Crossing the Great Divide:
Sustainability as Corporate Strategy

by Stephen Stokes

Sustainability has arrived on the business landscape. However, companies still grapple with turning sustainability from an external messaging exercise into a strategic, operational imperative for goal-setting, driving enhanced performance, and culture-building within a firm. Authentic organizational sustainability is not just corporate philanthropy or energy efficiency. Here we present AMR Research's framework and maturity model for this transformation.

Sustainability Strategies Report

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> Finally, a structure is offered that lets organizations fully embrace and quantify sustainability as a key business strategy and basis for cost reduction, competitive advantage, brand enhancement, increased profits, and stakeholder engagement.

The Bottom Line

Executive Summary

Globalization has a new dimension: sustainability and sustainable business practices. Sustainability is without doubt the most significant reorientation of global business strategy and operations since the high-tech and biotech booms of the 1990s. Calculated to offer a capitalized value that dramatically exceeds the opportunities of the dot-com boom, it is inextricably linked to both the contemporary and future challenges of global climate change and the anticipated low-carbon economy.

Embraced as a key strategic element and change management tool, sustainability promises to future-proof organizations, their brands, and reputations to minimize business risk, reduce bottom-line costs, increase top-line profits, and enhance the experiences of employees, customers, and stakeholders.

It's correspondingly no surprise that, virtually without exception, the corporate world is claiming sustainable or green credentials, products, and philosophies. But what does a sustainable organization actually look like? How do leaders in the sustainable business space operate similar or in difference to less sustainably inclined organizations? And what or where do we measure the supply chain or business impact of sustainable business practices?

Many organizations have rushed into what they believe are sound sustainable business practices. Many have grasped onto key elements, such as corporate social responsibility (CSR), energy efficiency, and waste minimization. They have done so, however, with limited theoretical and strategic frameworks at best. In doing so, they have not gained maximum value from the potential of the sustainability imperative. Likewise, sustainability has arrived and been embraced without wide acceptance or widely applicable indexes, metrics, and other analytics to quantify its impact, value, or cost.

In this Report, AMR Research offers general models and frameworks within which sustainability can be fully integrated and embedded within organizations. They provide a basis for organizations to map their performance—past, current, and planned future—while helping companies establish a systematic, coherent basis for organization-wide vision, foresight, and transformation of operations, processes, and products.

Planet versus people: The prosperous world in crisis?

Global economic output in the 20th century surged by more than 18-fold to reach $66T in 2006. Over the same period, life expectancy in the United States rose a staggering 61%, from 47 to 76 years. Resource and energy utilization, as well as human and economic development on such a vast and expanding scale, should never have been inferred (consciously or otherwise) to be a free lunch environmentally, even if it has taken more than three centuries of the Industrial Revolution for the bill to arrive.
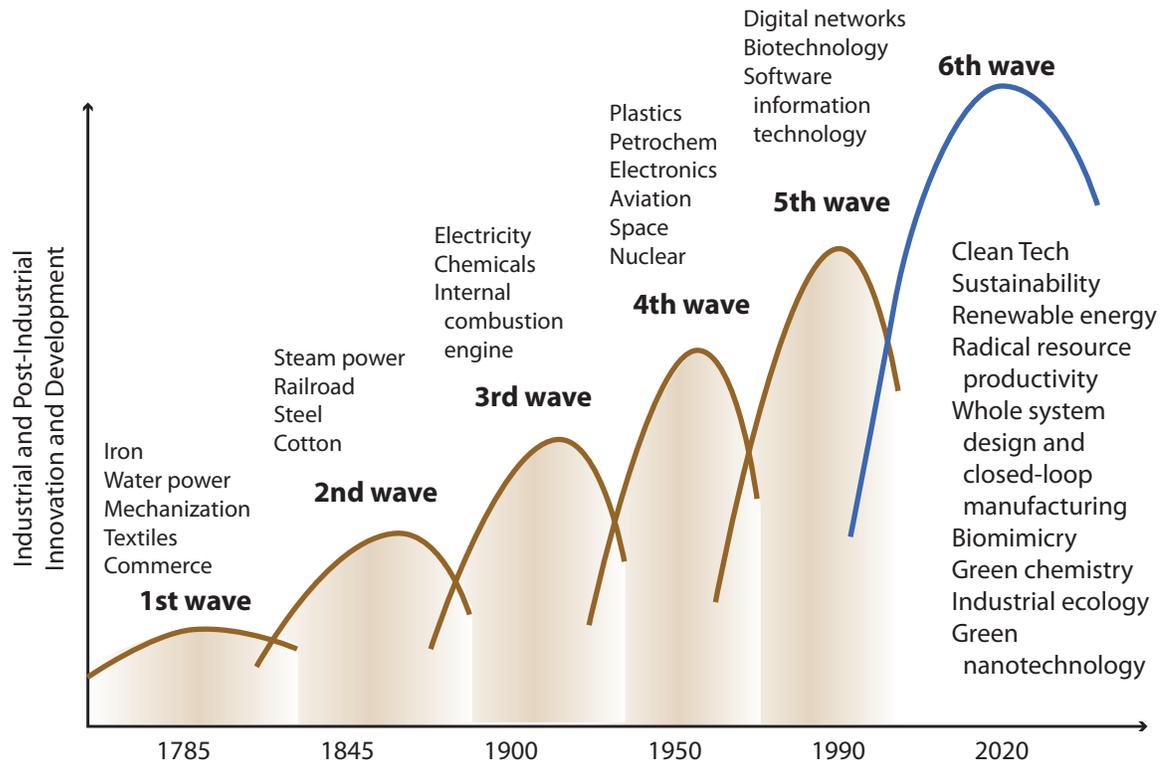
The era was not devoid of sustainability efforts: The CFC-removing Montreal Protocol of the 1990s, sulphate emission regulations, and various EPA and other directives come to mind. But the emergence of a climate-change agenda and the global political and economic reaction to it are altogether different—a true paradigm shift in the free-market economy.

