



LAND sds Sustainable Solutions

Sustainable Development Solutions

White Paper

June 2012

LAND sds LLC

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INTRODUCTION

When we look globally, the dialogue on energy, energy usage, population growth, security (cyber, and infrastructural) and power shortages are among major concerns. Pundits speak and state that education, food and jobs are the number one issue(s) of the day, yet without energy and sustainable development solutions what will be the future? All of these sectors need support, and without energy there are system failures.

The security and continued prosperity of our nation and of all nations rest on energy, communications, networks, data access and logistics. All of these transactions require technology and energy through sustainable development solutions. In addition, the tragic events derived from storms and weather pattern changes have affected infrastructures to the point of deterioration. Further, climate change, concerns about the environment, and the influence of fossil fuels' in concert with renewable opportunities are top of mind more than ever before. When we consider the aftermath of Fukushima, Katrina, and Japan's Hurricane to name a few, these disasters have caused organizations and nations to consider the importance of sustainability to address resource management, integrated energy solutions and interventions that combat losses over the short and long-term.

In consideration of increasing energy costs, managing old housing and building stock, global economic instability and unforeseen events, sustainable solutions are important considerations for today's cities and businesses. We live and operate in a global world and the need for sustainable thinking that is supported by knowledgeable experts and sustainable green firms are critical to meeting the challenges of a growing society.

Sustainability is a critical process and system to drive business solutions for long-term success. Shifting to sustainability is not a part time task but a full time commitment requiring a corporate "mind shift" throughout the supply chain and ecosystem. Sustainability is in the beginning stages in tornadic change across all systems. Organizations have not fully embraced the gravity of what it means to be sustainable or manage the losses incurred when unsustainable.

LAND sds is committed to providing sustainable development solutions to build efficiencies for our clients.

LAND defines sustainability and the importance of this technology on the structure of doing business. The first section of the paper will provide the relevancy of sustainability. Then we will discuss how sustainability has become a root word for businesses and organizations. We will define the importance and complexities of sustainability as developing solutions are taking place within the global world.

Next, we shall point out what are some use cases for "mind shift" change. It is easy to assume that sustainability can be implemented by performing the traditional practices of planning, committee to team sourcing and roll out. It has been a wide practice to implement new process top-down. Sustainability, dynamic is quite different because its impact is system wide. Sustainability affects the supply base, operations, customers, clients and the services and products. In fact, the road map is comprehensive and brings on new efficiencies here-to-for unrealized. Lastly, we will discuss LAND sds Sustainable Development Solution offerings and provide information on how we support our clients as they grow within a sustainable future. Note: We will interchange the word "organization" because sustainability is not only a corporate model but a nation, global, community, city, and government model therefore; as the

paper continues the word "organization" will become more visible to shift from need of one construct to a more open model.

DEFINING SUSTAINABILITY?

Sustainability derived more prominently after an article was published in the World Commission on Environment and Development (WCED) report in 1987 that referenced the Brundtland Report. The Norwegian Prime Minister Gro Harlem Brundtland stated, "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Also, within this period the formation of the organization, SustainAbility was developed to support sustainable development for businesses focusing on socioeconomic development and the environment. What followed was the integration these three principals that John Elkington advanced as the Triple Bottom Line (TBL and/or 3BL) considering people, planet and profit to measure an organizations bottom line that is now supported in corporate social responsibility (CSR).

In the industrial age financial growth was used as the only indicator of business success. The intelligence age derived through knowledge management has revealed that not only is financial success important yet, considering other factors are equally as important. The long-term view and lens cannot be based on economics alone when the global necessity requires global accountability of our environment. The shareholder wealth model is a short term model benefiting the few. Therefore, the expansive view of what is important is a consideration of the stakeholders. This calls into question who is and what is a stakeholder? Stakeholders are inclusive of the company, employees, and beyond. Stakeholders fall into the category of community, environment, customers and the ubiquitous supply chain that is inclusive of everywhere a company manufactures, distributes, serves or has a footprint. This is an opportunity to look expansively and broadly at the organization's reach.

