



White
Paper
Series

Sustainable Competitive Advantage

The 4th Economic Revolution:
Unavoidable, Opportunity

Authors **Simon Brown**
Martin Chilcott
Ben Carmichael

Executive Summary

This paper defines sustainability as the major growth opportunity for organizations in the 21st century. The first in a series, this paper seeks to engage leaders of organizations around an emerging view of sustainability as a driver of growth and competitiveness. Subsequent papers will provide more in-depth research and investigation to strengthen the key themes identified in this paper.

This paper argues that a confluence of environmental, economic and social trends will result in a 4th economic revolution that forces organizations to adapt to new business conditions. The best method of adaptation, we argue, is by building a **Sustainable Competitive Advantage** founded on five new, distinctive competencies. These new competencies — collaborative growth and efficiency, zero waste, renewable resource, climate resilience and eco-performance measurement — enable a business to grow sustainably through the 21st century. We have partnered with Oxford University's Smith School of Enterprise and the Environment, to test and strengthen the initial definition for collaborative growth and efficiency outlined in this paper.

Drawing upon evidence from case studies of global companies that are already converting resource constraints into drivers of long-term growth, this series seeks to provide a clear definition of the pillars of a Sustainable Competitive Advantage. Future papers in the series will detail our vision of the characteristics which underpin Sustainable Competitive Advantage, show how organizations can achieve this by adapting around these five new competencies.

2degrees is the world's largest online community for sustainable business, designed to help corporations & public sector organizations accelerate the development and implementation of their sustainable business strategies; to make them more profitable and sustainable. This community consists of over 13,000 professionals from 7,000+ organizations in 100+ countries and provides the source of practical insight that underpins the views expressed by the authors in this paper.

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Introduction

Conventional business wisdom framed sustainability in terms of ever-stricter compliance, escalating cost of operations, declining profitability, resource constraints and, new and increasingly uncertain risks. As a consequence, business leaders saw the driving forces behind sustainability – rapid environmental change, resource depletion, climate change and population growth, to name a few – as proportionately negative. This paper aims to reposition sustainability, from resource constraints and compliance, to a series of concrete opportunities. It also demonstrates how some industry-leading companies are already converting the forces of constraint into drivers of Sustainable Competitive Advantage.

This paper starts with a review of the driving forces behind the sustainability revolution that we have referred to as the 4th economic revolution.

The world economy is heading towards a period that will be defined as the 4th economic revolution – defined by resource scarcity.

4th Economic Revolution: Whilst the first three – the agrarian, industrial and digital revolutions – were made possible by unconstrained innovation in resource use, this latest revolution is defined by resource scarcity. This driving force is shaping the world economy and defining the environment in which organizations operate. The response to the opportunities and challenges created will draw parallels with how the digital revolution highlighted a new set of competencies which businesses had to adopt to succeed. The winning companies include Amazon, eBay, Apple iTunes and Wikipedia. The organizations that failed to adopt the new competencies were left uncompetitive in the face of new market opportunities. Similarly, new sustainability competencies will determine the winners and losers in the 4th economic revolution. For example, China stands to leapfrog the western world to become a market leader in the sustainable economy, by delivering its 12th 5 year plan, which plans to reduce the energy/carbon intensity of its economy by 40% – 45% before 2020 ⁽¹⁾. Significant

action is needed from western economies to keep pace. President Obama described these challenges as “*This generation’s Sputnik moment.*” The challenge is immense – but so too is the opportunity.

Next, we explore the new, distinctive competencies that will enable organizations to succeed during the 4th economic revolution.

New, distinctive competencies: Fundamentally, Sustainable Competitive Advantage is a means of transforming the restrictive effects of resource scarcity into sustainable growth opportunities. To capitalize on these opportunities, organizations will have to develop new, distinctive competencies. These competencies are essential to survival and growth in the 4th economic revolution, but were considerably less relevant to competitiveness in the recent past. Organizations that fail to develop them now are at serious risk of failure in the coming decades. The five new, distinctive competencies are identified in **Figure 1**.

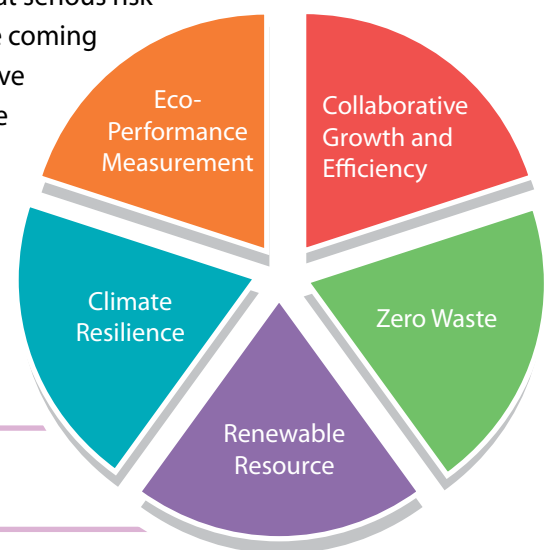


Figure 1: The five key competencies for developing a Sustainable Competitive Advantage.

2degrees has identified the following five new, distinctive competencies, which are beginning to differentiate the organizations that are responding to these challenges.