As long ago as 1833, William Forster Lloyd conceptualized the Tragedy of the Commons. Put simply, free access to a common resource (common land in pre-Victorian time) was predicted in all likelihood to lead to its overutilization (i.e., overgrazing) and carrying capacities becoming exceeded. The ultimate consequence—collapse of both the resource and the users/systems that seek to access them.

The agenda and the "commons" have now shifted in scale to the planetary atmosphere and biosphere. This has happened via the production of climate equilibrium-shifting emissions of greenhouse gases (GHGs), overexploitation and contamination of global water resources, and ecosystem removal, modification, and provocation on an unprecedented scale. Consider carbon dioxide emissions as an example. **Carbon Positive** estimates that since 1751, 315 billion tons of carbon have been released to the atmosphere via fossil-fuel usage and cement production. More striking is that half of these emissions have occurred since the mid-1970s.

In response, the new vision of a low-carbon economy is not only real and emerging, if somewhat geographically uneven, but it represents a fundamental new mode of corporate engagement. This has been likened to a sixth wave of technological transformation and innovation, following in the wake of the fifth digital and biotechnology wave of the 1990s (see Figure 1).
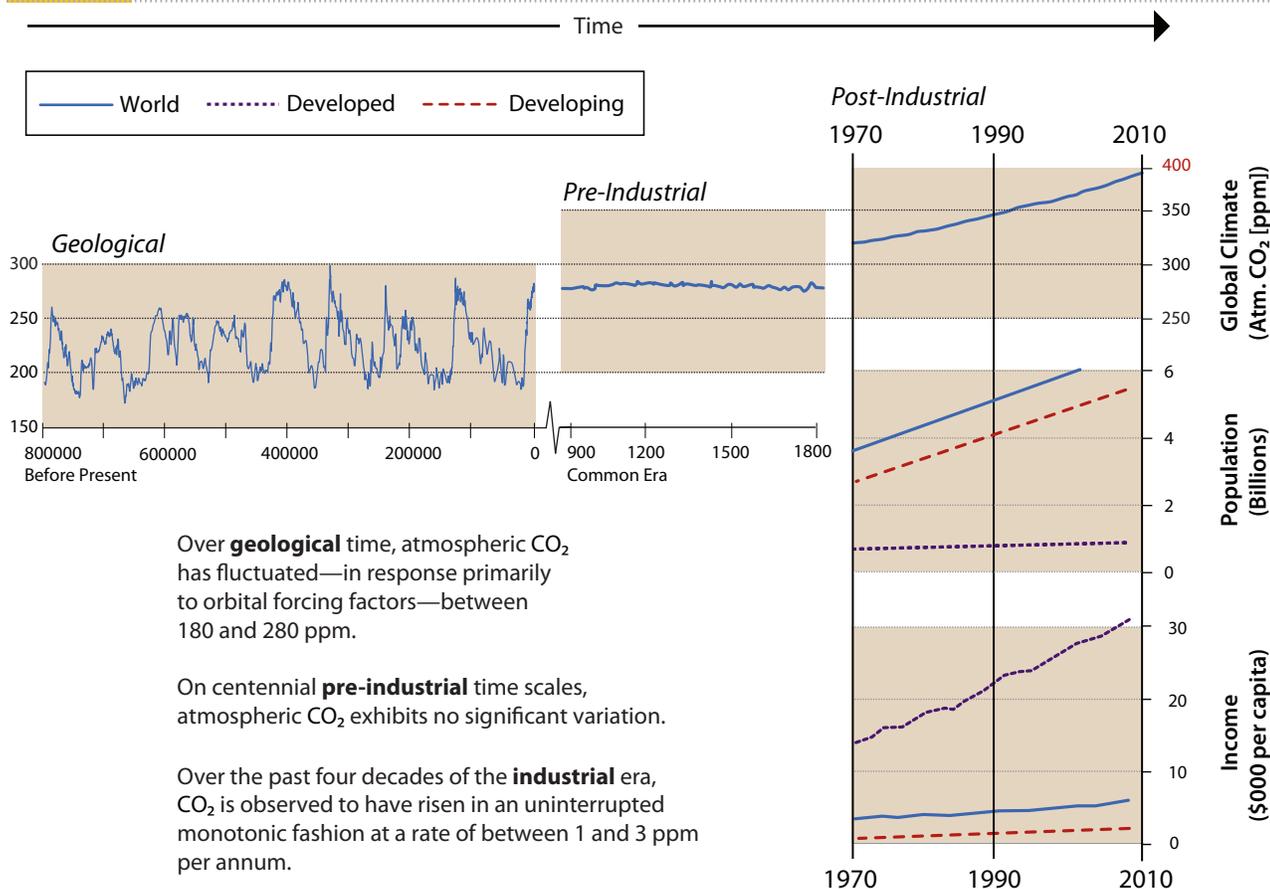
Figure 1: Waves of innovation