It is necessary to note that green and sustainable companies are looking at providing solutions that enable sustainability. Yet, the role of a green consultant is to support the customers' needs and impose structure to assist in collaborative change. What occurs when companies and organizations do not identify with growing changes and best practices? They fail to remain sustainable or adopt new technologies that isolate them from knowledge. Green consultants impose disruptive change to identify opportunities, needs and define the business case persuasively.

Further, the amount of data that a company manages can make the transition of sustainability murky. Data can force companies to virtually search for answers reducing innovation and resisting change versus analyzing results for continuous improvement. To date, it has been easier to quantify and qualify financial data for ROI. The influence of ROI, is expanding to include optimizing return across platforms. There is now a moving trend to supporting the importance of social, economic and environmental factors. Sustainability synthesizes these factors for efficiencies that are profoundly connected and indivisible. When we take the next step to understand that environmental, energy, resource and waste results are critical components to the whole organizations are in sustainable thinking. This is why we believe that a company should not operate in any other structure than in sustainability.

Even though the word sustainability is discussed and the definition is easily understood the practice is complex but doable. Sustainability is a first order action for any organization subjugating all actions, systems and operations. Companies and organizations can assert the use of sustainability under the rubric (*leadership facility; environment; process; technologies; supply chain; and organizational intelligence*) in part, divisional or whole organization inclusive of supply chain.

Sustainability is complex and counter intuitive to the models of ole' that are aligned to financial return-on-investment (ROI); whereas, sustainability measures efficiency with ROI attributed to changes of today effecting tomorrow within operations, environment, energy, resources and technologies. Further,

sustainability is top-to-bottom-bottom-to-top integration. How does an organization determine if it is sustainable? What are the elements? The Elemental platforms of Reporting frameworks such as the Global Reporting Initiative's (GRI's) G3.1 Guidelines that are described as the most in depth sustainable standard to date organized into categories of Economic, Environment and Social to assist companies to report. The issue is not reporting but establishing a sustainable organization in which reporting is accurate.

Aspect: Materials

- EN1 Materials used by weight or volume.
- EN2 Percentage of materials used that are recycled
Input materials.

Aspect: Energy

- EN3 Direct energy consumption by primary energy source.
- EN4 Indirect energy consumption by primary source.
- EN5 Energy saved due to conservation and efficiency improvements.
- EN6 Initiatives to provide energy-efficient or renewable energy-based products and services, and reductions in energy requirements as a result of these initiatives.
- EN7 Initiatives to reduce indirect energy consumption and reductions achieved.

Aspect: Water

- EN8 Total water withdrawal by source.
- EN9 Water sources significantly affected by withdrawal of water.
- EN10 Percentage and total volume of water recycled and reused.

Aspect: Biodiversity

- EN11 Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.
- EN12 Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.
- EN13 Habitats protected or restored.
- EN14 Strategies, current actions, and future plans for managing impacts on biodiversity.

Aspect: Emissions, Effluents, and Waste

- EN16 Total direct and indirect greenhouse gas

	emissions by weight.
EN17	Other relevant indirect greenhouse gas emissions by weight.
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.

Table. Reporting Factors from G1.

Table Provides some of the factors that companies can provide within their sustainability conversion and reporting that are subject to qualitative and quantitative measures. These are some of the areas of foci but organizations will need to consider the rubric of: 1) leadership; 2) facility; 3) environment; 4) process; 5) technologies; 6) supply chain; and organizational intelligence. These above reporting factors when disintegrated minimize the efficacy and resiliency of sustainability to “unsustainable”. As indicated all system-wide changes are complex but the role of sustainability is in the integration of macro and micro systems that are converted to synchronous. Why synchronous? Simple, when organizations place all processes and systems in concert, measurement and benchmarks can be instituted for the organization’s own sustainability. Further, when synchronous, the large amounts of data – “Big Data” can be structured and evaluated as sustainable such as, energy usage of facility(s), technology, logistic channels, supply chain and departmental. The ability to provide analytics and curate energy data can define actions for efficiency and reporting optimally. Do not be quick to report, respond sustainably.