1. **Collaborative growth and efficiency.** The ability to collaborate in new ways to deliver efficiency, growth and/or innovation to address challenges of sustainability.
2. **Zero waste.** The ability to divert all waste streams from landfill, and deliver more output from less resource.
3. **Renewable resource.** The ability to grow through the development of products and services which use 100% renewable sources of energy and materials through their complete life cycle; with little, or no, environmental impact.
4. **Climate resilience.** The ability to adapt to the impacts of climate change across operations and supply chains.
5. **Eco-performance measurement.** The ability to measure, monitor, report and manage environmental impacts and resources (energy, greenhouse gas emissions (GHGs), waste, water, and other factors).

Finally, we examine how best to adapt your organization to build a Sustainable Competitive Advantage, by applying the best practices from other leading organizations.

Adapting your organization: 2degrees has developed a simple model of organizational change, which describes the steps organizations need to take to gain a Sustainable Competitive Advantage. This can be described as the “Sustainability Journey” model, which typically involves 3 distinct phases: Managing Compliance; Commercializing Sustainability; and Reinventing Supply Chains. The model was derived from pioneering commitments, initiatives and changes delivered by Marks & Spencer in what they called “Plan A”, in which they set out to

become the world’s most sustainable major retailer. This approach is proving to be highly relevant across a range of industries. 2degrees can assist organizations to identify where they are on this *Journey*, and what the implications are for leadership, management and stakeholder communications.

Overall, we aim to show how sustainability can – and, in some key instances, already has – become an opportunity for driving growth. Through the course of the following pages, this paper:

- Defines the driving forces of the 4th economic revolution;
- Sets out the new competencies required for a Sustainable Competitive Advantage;
- Examines case studies from businesses that have integrated some of these distinctive competencies into their organizations;
- Describes a model for other organizations to follow.



Why the 4th Economic Revolution Impacts All Organizations

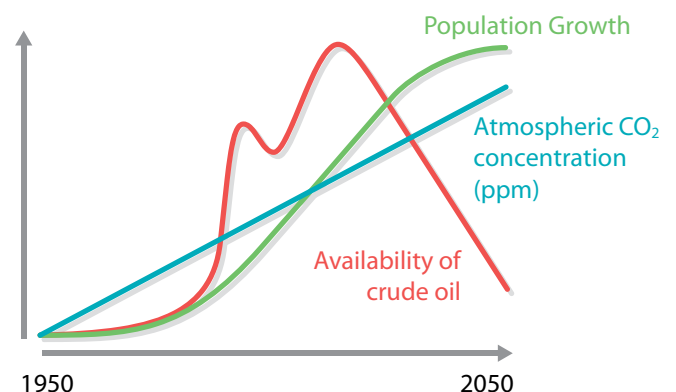
The 4th economic revolution is defined by energy and resource scarcity, and will demand that organizations re-evaluate their operational, growth and competitiveness strategies. The social and ecological challenges that lead us into the 4th economic revolution have significant implications for the growth prospects of all organizations. The complex and global driving forces behind these challenges are discussed below, and illustrated in **Figure 2**.

Firstly, an unprecedented increase in the demand for our planet's finite natural resources is driving up energy and commodity prices.

Figure 2: Projections of global population to 2050, atmospheric CO₂ and availability of crude oil.

Population growth: 9.3 billion people are projected to populate the earth by 2050, compared to 6.7bn in 2000, representing a staggering 50% growth⁽²⁾. This is on top of a doubling of the world population during the 20th century. They will need proportionately more energy, food and water.

Consumption in growth economies: Increased wealth in the fast growth economies such as China, India, Brazil, Russia and others, is enabling people to adopt consumer lifestyles in line with developed economies. This per capita growth in consumption places further unsustainable stress on resources^(1, 4).





Secondly, the supply of resources to meet the increased global demand is threatened by social, environmental and geo-political instabilities.

Accelerating urbanization: The speed and scale of mass urbanization, especially in the mega-cities of the growth economies, places huge demands on energy, resources and infrastructure, while threatening to expand the wealth disparity in already impoverished regions. In 1900 less than 10% of the world's population lived in cities. Today more than 50% do, and every year there are over 65 million new people living in cities, mainly in developing countries ⁽⁵⁾. These cities consume 66% of the world's energy and produce around 70% of its GHGs ^(6, 7, 14).

Security of Supply: The increasingly technology-dependent lifestyles in many of the mature economies of the western world demand the use of resources, including precious metals, which are mainly found in unstable regions, in high growth economy nations with their own increasing domestic requirements. As demand grows, the key

resources expected to be constrained in the near future include oil, water, minerals and the rare earth metals used in high tech equipment and batteries ^(7, 8, 9).

Economics of Scarcity: Costs of food, feed and fiber are rising, population growth is driving increased demand, and commodity prices (e.g. copper) have also risen despite the global recession ^(10, 11). Scarcity of clean water has the potential to provoke regional conflicts, while fisheries depletion threatens coastal economies and cultures. Furthermore, the pollution sinks (atmosphere, oceans, landfill) are filling up, increasing the costs of emissions and waste disposal.

Thirdly, the demands of more people needing more energy, fuel, food and water will be further exacerbated by the advent of peak oil and the impacts of climate change.

