks involves an expanded view of the risk management process outlined in the ERM program discussed above. Sustainability further incorporates evolving and future anticipated risks that are not always capable of accurate assessment. However, these risks cannot be ignored if the corporation is to survive and succeed in a changing environment.

Examples of emerging issues of concern in the sustainability area include climate change, social justice, depletion of non-renewable resources, brand damage (including boycotts), shareholder actions related to sustainability issues and disclosure of historic environmental liabilities. Sustainability risk management also requires the evaluation of many aspects of the entity's operations that are not part of most current corporate programs. Examples include energy consumption, emissions of greenhouse gases, water use and waste generation. For a more complete list of factors that should be incorporated into an evaluation of sustainability risks, we recommend a review of the following materials:

- Dow Jones Sustainability Indexes ([www.sustainability-indexes.com](http://www.sustainability-indexes.com))
- S&P Global Clean Energy Index ([www.standardandpoors.com](http://www.standardandpoors.com))
- Storebrand Best in Class ([www.storebrand.com](http://www.storebrand.com))
- Oliver Wright Class A Standard ([www.oliverwright.com/classa.htm](http://www.oliverwright.com/classa.htm))
- FTSE4Good Index ([www.ftse.com/indices/FTSE4Good\\_Index](http://www.ftse.com/indices/FTSE4Good_Index))

## THE OPTIMIZATION OF SUSTAINABILITY RISKS

Proponents of sustainable development have made an effort over the years to prove the case for a short-term economic benefit of engaging in this process, often in the face of substantial internal resistance. These programs are often looked at as being outside the business of the entity (sometimes simplistically viewed as maximizing profits) – a luxury to be indulged when times are good, but quickly eliminated when profits are under pressure. Because of the work and expense required to implement a sustainability program in a large corporation, even the most committed and enlightened managers may have a hard time “selling” the program to top executives and the board of directors.

There are also concerns about the development and reporting of sensitive information concerning economic, environmental and social issues that are part of a sustainability process. It may take time to convince people that addressing emerging issues in a systematic manner is part of opening the company to new business opportunities and ultimately protecting the organization from factors that threaten sustainable value.

Every corporation has a desire to increase profits and improve cash flows. The question is whether this can be done while implementing a sustainability program. In the Sustainability Handbook, William Blackburn<sup>5</sup> makes the case for sustainability in a corporate environment where profit and cash flow are drivers. Clearly, a boycott of a company’s goods and services arising from social or environmental issues could have a far greater negative impact on a company’s bottom line than a natural disaster. He lists seven factors that support his assertion that sustainability is completely compatible with these objectives that include the following:

- Reputation and Brand Strength – Sustainable performance is one of the strongest determinants of corporate reputation, which has a significant effect on sales and stock price. Studies show more than 25% of a company’s public reputation is based on social and environmental performance.
- Competitive, Effective and Desirable Products and Services – Companies can spur innovation by incorporating sustainability in their design process. By coupling a thoughtful design process with a detailed market analysis, a company can better address customer needs, produce competitive goods and services and access new markets.
- Productivity – Many aspects of sustainability, if properly addressed, can help improve business efficiency which boosts profits. Productivity includes reduced material requirements, reduced energy for production, reducing the use of toxic chemicals, improving recyclability, improving the durability and reliability of products, and maximizing the use of renewable resources.
- Operational Burden and Interference – Ignoring sustainability concerns can lead to public distrust, greater regulatory scrutiny, operational burden and cost. Public distrust of large corporations has become common in recent years and may lead to negative customer reaction as well as regulatory attention. The time and effort to respond to regulatory inquiries can distract senior management attention from core corporate objectives.
- Supply Chain Costs – By working on sustainability issues with suppliers and contractors, a company can help assure that critical supplies and services will be available and that costs will be controlled. It is becoming more common for companies to require that their suppliers meet minimum requirements for sustainable performance. For example, a builders’ supply company may require commitments of suppliers to provide only forest products harvested under sustainable growing programs (eliminating mature woodlands). For retailers, the commitments required of suppliers may include compliance with minimum wage and working condition standards.