The goal is to develop an inclusive platform of sustainability that is inclusive of the rubrics that establishes sustainability and then Enabled Sustainable Synthesis the ability to bridge sustainability to other organizations.

THE IMPORTANCE OF SUSTAINABILITY?

Sustainability was once an American institution when the Native Americans managed the land, resources and environment by need. The people of the land have always implemented and lived by sustainable thinking and production just as, the Eskimo people. The influence of population, industry and commercialization has produced green and sustainable changes over time. President Carter of the United States in his State of the Union Address in 1980 said to “Conserve Energy” as did President Dwight Eisenhower in 1954. President Carter said, the U.S.’s. “major conservation effort, important initiatives to develop solar power, realistic pricing based on the true value of oil, strong incentives for the production of coal and other fossil fuels in the United States, and our Nation’s most massive peacetime investment in the development of synthetic fuels.” this message remains current. In addition, the International Union for Conservation of Nature reported on the World Conservation Strategy in 1980 on sustainability:

Human beings, in their quest for economic development and enjoyment of the riches of nature, must come to terms with the reality of resource limitation and the carrying capacities of ecosystems, and must take account of the needs of future generations. This is the message of conservation. For if the object of development is to provide for social and economic welfare, the object of conservation is to ensure Earth’s capacity to sustain development and to support all life.

The World Conservation Strategy provides both an intellectual framework and practical guidance for the conservation actions necessary. It calls for global coordinated efforts backed by will and determination, for concerted action at national and international levels, and for global solidarity to implement its programmes. World-wide action to give practical effect to this strategy is a necessary complement to a world-wide programme for rational development of the resources of our planet. Development and conservation are equally necessary for our survival and for the discharge of our responsibilities as trustees of natural resources for the generations to come.

All of these reports were driven by the shrinking world ecosystems and the need to manage resources. Today, shrinking ecosystems remain with turbulent economies, rise in energy costs and the globalization of resources and land restrictions and brown fields have raised a conscious awareness of renewable, alternatives, recycling and waste. Further, the need for states and nations to meet population demand, agriculture, infrastructure and manage resources have escalated the need to think sustainably. Companies global competitiveness is seamless to energy, new manufacturing (green manufacturing), efficiencies and resources nudging organizations to "mind shift". Further, the new reality of multinationals and transnational corporations, "Too Big to Fail" (By Andrew Ross Sorkin) are reordering the requirements of success. Organizations are faced with shifting markets reorganizing around methods of competitive advantage questioning how to manage to survive and become sustainable. Sustainability can be a national institution once more. What are the events that are placing sustainability in the eye of the storm.

TORNADIC EFFECT

As we look to our customers to understand the pressures that are pushing them toward a sustainable approach, we see a tornadic event of accelerating the need for sustainable relevant solutions across all business market segments. Energy, environment, waste, infrastructure, security, costs, competitiveness, globalization, government and regulations are ingredients of tornadics.

- Given increasingly finite resources, businesses depend on balanced natural ecosystems for raw materials, water, energy and the physical health of their employees and customers. They depend on thriving community systems for labor, new sources of innovation and customers. And given the links among its systems, an enterprise committed to practicing sustainability considers both the immediate and far-reaching consequences of any action it takes. (IBM)
- 2025, buildings will use more energy than any other category of "consumer." The current output of raw materials goes into buildings. That's about 3 billion tons... annually.(IBM)
- On June 19, 2006, the U.S. Department of Agriculture issued Departmental Regulation 5500-001, which required agencies to design and construct new buildings or major renovation of covered USDA facilities to a LEED Silver rating, as appropriate. USDA integrated these requirements, along with strategies for improving energy and water use in existing buildings, into their August 2007 Sustainable Building Implementation Plan, which they updated in December 2009 (SBIP). The Department's 2010 Strategic Sustainability Performance Plan (SSPP) continues these efforts, and draws from a number of LEED standards for specific initiatives and programs that implement its sustainability goals. The SSPP notes that USDA will follow the GSA Solicitation for Offers (SFO) and require that all leasing build-outs meet the USGBC's LEED for Commercial Interiors, Certified criteria. It also notes that the Agricultural Research Service (ARS) uses criteria similar to that of LEED-EB v2.0 to complete an annual assessment of existing building sustainability. (The United States Green Building Council)