Peak Oil: As consumption continues to outpace new discoveries, the cost of exploration and discovery

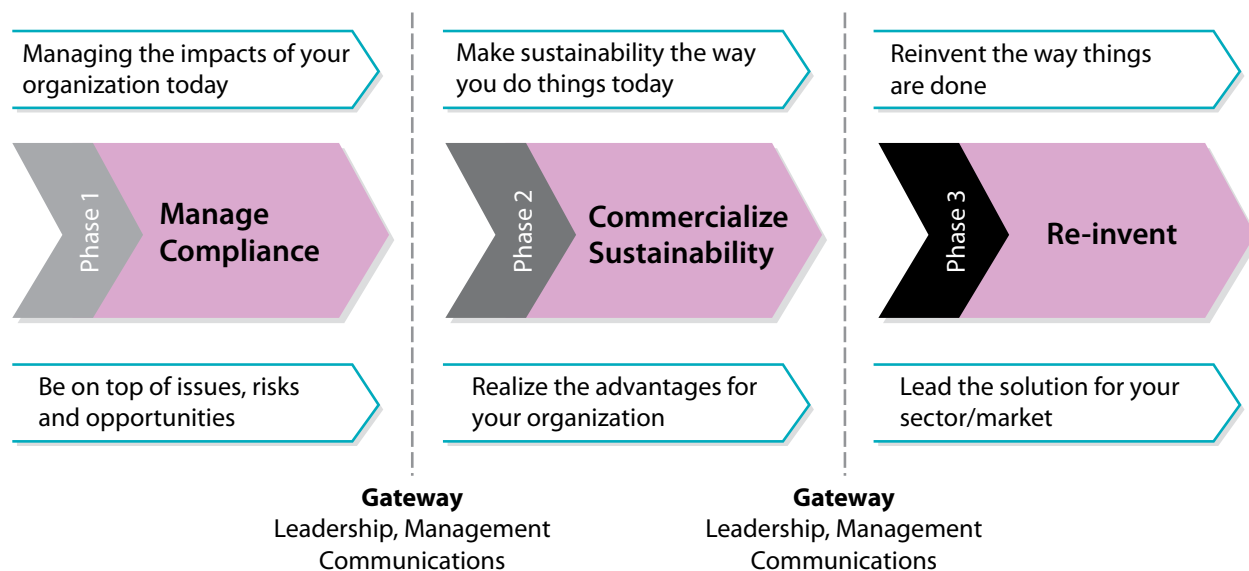


Figure 3: The 2degrees Sustainability Journey Model.

of crude oil resources is also increasing, resulting in severe impacts on the costs of global food production, power generation and logistics⁽⁹⁾. The de-coupling of economic growth from crude oil consumption is a major challenge for oil-dependent economies, and has contributed to large scale environmental damage caused by more complicated crude oil production practices, such as deep water drilling and tar sands (e.g. Deepwater Horizon)⁽⁴⁾.

Climate change: As the influential *Stern Review on the Economics of Climate Change* (2006) argued, climate change is not simply an environmental challenge, but a cost to our economy roughly equal to the first and second world wars⁽¹²⁾. Furthermore, the devastating impacts of climate change have the potential to exacerbate all of the above factors further.

This all adds up to a series of economic, social and environmental stresses to the traditional growth prospects for major western corporations. These factors clearly impact on political stability, social unrest and environmental sustainability^(3,4). Organizations are therefore exposed to significant risks, such as the costs of raw materials, security of supply chains and global growth prospects. In short, local GDP growth in developed economies is slow, supply chains in developing countries are threatened,

and investment in growth economies is challenged.

Few organizations will escape the impacts of these enviro-economic trends unless they have been designed to do so, or can adapt and evolve. In-depth research from *The Co-operative Asset Management*⁽¹³⁾ into how the UK's leading companies might be affected suggests that 56%, or more than half of the FTSE 350 by market capitalization, will suffer negative financial effects from depleting resources, climate change and pollution. This report further estimates that under a business as usual scenario only 10% of businesses stand to gain by providing solutions.

Traditionally, businesses have tried to limit their exposure to such risks. It is our view that simply limiting one's exposure is a missed opportunity. Instead, leaders of organizations must face up to the reality of the 4th economic revolution and identify and optimize the characteristics of Sustainable Competitive Advantage within their organizations. They must plan to build these competencies into a pioneering strategy for developing growth through a Sustainable Competitive Advantage, and adapt their organizations so as to make progress on its *Sustainability Journey* (see Figure 3).

Collaborative Growth and Efficiency Pathfinder #1: Tesco

In the past 5 years, Tesco, second only to Walmart as the world's largest retailer (on profits), has successfully reduced the energy and carbon intensity of its UK operations by approximately 50%. This has not only saved the retailer a lot of money, it has also vastly reduced its exposure to rising energy costs. However, Tesco recognizes that the amount of energy/carbon in its supply chain is far greater than that used in its own operations. There is a major business opportunity to reduce the carbon and energy intensity of the Tesco supply chain. The company has set a target to reduce CO₂ emissions from its supply chain by 30% by 2020. Achieving this target will knock hundreds of millions of dollars off the costs in its supply chain, act as a catalyst for product and service innovation, and significantly grow the value of its customer franchise.

[Click here](#) to read more about how 2degrees is helping Tesco to collaborate with its supply chain to reduce their emissions by 30% by 2020.

To find out more about Tesco, visit the company's website at www.tesco.com.

Five New, Distinctive Competencies

'Pathfinders' are industry-leading organizations who are facing the reality of the 4th economic revolution and gaining an advantage as a result. They face the same constraints as their competitors, but are responding to them in ways that build Sustainable Competitive Advantages. The [2degrees global community](#) brings together thought-leaders, industry experts, corporate managers, policy makers and academics, all with a professional interest in sustainability. By studying the Pathfinder organizations, 2degrees can offer a range of great examples and potential strategic responses, which might also be possible in your own organization to accelerate your *Sustainability Journey*.