- Cost of Capital – A growing number of investors and lenders are basing their investment and lending decisions on an evaluation of social and environmental performance as well as economic results. Published indexes rate the sustainable performance of corporations and provide investors access to information that allows them to invest in high performing entities.
- Legal Liability – Companies guided by sustainability principles are less likely to incur crippling legal liabilities which can affect the bottom line. This is especially true for claims arising out of environmental incidents and unfair employment practices that may be unusually severe and are sometimes difficult to insure. These issues can also result in claims against managers and directors for breaches of their duty in performing tasks related to corporate governance.

Other corporations may benefit from sustainability in a more direct manner. Shortly after being named CEO of GE, Jeff Imelt promised stakeholders that the company would double its spending on energy and environmental technologies by 2015 to prepare for what he envisions to be a huge global market for products that will help other companies and emerging countries meet their needs for clean energy sources. He expects that clean power will be at least as important to firms and nations in emerging regions as in industrialized areas.

New energy technologies that GE is already engaged in include wind power, solar energy, coal gasification combined cycle generators, carbon capture and sequestration, bio-diesel electric locomotives and more efficient aircraft engines. The company currently produces 15% of the wind generators installed today and the market is expected to grow from 10% to 15% a year for the next decade. This clean alternative has already evolved to a commercially scalable technology on a global basis that can compete in many areas with fossil fuel power generation.

Imelt also committed to cut internal energy use within GE by 30% and to reduce greenhouse gas emissions by 1% in the face of greatly expanded operations. In the absence of making improvements in CO<sub>2</sub> emissions, the same equipment and operations would produce 40% more greenhouse gases.

## IMPLEMENTING BUSINESS SUSTAINABILITY SOLUTIONS

A business sustainability platform is a different way of looking at risk within an organization that incorporates the additional risk factors of environmental and social performance into the analysis normally employed in an ERM program. While it can build on past efforts that have implemented ERM and/or sustainability programs, it can also operate where neither of these programs has been adopted as formal corporate efforts.

In such cases, it uses existing information and develops the additional data required to perform a risk analysis and develop response alternatives that are appropriate in light of corporate values and are aimed at achieving objectives that provide sustainable eco-structure and human solutions. (Figures 3 and 4 illustrate the difference between a typical ERM approach and Aon's more holistic business sustainability approach).

Figure 3 - Typical ERM Engagement

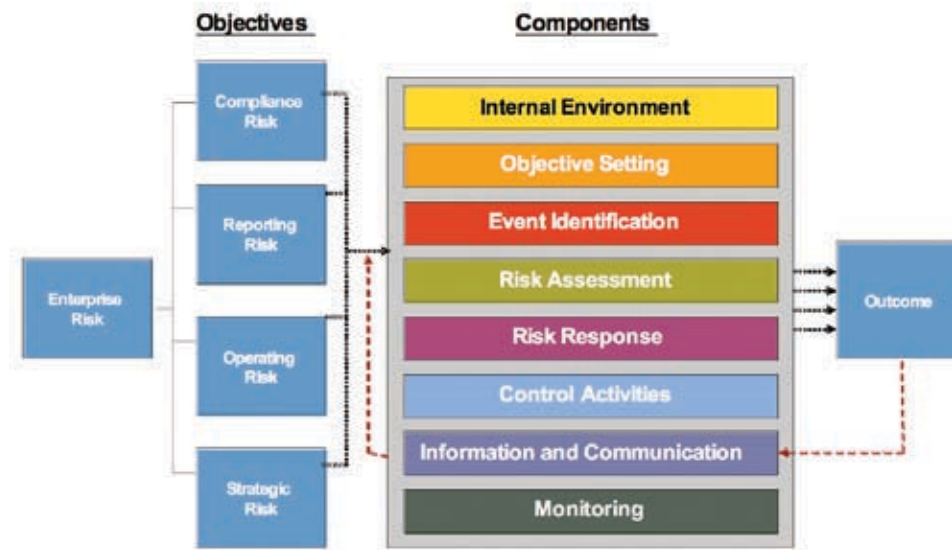
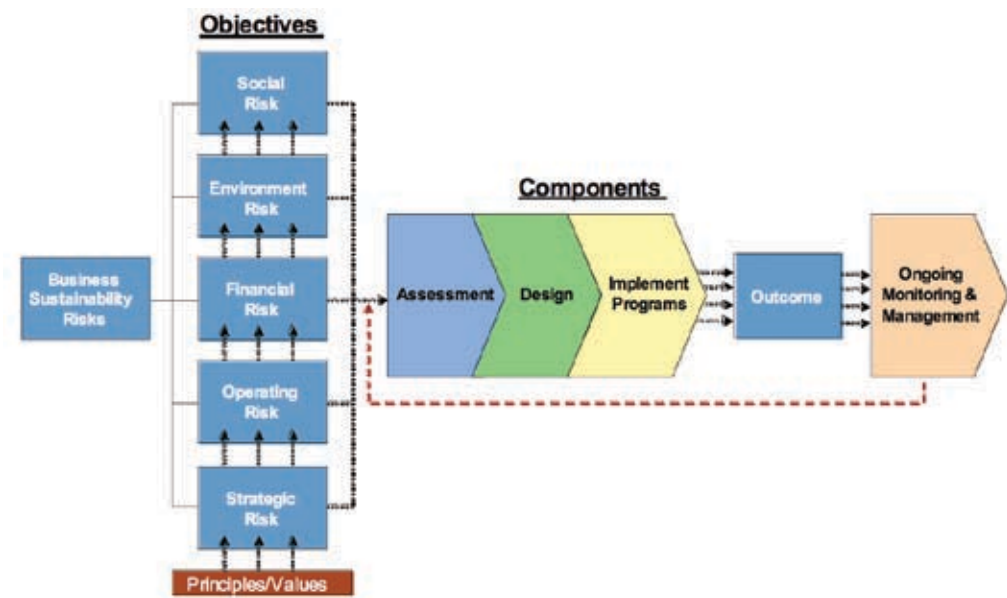