- Governments and international organizations should work to create a new green revolution — an “ever-green revolution” — for the twenty-first century that aims to at least double productivity while drastically reducing resource use and avoiding further loss of biodiversity, topsoil loss and water depletion and contamination, including through the scaling-up of investment in agricultural research and development, to ensure that cutting-edge research is rapidly moved from laboratory to field. (United Nations)
- Governments, international financial institutions and major companies should be encouraged to engage in international cooperation on innovation- and technology-oriented sustainable development on an enlarged scale, enhancing the technological capability of developing countries and taking full advantage of the potential roles played by climate-friendly technologies in dealing with global climate change and in developing a green economy. The agreements reached under the United Nations Framework Convention on Climate Change in Cancun and Durban are a good step in this direction. (United Nations)
- Companies and organizations are experiencing a rise in energy costs that are negatively affecting their bottom line. The costs of utility based on 2009 Federal policies have instituted higher energy prices. The rise in cost is a significant barrier to competitive advantage.
- Construction sector has reached a barrier for growth where innovation and advanced material usage will grow the industry with new design, development and building for optimizing resources through sustainable and green construction. This method includes environment, cost, and waste while managing utility, resources, and consumer demand for efficiencies.
- The shift from industrial to intellectual age has shifted the leadership thinking on organizational return-on-investment (ROI). ROI was considered the art of financial management and growth and is expanding to include the return on Economics, Environment and Social.
- Green and sustainable branding has proliferated consumer marketing and advertising within retail such as, grocers, automotive dealers and products. The concept of green and sustainable is currently associated with recycling and products thus far. The escalation of branding will increase demand for more knowledge leading to stages of defined adoption and then institutional changes in how we live, work and play.
- The increase and the demand for technology has generated a rise in efficient data centers that have learned to integrate renewable power into the matrices of 24 hour, 365 days of power solutions. The model for these "Big Data" providers have an effect on moderate to small users as cloud computing has risen as well as the cost of managing data. Technology is the highest user of energy within an organization and will continue to rise as new technologies increase and companies seek to maintain current systems generating hybrids of complexity.
- The supply chain are the dominoes that when changed will drive costs, reduce wastes and lead to an optimized organization. The goal is to improve the value chain. Companies such as, Procter and Gamble who have rated and evaluated their supply chain in 2011 realized the importance of greening the supply chain. This is also an educational accomplishment to educate companies on new practices for efficiency. The Procter & Gamble Company (NYSE:PG) today announced that its environmental sustainability scorecard analysis tool would be made freely available for use by any company. “We’re taking every step we can to help others make their supply chain more sustainable,” said Larry Loftus, Director of Purchases Capability & Strategy and lead designer of P&G’s scorecard.
- The effects of weather changes have left some cities in shambles with the concurrent hurricanes, tornadoes and floods. Climate change within reason of opinion has entered the discourse of what is based on extreme volatile fluctuations in temperature changes effecting the contraction and expansion of structures, infrastructure and agriculture.
- Cities are experiencing insolvency with an increase in infrastructural demands. The push to solve issues has led to a galvanizing force around sustainable city planning and sustainable cities also known as, smart cities. Cities can no longer manage resources at the behest of tax payer

support. Cities are requiring dynamic systems integrating water, sewer, commercial enterprise, transport, infrastructural development, planned building and investment, retrofit, housing stock renewal and education. Mayor Bloomberg of New York PlaNYC stated. "To reach its aggressive sustainability goals, New York City needs to do more than improve new construction and renovations." By 2050 India's population is projected to be 1.6 billion. President Pratibha Patil of India stated, "The land is limited but the demand for food grains has been increasing consistently. The Green Revolution enabled us to meet the rising demands so far, but now in the 21st century there is a need to usher in a new Green Revolution.

- Last, in June of this year the Environmental Protection Agency in the U.S. instituted the Particle Pollution regulation to meet air quality standards. This regulation is imposed on all enterprises and is not size restricted.