2degrees has analyzed a selection of case studies from our work with several Pathfinder organizations to illustrate what is possible and plausible for many others. This analysis points to five core competencies which, we believe, in combination will enable organizations to reap the benefits of Sustainable Competitive Advantage. In order to test these initial findings, 2degrees has an on-going research program with Oxford University's Smith School of Enterprise and the Environment, which will analyze empirical evidence to test and strengthen the definitions of the distinctive competencies in more depth (see **Figure 5**), feeding into the subsequent white papers in this series.

1) Collaborative Growth and Efficiency

When organizations collaborate in new ways to deliver efficiency, growth and/or innovation to address challenges of sustainability, they are able to:

1. Achieve cost efficiencies from between the silos of their organization;
2. Optimize their use of energy and resources along the entire supply chain;

3. Source new ideas for products, services, solutions and supply chains.

Cost reduction and improved resource efficiency are not new achievements for most organizations; in fact, the traditional growth of industrial economies has been driven by these gains. However, Pathfinder organizations, such as Tesco, are using collaboration

Zero Waste Pathfinder #2: Interface-FLOR

Interface-FLOR is a true pathfinder of zero waste solutions. The company has developed plans to eliminate all forms of waste from its facilities. The company defines waste as any cost that doesn't produce value for its customers. This can include traditional forms of waste, like scrap or material sent to landfills, as well as the resources, time and energy wasted through errors or re-work. Since 1994, their zero waste strategy has delivered savings of more than \$107 million, and the company's waste cost, per unit of production, has been reduced by 48%.

Interface-FLOR is the world's largest manufacturer of environmentally-responsible modular flooring for residential and commercial markets. To find out more about the company's waste initiatives [click here](#), or visit their website at www.interfaceflor.com

To participate in discussions about zero waste solutions with other industry-leading organizations, join the [Zero Waste Working Group](#) on 2degrees.

to go beyond the achievements of traditional best practices. Collaboration can become an engine of growth for organizations that are able to collaborate in new ways with stakeholders. For instance, they can collaborate:

- **With their customers**, to identify growth opportunities for new products and services and to eliminate the need for costs in areas such as packaging, transport, returns or post-consumer waste;
- **With their employees**, to accelerate the pace of change in line with sustainable business goals. E.g. through uptake and retention of training courses, new technology, processes and equipment;
- **With their suppliers**, to increase resource efficiency and reduce waste in packaging, energy, transport and water, and to support closed-loop recycling that diverts post-consumer waste from landfill.

2) Zero Waste

Organizations are able to divert all waste streams from landfill and deliver more from less resource, by:

1. Converting waste into resource - generating new revenue and avoiding the increasing costs of waste disposal from their operations (a process of industrial symbiosis);
2. Developing differentiated products and services for their customers and consumers;
3. Retaining value in the lifecycle of their assets, buildings and facilities by identifying and planning opportunities for re-use and recycling of materials.

By adopting processes that combine these zero waste principles, organizations can reduce their exposure to increasing costs, increase their revenue streams, and optimize their resource use. Global pollution sinks in land, sea or air are filling up and organizations will inevitably pay more for waste. The Chartered Institute of Wastes Management (2008) defines 'Industrial Symbiosis' as, "*sharing of services, utility, and by-product resources among industrial actors in order to add value, reduce costs and improve the environment*"⁽¹⁵⁾. This converting of waste into resource is one of the ways that industrial processes can contribute to sustainable economic growth. An example is Interface-FLOR's re-usable carpet materials that can be endlessly recycled back into new carpet.

Renewable Resource Pathfinder #3: Procter and Gamble

P&G has made a set of bold, aspirational and forward-looking commitments to develop more sustainably, addressing issues of climate change and resource scarcity. The company's commitments include:

- Using 100% renewable or recycled materials for all P&G products and packaging (throughout their lifecycle)
- Powering all P&G plants with 100% renewable energy
- Designing products to delight consumers while maximizing the conservation of resources.

This means that P&G will only use materials that are renewably sourced, and come from organic sources such as biomass, agricultural products and biological processes such as fermentation. In addition to being renewably sourced, these materials will also be sustainable, and so their production will not result in the destruction of critical ecosystems, loss of habitat for endangered species or other detrimental impacts on the environment or human communities. P&G has the scale and the means to achieve these goals based on its ability to innovate new products and design efficient end-to-end processes and supply chains, and is taking steps to meet these challenging commitments.

P&G is a leading consumer product company in segments such as beauty and grooming, health and wellbeing, household care, snacks and more. To find out more, visit the company's website at www.pg.com.

[Click here](#) to find out more about P&G's Sustainability strategy.

3) Renewable Resource

When organizations design and develop products or services which use 100% renewable sources of energy and materials, they are able to grow revenues faster than physical and finite resource-dependent businesses athrough;

1. Digitizing products and developing scalable, high growth services with zero environmental impacts;
2. Eliminating all unnecessary physical resources from processes;
3. Securing physical resources within a renewable supply chain.