Industrial and Post-Industrial Innovation and Development

1st wave
Iron
Water power
Mechanization
Textiles
Commerce

2nd wave
Steam power
Railroad
Steel
Cotton

3rd wave
Electricity
Chemicals
Internal
 combustion
 engine

4th wave
Plastics
Petrochem
Electronics
Aviation
Space
Nuclear

5th wave
Digital networks
Biotechnology
Software
 information
 technology

6th wave
Clean Tech
Sustainability
Renewable energy
Radical resource
 productivity
Whole system
 design and
 closed-loop
 manufacturing
Biomimicry
Green chemistry
Industrial ecology
Green
 nanotechnology

1785   1845   1900   1950   1990   2020

Adapted from The Natural Edge Project

The crest of this sixth wave has grown over the past decade, at least partly motivated by increasingly refined quantification of rates of anthropogenic (i.e., human related) GHG emissions by the Nobel Prize-winning Intergovernmental Panel on Climate Change (IPCC). These increases are not just higher than levels for the past 800,000 years (see Figure 2). They point to a fundamentally different state of atmospheric GHG concentration. If left unchecked, the further development of this new atmospheric state is widely predicted to result in ecosystem collapse, with far-reaching consequences to global biological function, human well being, and the growth and security of future economic systems.

Figure 2: The collision of the global climate and the global economy

Over **geological** time, atmospheric CO_2 has fluctuated—in response primarily to orbital forcing factors—between 180 and 280 ppm.

On centennial **pre-industrial** time scales, atmospheric CO_2 exhibits no significant variation.

Over the past four decades of the **industrial** era, CO_2 is observed to have risen in an uninterrupted monotonic fashion at a rate of between 1 and 3 ppm per annum.

Industrial-era trends in world population and income exhibit similar trajectories.

Information drawn from Census Bureau, U.S. Department of Commerce, World Paleoclimate Data Center, and NOAA Paleoclimatology Program.

Source: AMR Research, 2008

An exact prediction of this future climate state and the wider global ecosystem remains uncertain. However, numerical global atmospheric and ocean circulation models all point to varying degrees of temperature increase and transformation of the global biosphere in a generally unhelpful manner for large portions of the still-increasing global population.

Beyond the already crucial stalking horse of GHG emissions, the environment and societal affect of economic activities have become more severe and vivid via a combination of one-off events, such as the 1984 Bhopal disaster, and long-term trends, including the following:

- Nitrate and phosphate accumulation and other forms of contamination in major freshwater catchments

- Entrophication of lakes as well as freshwater and estuarine water bodies

- Salinization of soils and groundwater aquifers

- Overextraction and depletion of groundwater

- Accumulation of mercury and other base metals in marine food chains

- Phenols in frogs and other amphibians and reptiles

Faced with such an apparently insurmountable challenge, as well as the historically opposed tenets of capitalism and conservation, what is business supposed to do? We see three pragmatic options:

- A policy of denial of the connection between corporate actions and environmental outcomes. Of course, this has become extinct for the most part.

- The radical green proposition of dismantling the free-market globalized economy, returning exclusively to local production. This option is both fanciful and actually impotent in treating the current environmental or supporting societal challenges.

- Through sustainable business practices, establishment of harmonious forms of free-market capitalism and business development and growth that embrace and engage environmental and societal stewardship. This ensures that the planet's finite human and natural environmental resources are not indefinitely compromised.

There has been an increasing effort by corporations to embrace option three and seek reconciliation between business progress and global environmental and social outcomes, which we applaud. However, this is a vast, uncharted area that requires answers to some initial questions:

- How does an organization become truly sustainable?

- What does it really mean across an organization?

- What is the business case for sustainability?

- How can an organization articulate a clear, actionable strategy?

- Is it simply enough to reinvent past energy-efficiency initiatives or philanthropic gestures as proof positive of long-term sustainable performance?

- How can companies achieve and rightly claim leadership within this new and crucial area of corporate performance, brand and company reputation, and business risk?

Gaining by green: The sustainability imperative in the 21st century

Adapting to and developing sustainable business practices should be axiomatic for all businesses, as they provide a potent change management and business improvement vehicle to reduce bottom-line costs via energy-efficiency measures, optimization of transportation, and logistics, storage, and waste.

Commonsense efficiency driving is one of various imperatives that push and pull organizations toward concerted attempts to engage with sustainability. Alignment with the changing and greening marketplace and stakeholders that range from shareholders to nongovernmental organizations (NGOs) is an ever-increasing driver of sustainability initiatives.

An additional factor is corporate and brand reputation. This is not simply a PR play. With tens of trillions of dollars under investment in green funds, and supply chain partners increasingly placing sustainability-based expectations on suppliers and downstream customers alike, not adopting sustainable practices is likely to reduce future market share. Beyond B2B partners, customers are increasingly expecting and making preference decisions based on sustainable and green product credentials.

Human capital is another major area with direct linkages to the sustainability debate. Generation Y graduates are disinclined to work for sustainability laggards, and retention of staff at all levels of such organizations is a challenge.

The sustainability imperative is also driven by the close connections of sustainability, innovation, and profit. Innovation and technology are crucial enablers of physical sustainability outcomes. Companies, as the sources of technological innovation and societal evolution, can rightly gain enhanced profits by focusing on innovation and technology development in response to societal demands (as most clearly reflected currently via the clean tech revolution).

Finally, a further factor that also places sustainability at the core of contemporary business decision making is the combined impact of corporate ethics and the potential scale of environmental effects from globalized corporations (see Table 1).