Sustainable Use Case

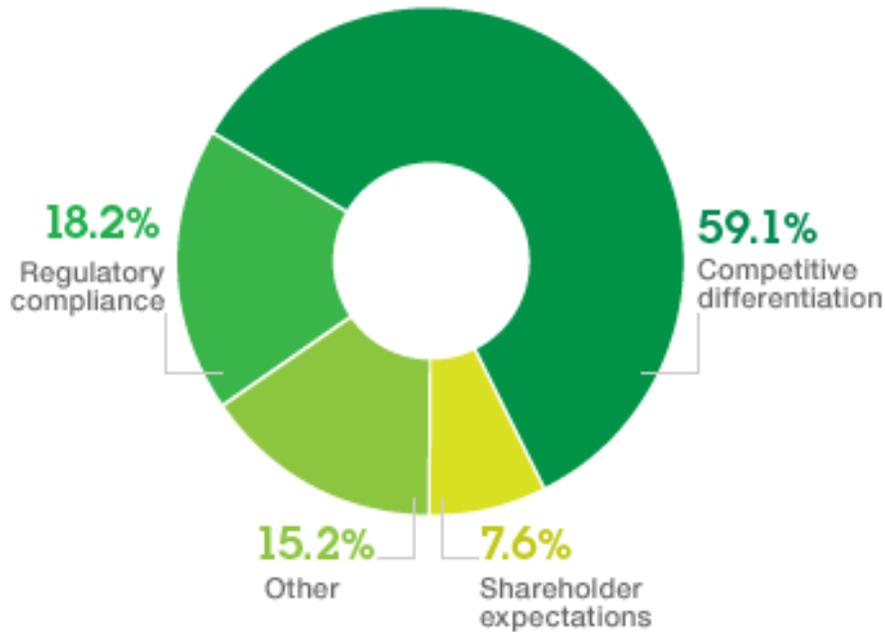
Sustainability is "Big Picture" innovation. The steps toward sustainability are in the continuous improvement. When considering the tornadic event globally on the ecosystem of an organization, the aftermath presents as either sustainable or death. Organizations will take steps to determine where they wish to be in the future and support their commitment with actions supported through continuous improvement. Sustainability is not a onetime roll out. The denotative definition of sustainability is continual. The ability to plot a footprint is within the mastery of new science and intelligence. The importance lies in the resolute approaches to engage in the present impacting the future. What was once considered "Too Big to Fail" is no longer folklore but a new reality of the times. When considering that all sectors seek a solution to succeed the willingness to explore new horizons has become a leadership choice communicated across all platforms, divisions and layers of the organization. The rubric of the organization will be pierced by sustainable actions. What is it to be sustainable? It is the leadership to integrate that is more than one organizational approach it is synchronous and collective of city, commercial, citizenry, country and community.



Figure 1. The roadmap to sustainability is driven by moving from inefficiency to efficiency and continual improvement with an optimal result of Net Zero.

Benefits of eco-efficiency to organizations

Participants at the 2010 IBM eco-efficiency jam ranked the benefits of sustainability.



Source: Poll of Jam participants.

Figure 2. IBM poll ranking the benefits of sustainability in 2010.

When surveyed it was shown that competition was a leading factor to change. Competition amongst competitors or in-house are finding that solutions are necessary to remain vital in today's marketplace. The goal is to create sustainability as an adoption for need and when doing so the competitive differentiation will change to a measurement of organization efficiency to optimization. This is the game changer!

Major corporations are adopting sustainability such as Cummins, Procter and Gamble, IKEA Europe, BMW Europe, Google, FedEx, Automotive OEMs in manufacturing vehicles, NIKE and IBM for example. The emphasis is on sustainability prompting c-change in leadership and operations. The extent to which reporting through corporate sustainability reporting (CSRs) are a road map and ethnography of sustainable development. CSR's are the monitoring and analysis of the inputs placed through a sustainable lens, measuring the outputs. Optimal solutions are found when organizations think net zero but prepare for steady change. As organizations explore sustainable solutions in part and overall to gain competencies and competitive advantage they will require intelligence, solutions and decision-making tools that structure sustainable solutions. The nature of change is disruptive. The leaders in sustainability will allow for disruptive change to determine optimal measurements, methods and processes for continued improvement. As companies become more comfortable and agile establishing metrics that are

now publically viewed through reporting there will be will more comfort to raise the bar to accomplish more than the conservative forecasts currently projected.