If you extend the concept of zero waste fully into the design and development of your products and services you end up at the point of "*renewable resource*" — when all the energy used is from renewable sources, and all of the materials used are from renewable sources, recycleable, and

re-usable. P&G has made a clear commitment to becoming a business based on renewable resource through innovative and renewable supply chains, including replacing petro-chemicals used in some of their products with bio-chemicals derived from microalgae. The concept of renewable resource can also be applied to entire business systems, such as [SC Johnson's Greenlist](#), which is systematically reformulating its products to eliminate environmental impacts.

The *Renewable Resource* concept also underpins growth through services and the dematerialization or digitization, of physical products. Such strategies are unconstrained by physical supply chains and, provided they are powered by renewable energy, make no negative contribution to climate change. Companies such as Apple, Google, and new businesses such as M&S Energy are great examples of the concept in practice.



Climate Resilience Pathfinder #4: Starbucks

Starbucks' coffee supply is at risk from shifts in rainfall and harvest patterns, and as a result the company's coffee growing communities are suffering. The impacts of climate change are also shrinking the area of usable land available in coffee regions around the world. Consequently, addressing climate change is a significant priority for Starbucks. The company is investing in alternative methods to secure coffee production through the use of renewable energy, and strategies for energy and water conservation. To date, Starbucks has successfully engaged 29 coffee-growing communities in Sumatra, Indonesia, and Mexico in pilot sustainable agriculture programs. The company is also collaborating with Conservation International in a ground breaking pilot of incentive programs, which link coffee farmers to carbon markets.

Other aspects of Starbucks' supply are also increasingly impacted by climate change, including paper for its cartons, and ingredients for its other beverages. Starbucks led the industry in the development of the recycled cardboard sleeves for its hot drinks to avoid the use of two paper cups to make hot drinks easier to carry. Starbucks has also collaborated with the FDA to increase the recycled content in the materials used to produce their mugs.

[Click here](#) to hear what Starbucks' Director of Ethical Sourcing has to say about the company's sustainable sourcing strategy. You can also find out more about Starbucks at www.starbucks.com.

4) Climate Resilience

When organizations adapt their operations and supply chains to the impacts of climate change, they are able to:

1. Build resilience to extreme weather events into their operations;
2. Avoid the high costs of recovery from climate related impacts (flood, drought, etc);
3. Secure supplies of environmentally sensitive commodities (food, feed, fiber, fuel).

These adaptation strategies are a response to the current and future impacts of climate change on supply chains and operations. For organizations dependant on agriculture, these strategies include:

- adjustment of planting dates to adapt to the changing seasonality;
- adapting crop variety to deal with changing weather conditions (e.g. flooding or drought);

- relocating crops to adapt to the shift in productivity associated with climate changes;
- improved land management to mitigate the destructive effects of climate change, such as soil erosion control;
- soil protection through tree planting.

However, climate resilience is likely to be a significant issue for all industry sectors, and is not limited to agricultural supply chains. The World Bank Institute is working with 2degrees to bring together leaders in major developing world cities with the aim of capturing and sharing best practices to address the key resilience issues facing these cities. So far these issues have included water and waste management, energy from waste, flood defences, a range of health concerns and other challenges of "Liveable Cities"⁽¹⁴⁾.

Eco-Performance Measurement Pathfinder #5: Sony

Sony has made a commitment to completely eliminate its environmental impact by 2050. Known as the [‘Road to Zero’](#), the plan involves setting a host of interim targets to assess the potential to reduce Sony’s environmental impact. It includes steps to address the whole product life cycle of their products, and measures to mitigate and adapt to climate change, promote biodiversity, conserve resources and more.

Sony realized that their CO₂ emissions were directly linked to their costs, and that the insights from understanding GHG emissions would enable them to drive up efficiency. One area of emissions is in transport logistics from their retail customers. Having measured these emissions, Sony realized they could identify the opportunities to reduce them. For instance, they optimized journeys, aggregated deliveries across categories to reduce journeys and increased fill rate on trucks, consolidated distribution hubs, reduced energy use at their distribution centers, optimized packaging, identified opportunities for return freight and explored collaborative logistics and co-location with other suppliers to the same retailers.

To find out more, visit the website at www.sony.net.

5) Eco-Performance Measurement

When organizations measure and monitor their environmental impacts in real-time and use the insight gained to manage, reduce and monetize assets, they are able to:

1. Reduce their energy, GHG and water risks, impacts and costs;
2. Use systems to optimize logistics, and balance demand and supply with environmental performance targets;
3. Use data intelligence and controls to improve the performance of assets and facilities (e.g. in ‘smarter’ buildings, motors, power grids, transport networks and logistics).

Until recently, organizations have not used environmental data to manage performance beyond compliance. Increasingly, businesses

are using these data to effectively improve their performance across their operations and supply chains. Quality management, business process re-engineering and similar data-enabled performance initiatives have enabled organizations to stay competitive during the digital revolution of the last few decades. A new wave of environmental performance systems and so-called “Smart” solutions are being rolled out into the market, including a [partnership between CA Technologies and Siemens](#), which seeks to provide intelligent ICT solutions to assist organizations with their sustainability challenges.

The report ‘Smart 2020; Enabling the low carbon economy in the information age’ (2008) outlined how these information communication and technology (ICT) solutions might make a defining



contribution to growth in a low carbon economy. The report identified an estimated \$950bn in ICT enabled energy efficiency cost savings for organizations world-wide.