Figure 4 - Aon's Business Sustainability Platform



Aon's business sustainability platform assures a comprehensive assessment of five core objectives, the design and implementation of programs to address business sustainability risks associated with those objectives, and the ongoing monitoring and management of those risks. Those core five objectives are:

#### 1. Economic Performance

The analysis of economic performance looks at the enterprise's financial results over recent periods as well as projections for future earnings and profitability. Special attention is focused on economic factors associated with new ventures, including the development and introduction of new products, entry into new market areas and expansion of manufacturing to countries beyond the current facilities. Factors analyzed in the evaluation of economic performance may include the following:

- Sources of corporate finance and cost of funds
- Profitability of operations
- Balance sheet (assets and liabilities), including changes over time
- Return on investment
- Cash flow and uses of cash
- Rating of corporate securities
- Capital expenditures (currently committed and planned for the future)
- Credit rating
- Insurance and risk management programs
- Ongoing Monitoring and Management

#### 2. Environmental Performance

The analysis of environmental performance looks at the enterprise's impact on ecosystems. It includes a review of the use of non-renewable resources, waste, energy and water consumption and airborne emissions. The objective is to have a net-zero or positive impact, so this review also measures progress. Factors that may be analyzed in the evaluation of environmental performance include the following:

- Carbon footprint of the enterprise (CO<sub>2</sub> and other greenhouse gas emissions)
- Raw materials used in manufacturing processes (and possible alternatives)
- Supplies used in manufacturing, packaging and shipping
- Energy requirements of operations including manufacturing, transportation and commuting employees
- Waste generation and disposal (including offsite disposal)
- Recycling, including capability of products and packaging to be recycled
- Historical uses of hazardous materials (legacy liabilities)
- Responsibility for historic pollution conditions and toxic tort claims
- Plans for expansion (domestic and international) and due diligence process
- Protection against accidental spills and releases
- Genetically modified products
- Discharges into streams or lakes
- Natural Resource Damage
- Emission of noise, odors and light
- Environmental compliance in all locations
- Ongoing Monitoring and Management

### 3. Social Performance

The analysis of social performance looks at an enterprise's impact on human beings, both from an internal and an external perspective. It considers the interaction between the corporation's activities and its employees, customers, shareholders and communities in which it operates. Areas investigated may include the following:

- Hiring and promotion practices, including equal consideration of minorities and women
- Anti-discrimination policies
- Sexual harassment training and prevention
- Training and education for employees
- Community outreach programs
- Charitable activities, including donations of time to community projects
- Family leave programs
- Safety of products
- Tax support of community and infrastructure
- Printed and electronic reports to stakeholders on financial, environmental and sustainable performance
- Advertising and other interfaces with customers and the public
- Engagement of stakeholders, including transparent public communications
- Employee health, medical, wellness and retirement plans
- Rules that prohibit bribery and corrupt practices on a global basis
- Product quality and reliability
- Employee and consumer privacy
- Workplace violence response plan
- Ongoing Monitoring and Management

### 4. Operational Performance

The analysis of operational performance looks at how the enterprise achieves its goals and objectives, including the structure of the organization and efficiency in achieving continuous improvement. Areas investigated to evaluate operations may include the following:

- Manufacturing process, including flow charts
- Control of operations, including automatic systems and manual overrides for manufacturing processes
- Information gathering, data analysis and reporting of results, including use of data in refining operations
- Emergency response procedures
- Bottleneck analysis for critical operations
- Interdependency of operations and contingent risks for business interruption
- Supply chain review and consideration of alternative sources
- Protection against impact of external events, including storms, floods, earthquakes, etc. (not just insurance response)
- Employee retention and replacement programs
- Ongoing Monitoring and Management

## 5. Strategic Performance

The analysis of strategic performance looks at the processes whereby the enterprise makes decisions regarding products, services, customers, markets and geographic scope of its operations. This inquiry also looks at the way the entity manages its affairs and is directed to achieve the objectives identified above. Areas investigated may include the following:

- Strategic planning, including product mix, markets and locations of operations
- Global expansion
- Potential mergers and acquisitions
- Prevention of unfriendly takeover
- Hiring and succession planning for key personnel
- Corporate governance, including qualifications and experience of senior management
- Composition and strength of the board of directors
- Competition and competitiveness of products and services
- Ongoing Monitoring and Management

The evaluation of these five sustainability objectives will provide a company with the necessary data to construct a solid organizational platform to respond to emerging and traditional risks in its business and to achieve sustainability.

## CONCLUSION

Traditional approaches to risk management are not currently meeting client needs in areas of emerging risks, including those that are becoming apparent in global expansion of operations. These often involve social and environmental factors where an understanding of local laws, customs and traditions may be as important as good business practices.

By using sustainability as a platform for risk management, the analysis can be expanded beyond traditional risk management factors to include emerging risk areas that are of growing importance in an increasingly global economy. Besides identifying and providing responses to risk that might otherwise be missed, this approach will allow enterprises to identify opportunities for new products and services that enhance economic performance while sustaining shareholder value.

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- <sup>1</sup> Forty tons of methyl isocyanate were released from a holding tank at a Union Carbide pesticide plant in the early morning hours of December 3, 1984, sending a low-hanging vapor cloud through the city of Bhopal, India. Of the more than 500,000 people exposed to this chemical release, approximately 3,000 people died within days and at least 15,000 more died later from related illnesses. This event is frequently cited as the world's worst industrial disaster.
- <sup>2</sup> A catastrophic steam explosion occurred during a test by plant operators scheduled at the time of a routine maintenance shutdown of the reactor. The resulting fire and series of explosions destroyed the reactor containment and led to a melt-down of the reactor core. A release of radioactive materials required the resettlement of over 300,000 people living within a 50-mile radius of the plant. There were more than 50 deaths within two weeks and the ultimate death toll is expected to be tens of thousands, including "liquidators" who were called to contain and clean up radioactive materials following the incident. All four reactors at the site have been shut down and two others under construction were abandoned.
- <sup>3</sup> The Exxon Valdez incident was the biggest tanker spill in U.S. history. The single-hulled vessel was fully loaded with 52 million gallons of Alaskan North Slope Crude oil. The grounding and release occurred in a remote area of Prince William Sound that was accessible only by helicopter or ship, making the cleanup particularly difficult. Exxon spent more than \$2 billion on the cleanup and has also settled legal actions involving at least \$1 billion more in payments to parties impacted by the spill. Other litigation remains unresolved.
- <sup>4</sup> The definition that emerged from the Conference is attributed to former Norwegian Prime Minister Gro Harlem Brundtland.
- <sup>5</sup> Blackburn, William R., The Sustainability Handbook, Environmental Law Institute, 2007.