Table 1: Sales and GHG emission data (FY06/07) for selected large corporations and equivalent national territory GHG emissions

Company	Annual Sales ($Billion)	Annual Emission (Million Tons)	Tons CO2/$ Million Sales	Equivalent National Emissions
Walmart (Stores)	349	19	55	Estonia
ExxonMobil	335	146	436	UAE
Royal Dutch Shell	319	98	307	Viet Nam
BP	266	69	261	Syria
GM	207	12	56	Guatemala
DaimlerChrysler	200	7	35	Bolivia
Chevron	195	61	312	Chile
Toyota Motor	179	7	36	Ethiopia
Total	175	58	331	Hungary
ConocoPhillips	168	62	372	Portugal

Source: The Guardian's Green List, 2007

Riding the sixth wave

The sixth wave of sustainability-oriented innovation and transformation has two parts. The crest of the wave is clean tech innovation, investment, and development. The trough of the wave is sustainable business practices seeking to "do less bad" and "do more good" by more efficiently harnessing energy and resources.

Clean tech investment is progressing at a breakneck rate, and green innovation and investment have never been more active. In 2007 alone, $148B of new fund investment entered the sustainable energy sector, with investment in wind energy exceeding $50B and solar-related investment expanding at a staggering annual growth rate of 250% to $28.6B globally. Scale is also kicking in, with six $1B+ IPOs in the last year, and **Suntech's** founder and CEO, Shi Zhengrong, becoming the world's first clean tech billionaire.

The sustainability trough of the sixth wave has not gained similar media profile, funding, or traction. That's not to say a majority of companies don't seek to embrace sustainable business practices, but we see a lack of clarity in both long-term corporate strategic sustainability initiatives and the outcomes of sustainability-focused endeavors.

Succeeding in the transformation to authentic and strategic sustainable business practices is a critical factor in current and future business risk.

Defining the authentically sustainable organization

Despite the logic of fully and successfully embracing sustainable business practices, the precise definition of exactly what constitutes best-of-breed sustainable performance remains unclear. Previous models, such as triple bottom line, provide sound, aspirational philosophies, but a holistic roadmap or framework that fully embraces organizational sustainable transformation has not been successfully communicated. Without clarity, emergence of true leadership and attendant benefits are correspondingly enigmatic.

We see organizational engagement with sustainability occurring over two major transformations, culminating in fully embedded, authentic, and strategic sustainable business practices (see Figure 3).

Figure 3: Progressive migration from compliance to strategic sustainability

Not in Focus	Tactical Sustainability	Strategic Sustainability
EH&S compliance	Sustainability follower	Sustainability leader
	Highly reactive approach	Highly proactive approach
	Disconnected engagement at corporate margins	Engagement at business process level
	Reporting and compliance/conformance level	Voluntary reporting on range of variables and KPIs
	Defensive brand protection	Strategic brand development/product enhancement
	Partial competitive advantage	Substantial competitive advantage
	Business risk defocused	Business risk minimized
	Anticipating some behaviors and trends	Anticipating and influencing behaviors and trends
		Efficient energy policy
		Potent communication message
		Focused innovation and R&D

Source: AMR Research, 2008

Reactive, tactical sustainability is capable of driving down bottom-line costs and ensuring order qualification in future green markets. It will not, however, allow an organization to drive increased market share, expose and exploit new markets, or emerge as leaders from the sustainably tactical crowd. AMR Research's Sustainability Maturity Model recognizes three key organizational progressions toward authentic sustainability: strategic transformation, structural normalization, and operational implementation (see Figure 4).

**Figure 4:** AMR Research Sustainability Maturity Model
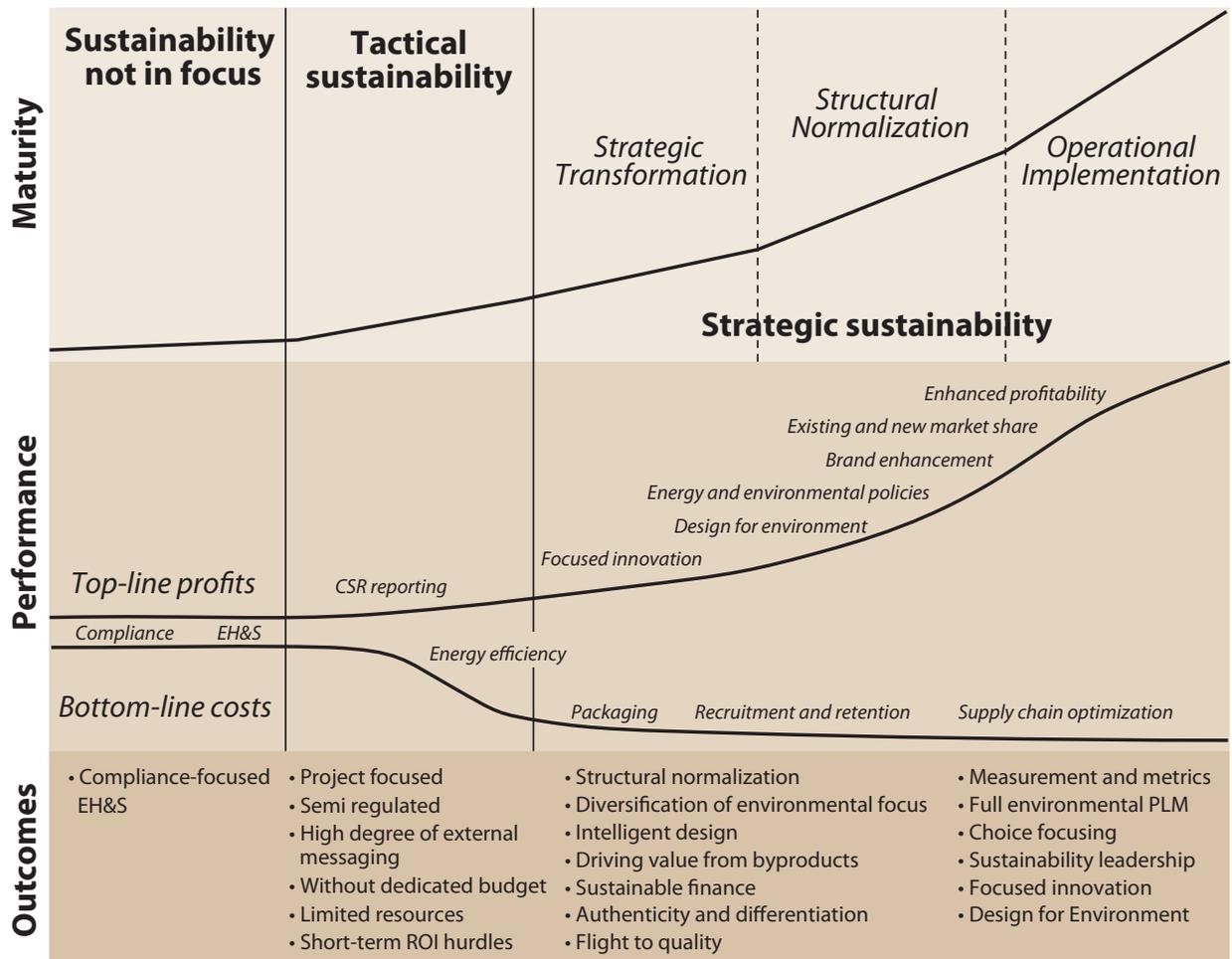
Source: AMR Research, 2008