Standards are now available for measuring, monitoring and accounting for environmental impacts. ICT systems can provide management teams with the tools and evidence to support decisions that improve environmental and business performance. “Smart” has become attached to a wide range of applications for ICT enabled energy efficiency and cost savings, such as;

- **Smart Grids**, or the ‘energy internet’, offer the greatest opportunity for energy efficiency aimed at eliminating the energy lost in transmission and distribution (approximately 40%);

- **Smart motor systems**, or industrial automation and optimized power consumption, used by all the motors in manufacturing world-wide;
- **Smart logistics**, or a host of efficiencies in transport and storage that could deliver fuel, electricity and heating savings;
- **Smart buildings**, or how better building design, management and automation could deliver significant emissions savings from buildings.

The various Pathfinders and other examples shared in this section provide indications of the new, distinctive competencies that can become the source of Sustainable Competitive Advantage for other organizations. From observations, discussions and experience of working with many of them, 2degrees is able to show a common pattern of how they have changed the way they operate to develop this advantage. This is reviewed next.



Figure 4: Adapting your organization to develop a Sustainable Competitive Advantage.

Adapting Your Organization

2degrees has identified a clear pattern in the process of gaining a Sustainable Competitive Advantage through insight gained from working closely with many of the companies referenced in this paper. **Figure 4** explains the path organizations must follow to adapt their organizations to integrate the five key competencies (described in **Figure 5**) and achieve a Sustainable Competitive Advantage.

As well as understanding the transformational nature of this journey, it is also important to grasp what is needed to effectively transition from one stage to the next. 2degrees believes that there are three things which make a big difference to this transition process:

Leadership:

The uncertainty raised by the 4th economic revolution, coupled with the opportunities for Sustainable Competitive Advantage, provide a

platform for business leadership. Leadership is needed to set an organization on its journey, set aspirations, goals and clarity of purpose at each stage and be prepared to tackle the inevitable trade-offs.

Management:

Management teams must adopt the changes necessary to develop a Sustainable Competitive Advantage and adapt their organizations to meet the new challenges. The management should also build the five new, distinctive competencies into the organization, and develop a clear business case for “*making sustainability the way we do business*”.

Communications:

Stakeholders must be engaged in the purpose and outcomes of Sustainable Competitive Advantage. Communications can deliver a significant return on engagement in sustainable business, from staff, customers, suppliers, shareholders and others.

Pathfinder: Marks & Spencer (M&S) – Becoming the World’s Most Sustainable Major Retailer

About M&S: M&S is the UK’s largest clothing retailer and one of the largest food and home retailers. The company oversees approximately 35,000 product lines, from over 2,000 factories, 20,000 farms and 250,000 workers world-wide, while employing 70,000 employees in the UK and serving 16 million customers every week.

Phase 1: M&S was a pioneer of Corporate Social Responsibility (CSR) in UK retail in the 1980s and had put in place a comprehensive program of compliance, winning awards consistently for its CSR performance. Its “*look behind the label*” initiative pioneered a new standard in transparency and customer engagement in issues of fair trade, food safety and sustainable sourcing. They came to realize that CSR and compliance could never keep up with stakeholder expectations, and in 2006 developed “*Plan A: because there is no plan B*”.

Phase 2: Launched in January 2007, Plan A started as a £200m sustainability investment over 5 years, committing M&S to deliver change across five key pillars (climate change; waste; raw materials; fair partner and health) with 100 clearly defined commitments across each pillar. This strategy set M&S on course to becoming the world’s most sustainable major retailer by 2015, embedding sustainability into how they do business and engaging the entire workforce and supply chain in the pursuit of the Plan A commitments. A significant milestone was achieved when Plan A broke even on its investment inside an 18 month period, and contributed to 8% of the company profits in its third year.

Phase 3: Celebrating its 125th anniversary in 2009, M&S extended its commitments through to 2015. New and bolder commitments were set to engage customers and suppliers in sustainable innovation. M&S launched new products and services, such as M&S Energy, to link their retail skills to their ability to source renewable energy and take waste from consumer clothing and turn it into insulation for homes. Additionally, new factories provide living wages in developing countries and set new standards for productivity, working conditions, energy efficiency and zero waste.

To find out more about Marks and Spencer’s Plan A, please visit <http://plana.marksandspencer.com>.

[Click here](#) to hear from Marks & Spencer’s Head of Packaging on how Plan A is helping them to reduce packaging waste from their products.

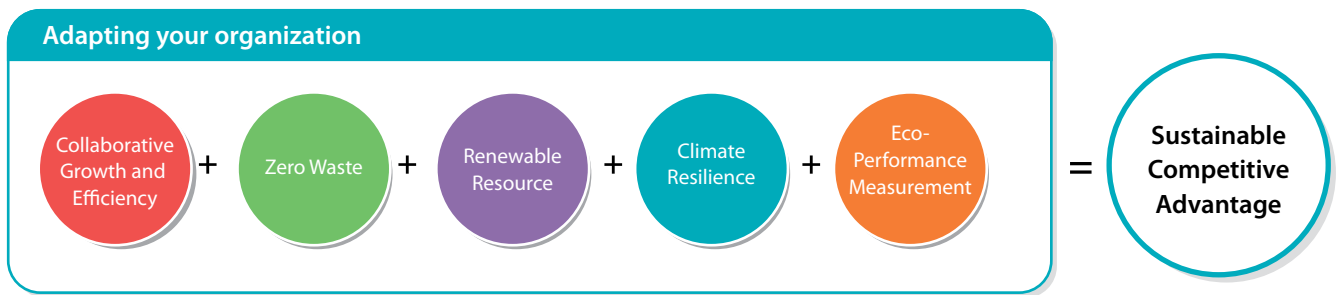


Figure 5: Five key competencies to adapt your organization to achieve a Sustainable Competitive Advantage.