Further, no organization construct is too small to embrace sustainability. The smaller or leaner the organization the more radical the difference within a shorter time span than those of loftier size, weight or bureaucracy. The larger the organization the bigger the footprint for measurement.

Organizations need not fear reporting when sustainability is viewed as continuous improvement work. In addition, companies can misdiagnose targets by the inability to qualify and quantify big data that could impact the reduction of greenhouse gases, waste, water usage, energy, lifecycle thinking and more. The goal is to support a sustainable structure that can allow for third party audits and consultation and validation

The ability to open the doors to new intelligence is the game changer for organizational solutions that support improved customer, client and civic interface. Sustainability is seamless, transparent, and cooperative up-and-down the supply chain. Further, social, technology and generational changes are effecting the nature of the organization from insular thinking with minimal customer engagement to a multidisciplinary and exposed organization as Baby Boomers retire and generation "Y" and Millennials' move into leadership.

SUSTAINABILITY SOLUTIONS FOR ORGANIZATIONS

Within the new solutions required organizations will have a need for sustainable construct. Sometime you can read the term "more". Organizations are either sustainable or not. There is not a gray area of moving toward sustainability. The term "more" is used to assist in the socialization of the term. An example to further clarify, organizations are at capacity, Just-in-Time and/or Efficient and not more capacity, more Just-in-Time and so on. Organizations can identify areas of adoption but without adoption the organization cannot be sustainable.

Companies start sustainability by education and the exploration of what are areas need initial improvement. Organizations can begin with the infrastructure and what areas of impact and generate the greatest footprint. The idea is to synthesize and not economize. The vigilance in mastering a footprint is a level of differentiation. As companies grow sustainably they engage in minimalist to grand strategies, accelerating to protective, guarded and responsible thinking. The ability to understand the strategic position that the company is adopting is aided by third party intelligence and the enabling sustainability within the process.

Intelligence is the new-new requiring structured driven imposed models to be placed upon the organization. The opportunity in enabling the interaction of Environment, Energy, System, Processes, Supply Chain, and Economics within relationship to another is creating a new paradigm, organizational system and/or Deoxyribonucleic acid (DNA). (Figure 3)

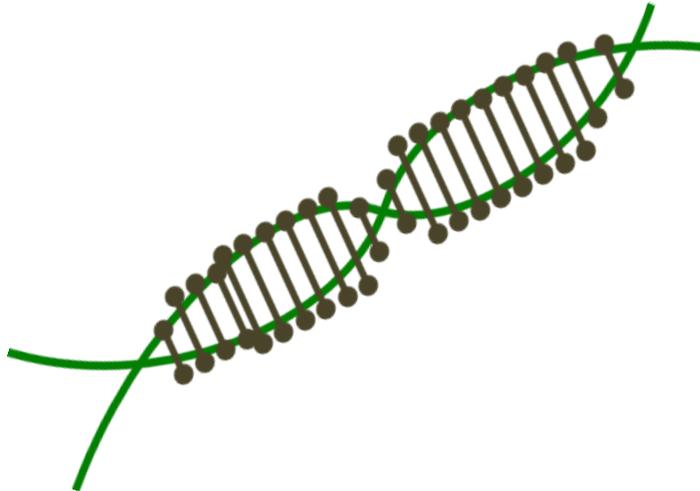


Figure 3. Developing a singularity of order derived through sustainable development.

LAND sds SUSTAINABLE DEVELOPMENT SOLUTION

At LAND sds, our commitment is to provide sustainable intelligence providing consulting and strategy that assist companies on the road to sustainable health. LAND Sustainable Development Solution is a long-term business strategy to enable efficient and effective intelligence to be integral to the ecosystem within the organization.