Stage 1: Strategic transformation

A strategic, top-down organizational strategic transformation must take place throughout the organization. Future sustainable organizations will have put in place a multifaceted, rigorous, and interconnected strategy directly linked to overall company strategy and goals (see Figure 5).

Figure 5: Emergence of a corporate sustainability strategy
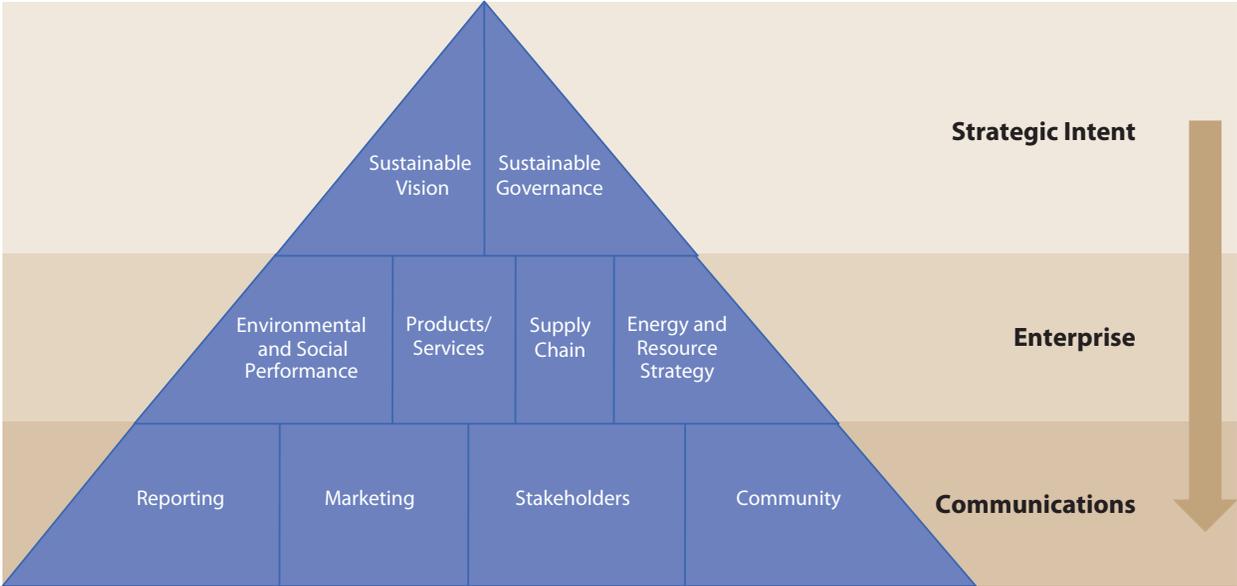
Sustainable vision

A sustainability focus requires a clear vision of what it means to be sustainable, with an understanding that sustainability is an essential part of creating value. The business strategy should deliver both profit as well as operational, organizational, and product-based sustainability itself.

A sustainable vision requires dynamic and widespread engagement within and beyond the organization. The sustainable vision must be multifaceted in order to deliver sustainable outcomes, such as improving or replacing technologies or influencing markets. Successes in this vision will be demonstrable through examples of improved performance in products and services, customer engagement, investor relations, and other areas.

Sustainable governance

To achieve sustainable governance, a company's values must reflect a commitment to long-term sustainable development. Sustainable governance requires companies to put systems in place that allow the full exploitation of the opportunities that sustainability presents, and a commitment to ensuring that staff are sustainability literate.

It allows for experimentation and risk taking, enabling the organization to learn from unsuccessful outcomes. Sustainable governance requires ownership and accountability for sustainable performance across key business functions and staff, in some cases down to personal sustainability performance. It also requires transparency throughout and beyond the organization. The development of sustainable governance typically requires a managed culture change on an organization-wide scale.

Environmental and social performance

The sustainable organization is committed to and understands the implications of operating within environmental and social limits, which extend well beyond mere compliance activities. Clear and absolute targets should be established for as wide a variety of environmental parameters as possible. Whether linked to financial or other indexes or independent measures, environmental and social key performance indicators must be collected and communicated transparently. The company's environmental and social impact should incorporate a consideration of the full product lifecycle.