Take Action Inside Your Organization

The first step to taking action inside your own organizations to develop a Sustainable Competitive Advantage and accelerate your *Sustainability Journey* requires answers to the following three questions:

1. Where is your organization on the *Sustainability Journey* towards gaining a Sustainable Competitive Advantage?
2. What is the scope for driving growth through a Sustainable Competitive Advantage in your organization?
3. How capable is your organization of delivering the changes needed to gain a Sustainable Competitive Advantage?

2degrees Business Services have been developed with the principal aim of helping clients to gain a

Sustainable Competitive Advantage. To help you to get started we have developed:

- a survey to further define the five competencies of Sustainable Competitive Advantage – [click here](#) to take part and find out how your organization fares on the *Sustainability Journey*;
- a diagnostic tool to identify where your organization is on its *Sustainability Journey*;
- a set of frameworks to help businesses adapt their organization to gain a Sustainable Competitive Advantage.

Members of the 2degrees community will have access to the practical solutions needed to progress their sustainable business goals. [Click here](#) to join the discussion on Sustainable Competitive Advantage.

Adapt Your Organization Today!

If you are interested in finding out more about how to position your organization to develop a Sustainable Competitive Advantage, we want to hear from you. Please contact Simon Brown or Ben Carmichael:

Simon Brown, Managing Director – Business Services E: simonbrown@2degreesnetwork.com T: +44 (0) 7980 241816
 Ben Carmichael, Director, Creative & Editorial (USA) E: bencarmichael@2degreesnetwork.com T: +1 646 480 4814
 or visit 2degrees at www.2degreesbusiness.com.



This Series: “Building Sustainable Competitive Advantage From the 4th Economic Revolution”

In this white paper series we attempt to set the leadership agenda regarding Sustainable Competitive Advantage for the next decade. These white papers will be produced by 2degrees, with support from Oxford University’s Smith School of Enterprise and the Environment. We propose that a series of four white papers will be produced, one each quarter, each of which will then be collected into a final product that combines rigorous analysis, quantitative data and compelling anecdotal evidence.

With the combined resources of the primary partners working in collaboration, it is our conviction that we can produce, publish and disseminate a body of research on Sustainable Competitive Advantage that will define the field for a decade — if not more. We have developed a [detailed survey](#) that will provide compelling data from survey participants to challenge/underpin our perspectives in the white papers. The remaining papers in this series will focus on:

White Paper 2:

Five New, Distinctive Competencies of Sustainable Competitive Advantage.

This paper will explore each of the distinctive competencies in further depth, examining key case studies and models of best practice, and offer

insights into the business case that underpins each characteristic. This will help organizations understand the concept of Sustainable Competitive Advantage and apply it in detail.

White Paper 3:

The Scope for Sustainable Competitive Advantage.

This paper will outline the drivers of Sustainable Competitive Advantage at a sector and market level. The paper will focus on detailed case studies of organizations that are building Sustainable Competitive Advantage in public and private sectors. This will help organizations to focus their sustainable development on the characteristics of Sustainable Competitive Advantage that have most potential.

White Paper 4:

Leading the Organization on its Journey.

This paper will focus on delivering a Sustainable Competitive Advantage inside organizations, examining the phases in the Sustainability Journey and what it takes to transition from one phase to the other. We will examine the underlying business case, role of leadership and best practices in terms of stakeholder engagement and mobilization. This will help organizations to build practical plans for gaining a Sustainable Competitive Advantage.



Examples of Other Pathfinders

In addition to the Pathfinder organizations identified throughout this paper, there are several additional examples that demonstrate the adoption of the key competencies of Sustainable Competitive Advantage.

The second white paper will offer more in-depth case studies of additional Pathfinder organizations, but a brief outline is provided below.

Other examples of collaborative growth and efficiency:

- GE, Skanska and Arup are collaborating to develop “Deep Green” solutions for buildings that save energy, enhance appeal and functionality for tenants and increase rents and yields for owners.
- M&S has been collaborating with Oxfam to recycle millions of garments each year in a way that generates incremental sales for M&S, extra value for its customers and millions of pounds to finance Oxfam’s work around the world.
- IBM/Cisco are collaborating together, and with leading client organizations to develop data and networking solutions for a “smarter planet” with applications in healthcare, buildings, transport, security, education, power and other utilities.

Other examples of zero waste:

- Nike Reuse-a-shoe has collected over 25 million pairs of shoes, and Nike Grind is turning used sports shoes into running tracks.
- The UK’s National Health Service (NHS) launched NHS-reuse in April 2011. It is a service that will enable the UK’s major hospital organizations to see previously unwanted or excess stock held on a central asset inventory that can be procured through an eBay-style auction system.
- Meat and dairy farmers and food processors supplying M&S in the UK are finding customers for their organic waste who are able to produce energy in anaerobic digestion systems. A cost becomes a revenue and source of renewable energy.