As organizations and cities begin the road to sustainable thinking, we have developed systems called, Enabled Sustainable Synthesis within LAND Sustainable Development Solutions to utilize a collaborative partner to address the challenges and complexity of change, managing adoption and leading the vision forward to sustainability. Our service solution combines intelligence, analytics and technology to address the complexities of the organization.

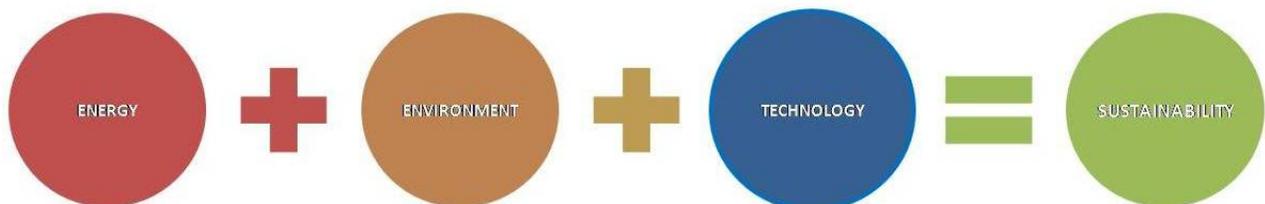


Figure 4. LAND sds factors of sustainable development solutions.

We support our clients to advance sustainable goals taking them beyond operational measurements and defining their operational footprint. Organizational measurements are critical to managing change.

LAND sds earned certification by The International Sustainability Institute of Applied Sciences. Compliance and advancing sustainability is critical to our service solution. Clients can be assured that excellence and efficiency are integral to satisfaction. LAND sds advanced Next Generation Construction to advance sustainability, efficiencies and renewables integration across all stages of construction. All of our systems are made to support various sizes of organizations. Sustainability is not for the large organizations only we have designed our solution with small and midsize organizations in mind.

We are business owned and operated by women. LAND sds unique intelligence in operations, manufacturing, construction, healthcare, education and technology provide a multidisciplinary lens. We have a global and national focus. Our opportunity is to support organizations to be a part of the biggest game change since the industrial revolution. This is not a boast but a predictive realism based on analysis of market and global trends. As we anticipate the needs of organizations, cities, and businesses based on the changing environmental regulations, big data, energy, facility security and uses and resource optimization combined with waste management will change the way we operate. It is and will be necessary for increased communication that is transparent, seamless and directive. As before consultants and strategist have been a disruptive force for change to ameliorate failures risks. Sustainability reshapes the organization to manage its inputs and outputs efficiently. Enabling is a directive and decision to sustainability.

We are not selfishly focused but believe we can deliver solution that is in alignment with global standards and beyond to improve or establish a competitive advantage. The willingness to synthesize will bring synchronicity as a symphony to reduce waste, inefficiencies, emissions, energy consumption and costs as you look to the future for long-term growth- "**sustainability**".

CLOSING REMARKS

The world is changing. In an effort to correct global environmental and social problems through their own behavior and influence, major corporations are changing their practices, products and strategies. They are challenging their suppliers and their customers to do the same. Because of both, the market demands solutions that help companies of all sizes operate sustainably and create sustainable products or services.

Microsoft is committed to developing the software for sustainability required to enable companies to move the needle on this critical issue. Software can enable businesses and reporting organizations around the globe to collect the appropriate data, validate it, report it to the appropriate stakeholders and take actions based on it. And it may be the most practical and cost-effective way for companies to improve their practices. These solutions will in turn help companies fundamentally adapt to this change.

More information is available at <http://www.landsds.com/about-land/>

LAND sds is a certified women owned company providing sustainable green energy solutions and strategy. Our partners can provide support solutions through online software and in house training. Our organizational expertise assists in the understanding of culture, operations, teams, decision-making and complexities for swift adoption. LAND Sustainable Development Solutions enables organizational and capacity building for improving productivity for long-term growth and success to build a sustainable world.

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The information contained in this document represents the current view of LAND sds on the topic space and issues discussed on the date of publication. Because LAND sds is subject to economic and market changes we cannot guarantee the accuracy of any information presented after the date of publication.

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Footnotes:

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