Environmental and climate-change strategies should be stretched to provide a focus that drives performance across the organization. Systems should be in place to identify, understand, and manage future environmental risks and opportunities. A fully sustainable company has plans in place that anticipate the ongoing internalization of the business's environmental costs.

Social performance should focus on a blend of staff within the organizational working environment, the linkages between the organization and its adjacent communities, and product stewardship throughout the full range of the potential user community. Ad hoc philanthropy was a blunt CSR instrument that should be substituted with appropriate social investments that reflect real partnerships between the organizational and external stakeholders.

Products and services

Integrating sustainability into product and packaging development requires innovation and full, closed-loop product lifecycle management. Intelligent design of products and services is an exciting and critical hallmark of the sixth wave.

A spectrum of Design for Environment methodologies is delivering increasingly environmentally harmonious manufacturing outcomes. The very concept of waste is transforming to a spectrum of post-consumer processes and further products designed to maximize benefit from embedded resources, including energy.

Additionally, products and services in virtually all industries will over time undergo a flight to sustainability in which an ever-reducing set of nonsustainable products or services are substituted for demonstrably sustainable ones. Such "choice editing" by companies is a significant demonstration of real commitment to sustainability. This flight to sustainability is characterized by ongoing innovation, testing, and development to improve sustainability performance.

Finally, Design for Environment should extend beyond products and services wherever possible and into related assets, operations, and logistics.

Supply chain

Sustainability should be automatically and fully integrated into supply chain management, used both as a standard performance measure and a means of driving performance improvement throughout the value chain. The notion of the green supply chain is one of the most rapidly emerging metaphors in the lexicon of sustainability. Development of full Design for Environment and complete product lifecycle management requires full value network engagement and information sharing.

Organizations should collaborate with suppliers to share best practices. Facilitation of supply chain culture change can be accelerated via issuance of long-term contracts to enable investment. The reach of sustainability expectations throughout a supply chain remains under debate. Wherever possible, as wide a supply chain engagement, including end-use customers and post-consumer segments, should be incorporated.

Energy and resource strategy

There has been a deafening wake-up call over the past year to governments and organizations alike on the importance of constructing robust and diverse energy and resource acquisition/utilization programs. These programs must recognize the dual risks of both cost of purchase as well as likely future costs associated with generations of harmful atmospheric, hydrologic, and other emissions, pollutants, and wastes. The green economy is a lean economy, so it is necessary to redefine the key wastes of lean production and seek out innovative and alternative approaches to energy and commodity procurement and use.

Likewise, in an era where operational carbon emission taxation—whether regulated or voluntary in nature—has arrived and is expanding, minimization of this potential business risk and cost should be proactively pursued via a combined energy-efficiency, renewable energy procurement, and carbon-credit offset program to deliver energy and resource optimized production practice over moderate and long time scales.

Waste minimization and utilization programs are an additional crucial element of a full energy and resources strategy.

Reporting

A strategically sustainable organization actively communicates its strategy via corporate social responsibility and other channels. These should provide a transparent, comprehensive summary of its material issues as well as the systems in place for addressing and minimizing any identified impacts. Reporting should be used internally and externally to drive performance and provide a structure for measurement, management, and public disclosure.

Reporting delivers evidence of progress and challenges: The organization doesn't shy away from difficult and sensitive issues. Adherence to reporting standards is important for ensuring clear communication.

Marketing

Marketing plays a key role in communicating activities that promote and enable sustainable choices by customers. Both product and company brands increasingly incorporate a commitment to sustainability. A sustainable corporate identity should be founded on hard facts and verifiable evidence in support of sustainability credentials. The ownership of such an identity is a joint one between companies and all stakeholders, which requires open dialog. An important part of this dialog relates to the education of customers and other stakeholders in order to exploit new market opportunities.

Stakeholders

A sustainability strategy should automatically feed stakeholder views into long-term strategic planning. Stakeholder engagement should take place at all levels of corporate activity, be clearly understood, and experienced through to senior management. Stakeholder engagement should also occur beyond traditional stakeholder groups and topics, including NGOs, and be sensitive to contrasting geographies of opinion.

The fully sustainable organization engages with and supports progressive regulation designed to drive environmental best practice. It should be capable of maintaining a balance between collaboration and developing a competitive edge. An important element of external engagement is with the investment community in order to demonstrate where and how sustainability adds quantifiable value. Ideally, it should be capable of acknowledging that increased sustainability may affect short-term profits, but is able to demonstrate the long-term value added. There should be active engagement with trade associations, relevant NGOs, and other stakeholders. The sustainable organization also engages with the community to develop common standards for emerging issues, including the Global Reporting Initiative and the GHG protocol.

Community

Internal and external communities are critical to an organization's license to operate and execute sustainably. Support for the development of sustainable communities through long-term partnerships and philanthropic acts are the most common outcomes of such a strategy. In fact, they are among the more common current organizational plays in sustainable practices.

Such strategies are commonly aligned to larger initiatives and challenges, such as the Millennium Development Goals. Traditional open-checkbook philanthropy, however, should increasingly be superseded by activities that are aligned with the core business or company values and wider community expectations.