Other examples of renewable resource:

- Apple iTunes is dematerializing the entertainment industry, achieving unprecedented revenue and shareholder value growth through digital products, sales and services.
- Cisco tele-presence managed services are replacing air travel. Cisco saved over \$250 million in a single year by replacing travel for internal



meetings with video, and is rapidly growing the market for this service.

- Nokia Siemens Network (NSN) is developing new revenues from providing renewable microgeneration solutions to telecommunications infrastructure customers in regions where grid energy is unavailable or unreliable. This is proving to be a better alternative to traditional, small-scale diesel generators.

Other examples of climate resilience:

- In 2010 Unilever launched its *Sustainable Living Plan* that commits to source 100% of its agricultural raw materials sustainably. The details of this plan show extensive commitments to building climate resilience into their key agricultural supply chains around the world.
- B&Q (world's 3rd largest DIY retailer) has transformed its supply chain for timber products, achieving 100% Forest Stewardship Council (FSC) certification for all timber in its products. With the full chain of custody, B&Q knows precisely where their wood is coming from.

Other examples of eco-performance measurement:

- Walkers Crisps, owned by PepsiCo, was the first company in the UK to develop a carbon footprint of their product. This enabled them to identify and save 7% of their CO₂ emissions within 2 years, saving over \$750,000 and over 700m liters of water in a single factory.
- Puma, the French rival to Nike and Adidas, has applied a new accounting system that allows it to publish the world's first environmental profit-and-loss statement. The new system assigns financial values to "ecosystem services," such as the planet's water and air filtration cycles, incorporates these values into the profit and loss statement and underpins eco-performance improvement targets for energy, waste, water and raw materials.
- Fresh & Easy is a \$302 million US retail firm that committed itself to an ambitious climate change plan, outlined by its parent firm, Tesco. They deployed a sustainability resource planning system from Verisae and are now saving over \$3 million per year on energy spend alone.

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Authors



Simon Brown leads the design, development and growth of the Strategic Consultancy and client facing business of 2degrees. Simon is an experienced advisor helping to accelerate sustainable business innovation with clients who are at the forefront of this challenge. He has worked with a broad range of large clients over many years – including Marks & Spencer, Tesco, Philips, Nokia Siemens Network, Sony (Europe), The Carbon Trust, H&M, Centrica, E.ON, NHS, Serco, Syngenta and The Guardian – on some of the world’s leading sustainable business initiatives. Simon speaks with experience and authority on many aspects of sustainable business growth and innovation.

His previous roles include Partner at strategic innovation firm The Foundation, Director at Scient, the eBusiness systems innovator, Managing Consultant at PA Consulting Group and Commercial Management at ICI Plc.



Martin Chilcott is an experienced entrepreneur and the Founder and CEO of 2degrees.

His experience in launching and running successful businesses in the heyday of the internet revolution, convinced him that the global community was once more at the brink of systemic change – driven by the need to become sustainable.

This time, the risks of not changing fast enough are enormous. Having witnessed the power of enterprise to drive change once already, Martin was convinced business had to be at the heart of the 4th economic revolution, and that web technologies would play a major role in accelerating the process. Unsurprisingly, 2degrees was born.

Martin’s previous corporate roles have included Global Head of Innovation at Proxicom Inc. and Group Marketing Director of the global IT integrator, Dimension Data Plc.



Ben Carmichael is the Creative & Editorial Director at 2degrees. He is responsible for overseeing all the editorial content development for the company, including white papers, executive summaries, blogs, podcasts, infographics and other items. His background is in helping private companies and non-profits tell environmental stories. His clients have included BluSkye, Natural Resources Defense Council (NRDC) and others.

His previous roles have included speechwriter for NRDC, publicist for The New Yorker, and contributor to The Huffington Post, On Earth, and other publications. He holds degrees from Brown University and Oxford University, where he studied on a Marshall Scholarship.



2degrees is the world's largest community of sustainability professionals who have come together to share knowledge and experience, and collaborate to make their organizations, economies and societies better. More than just a networking platform; it is a managed, professional business community, focused on sustainability.

The community has over 13,000 public and private sector professional members, from 7,000+ organizations, and over 100 countries from around the world.

2degrees brings together thought leaders, industry experts, corporate managers, policy makers and academics, all with a professional interest in sustainability. It provides them with:

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- Business and collaboration tools and services,
- Opportunities to collaborate, and
- Customized services to help them make their organizations more sustainable and profitable.

2degrees is organized into two business areas: the 2degrees community; and business services. To find out more, visit www.2degreesnetwork.com and www.2degreesbusiness.com.

We'd like to thank our partners for their valuable contributions in the development of this White Paper Series.



The Smith School is working with 2degrees to investigate and strengthen the definition of collaborative growth and efficiency, and will work closely on the analysis provided in White Paper 2 in particular. The Smith School is an interactive hub within Oxford University that engages with, educates and equips public and private enterprise with the solutions, knowledge and networks needed to address the major environmental challenges facing our planet. The School strongly believes that the only way to address the environmental challenges we face is by convening and partnering with both public and private enterprise.

Media partner



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2degrees

UK Office:

228-240 Banbury Road

Oxford OX2 7BY

United Kingdom

Tel: +44 (0) 1865 597640

US Office:

30 Broad Street

14th Floor

New York

NY 10004 USA

Tel: +1 646 480 4815

**Smith School of
Enterprise and the
Environment**

Hayes House

75 George Street

Oxford OX1 2BQ

United Kingdom

Tel: +44 (0)1865 614942