Stage 2: Structural normalization

Embedding sustainability throughout an organization requires key structural adjustments at C-level, business-unit, and employee levels. Only then can a clearly articulated and actionable strategy be presented and implemented throughout an organization.
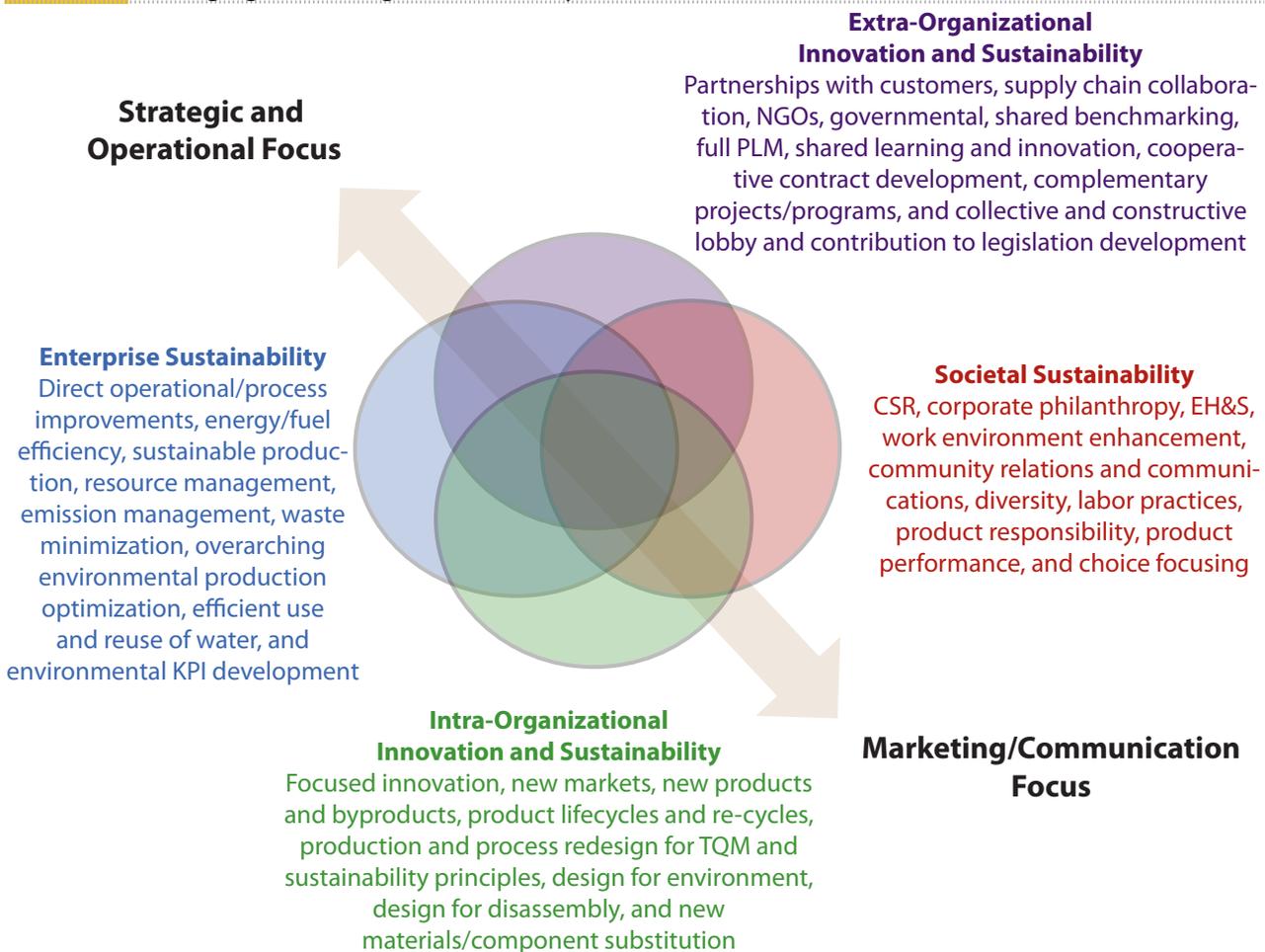
The normalization checklist includes 11 key steps:

- A common definition of sustainability is organizationally and functionally focused, contemplating value preservation and value creation. Such a definition should be used consistently throughout the organization.

- A common sustainability framework supported by appropriate standards is used throughout the organization.

- There is a commitment to the intelligent design of products and services for the sustainable marketplace. Innovation and creativity within an organization must be intentionally and structurally mindful of and engaged with sustainability-based outcomes in order to ensure full incorporation into product design, the overall product lifecycle, and all aspects of business and organizational processes. Retrofitting sustainability to products or services is rarely as effective or efficient as its incorporation from the outset.

- Key roles, responsibilities, and authority relating to sustainability management are clearly defined within the organization.

- Governing bodies have appropriate transparency and visibility into the organization's sustainability management practices.

- Executive management has the primary responsibility for designing, implementing, and maintaining appropriate sustainable management capabilities and monitoring sustainability-focused business improvement and innovation. Goal-setting and target-setting are crucial.

- A common sustainability management infrastructure is used to support business units.

- Internal audit provides objective assurance to executive management on the effectiveness of an organization's sustainability program.

- External audit (via CSR and other reporting) provides further assurance and communication.

- Business units own the day-to-day operations of their respective areas. The associated sustainability challenges and opportunities have responsibility for design, identification, measurement, monitoring, control, and reporting to management. The organization and individual business units should make resource provisions to develop organizational capacity that contemplates sustainability and its related effects from the low-carbon economy as a process of ongoing technological disruption.

- Sustainability-based alignment of financial systems to ensure ROI hurdle rates and other financial metrics and intangible elements are incorporated throughout sustainability-based initiatives.

Stage 3: Operational implementation

Success in sustainable transformation requires a clear linkage of sustainable outcomes, business processes and value, and information within and between organizations in the supply chain. Achieving this step requires rethinking just what sustainability actually means to an organization.

Definitions aside, the term sustainability has been used broadly and in an unencumbered fashion. To operationalize sustainability, we introduce four recognizably different types of sustainable actions that allow the coherent mapping of sustainable performance to strategy, operation, brand, and performance (see Figure 6).

Figure 6: Managing the strategic sustainability framework

Strategic and Operational Focus

Extra-Organizational Innovation and Sustainability
Partnerships with customers, supply chain collaboration, NGOs, governmental, shared benchmarking, full PLM, shared learning and innovation, cooperative contract development, complementary projects/programs, and collective and constructive lobby and contribution to legislation development

Enterprise Sustainability
Direct operational/process improvements, energy/fuel efficiency, sustainable production, resource management, emission management, waste minimization, overarching environmental production optimization, efficient use and reuse of water, and environmental KPI development

Societal Sustainability
CSR, corporate philanthropy, EH&S, work environment enhancement, community relations and communications, diversity, labor practices, product responsibility, product performance, and choice focusing

Intra-Organizational Innovation and Sustainability
Focused innovation, new markets, new products and byproducts, product lifecycles and re-cycles, production and process redesign for TQM and sustainability principles, design for environment, design for disassembly, and new materials/component substitution

Marketing/Communication Focus

Source: AMR Research, 2008

1. Societal sustainability

The societal aspect encompasses ways in which corporations interface with various communities. Actions include social responsibility reporting, corporate philanthropy, legal compliance and EH&S corporate performance, work environment enhancement, diversity, labor practices, product responsibility, product performance, and choice focusing.

This category is typically dominated by external focusing and messaging to stakeholders. While a potent PR and communication device, the common conquest of this category of sustainability has frequently limited the full integration of sustainability in actual business processes and supply chain interactions.

2. Enterprise sustainability

The enterprise lens covers the various strategies whereby sustainability-focused actions result in direct operational and process improvements within the organization. Examples of such actions include energy and resource procurement policies, energy and emissions minimization and management, co-generation, and water use and waste minimization.

Such actions result in direct savings and frequently reduce risk exposure to future, environment-based taxation, and direct fuel costs. Enterprise sustainability actions are readily converted to key performance indicators and can be readily linked to overall production performance.

3. Extra-organizational innovation and sustainability

This extends both societal and enterprise sustainability into the full supply chain. Indeed, the distinction of the category recognizes the significance of sustainable actions that scale the supply chain. The key theme in this category is partnership and interaction throughout the supply chain and the product lifecycle to deliver sustainable outcomes. Knowledge sharing and the development of sustainable procurement practices, logistics and production strategies with customers, supply chain collaboration, NGOs, and other external constituencies optimizes sustainable performance.

Innovation and interrogation of the full product lifecycle are key elements of extra-organizational innovation and sustainability. Collectively they can result in radical product redesign, waste, energy, and emission reduction throughout the supply chain. Sustainable leaders have an additional role in setting sustainable expectations of their suppliers and seeking out collaborative approaches to achieving them as well as encouraging open information flow.

4. Intra-organizational innovation and sustainability

This integrates intelligent sustainable design into the organization. It is about focusing innovation and creativity within corporations on product- and performance-based targets and the full integration of design for the environment throughout the product lifecycle. Unlike the business-as-usual model of enterprise sustainability, intra-organizational innovation and sustainability is about the creation of new markets, new products and byproducts, and rethinking product lifecycles and re-cycles. It is here where organizations can embrace sustainability as a driver of disruptive innovations that can result in entirely new directions and profit centers for forward-facing, agile organizations.

The authentic and strategic core

From the perspective of sustainability, the organizations that emerge as corporate leaders are those that incorporate a balance of all aspects of sustainability's multiple dimensions. The outcome is the population of activities and knowledge within the central overlapping space—and in doing so achieves both authentic and strategic sustainability (again see Figure 6).

This balancing act is the culmination of social responsibility, enterprise efficiency, environmental impact minimization, and creativity and innovation. Using sustainable lessons and discovery from these various dimensions lead to an outcome that is substantially greater than the individual parts and combines industry best practices and attributes unique to company-specific situations.

Measuring strategic sustainability and mainstreaming sustainability into business processes

The final act of operationalization is measurement. The development of comparable sustainability metrics and benchmarks are in their infancy. Most existing attempts at quantifying sustainability have placed disproportionate emphasis on societal sustainability via qualitative analysis of CSR reports. It is imperative to build on these early attempts at defining sustainable performance and convert them wherever possible into business-indexed, quantified key performance indicators that contemplate sustainable practices throughout both the supply chain and the organization. These are the topics of future research.

Sustainable futures (for the whole hearted, not the light hearted)

Our maturity model and framework for the development of authentic and strategic corporate sustainability places sustainability firmly across all functions of an organization, ranging from strategy and operations to marketing and communications. True value and tangible benefits will only be achieved when sustainability is embedded as a core element of company culture and strategy, with systemic links to innovation and creativity. Our model is additionally a basis for first-order dashboarding and tracking of sustainable performance, which we will develop more quantitatively in subsequent research.

Moving sustainability from the peripheral position of CSR reporting and societal sustainability to a more strategy-centric, organization- and supply-chain-wide position allows a company to use the attendant advantages of the sixth wave of innovation and ensure appropriate future-proofing and engagement with the vast potential that the emergent low-carbon economy offers.

How does this compare to your company's sustainability maturity model? Can you see areas of overlap? Would you like to hear more and discuss integrating our framework in your sustainability programs and strategy development? We welcome feedback as always.

AMR Research

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