HSS
Office of Health, Safety and Security

Office of Health, Safety and Security Visiting Speakers Program

SustainAbility

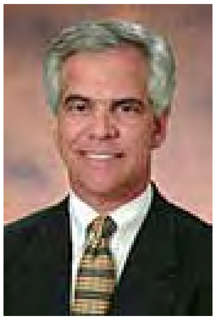
September 18, 2008
U.S. Department of Energy
Washington, DC

Office of Health, Safety and Security

The Office of Health, Safety and Security (HSS) is the Department of Energy's (DOE) corporate organization responsible for health, safety, environment, and security; providing corporate leadership and strategic vision to coordinate and integrate these vital programs. HSS is responsible for policy development and technical assistance; corporate analysis; corporate safety and security programs; education and training; complex-wide independent oversight; and enforcement. The Chief Health, Safety and Security Officer advises the Secretary and the Deputy Secretary on all matters related to health, safety and security across the complex.

Through its research on sustainability and industry's successful use of its concept, HSS has a clear idea of the types of organizations with which it would be beneficial to collaborate on sustainability. Such outreach efforts provide a cooperative advantage of sustaining an organization's efficiency and vitality by bringing together creative thought and diverse viewpoints toward common goals while demonstrating leadership's commitment to listening to and reflecting the concerns and issues of its shareholders and stakeholders.

As the first phase of its outreach efforts, HSS created a Focus Group forum. The HSS Focus Group forum integrates senior HSS managers from across the organization to discuss and address topics and issues of interest to DOE managers and stakeholders. The objective of the Focus Group is to establish a means for responding to questions and concerns regarding HSS initiatives and activities for improving, the health, safety, and environmental and security performance within the Department and to maintain an ongoing dialogue with involved parties supportive of these efforts. HSS believes an outcome of these continuing discussions and collaborations will be improved worker health and safety programs and the solidification of a safety culture at DOE sites.

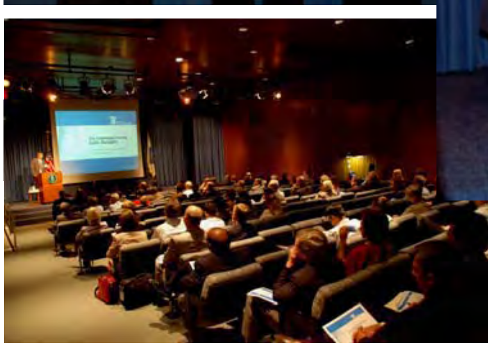


Glenn S. Podonsky
Chief Health, Safety and Security Officer

HSS Visiting Speaker Program

The next phase of HSS outreach activities is the creation of the Visiting Speaker Program. The Visiting Speaker Program consists of presentations by leaders drawn from a variety of disciplines to include business, organizational theory, performance management, sustainability, and organizational resilience, made to HSS management and selected attendees from other interested organizations (i.e., Office of Science, Office of Environmental Management, and the National Nuclear Security Administration).

The program is intended to focus agency attention at the management level to the emerging challenges and issues threatening the national security and economic prosperity of the United States. DOE's mission, supported by HSS and other agency organizations, requires the most efficient and resilient leadership and organizational structure for successful mission completion and the continued safety, security, and prosperity of the nation. By inviting and having presenters from the wide range of public and private sector organizations, HSS is encouraging the transformation of government and demonstrating the various stages for change. This includes understanding the depth of the global issues, need for change, tools and means for transformation, and knowing the appropriate performance measurements to determine success and implement evolving management initiatives.



Compete 2.0

Thrive.

Compete.

Council on Competitiveness

The Skills Imperative

COMPETE 2.0 TEAM

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Chad Evans, Vice President for Strategic Initiatives
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James Knuckles, Research Associate

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Letter from the President

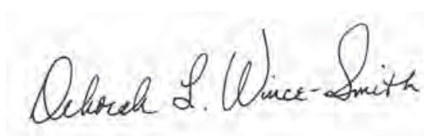
On behalf of the Council on Competitiveness, I am pleased to release the first report in our Compete 2.0 series, *Thrive: The Skills Imperative*. This report provides a compelling, short and easily accessible analysis of the key trends underpinning future skills challenges and opportunities in the United States. Drawing upon the Council's leadership in innovative capacity, *Thrive* is the first in a series of targeted benchmarking reports published by the Council's Compete 2.0 Initiative. These reports will illuminate key areas of competitive advantage for Americans to succeed in the 21st century and provide an important framework for charting a path to prosperity for American citizens.

Grounded in the Council's overall policy agenda, the Compete 2.0 Initiative was launched in January 2008 to dive deeper into some of the key issues at the cutting-edge of global competitiveness that the Council highlighted in its 2006 *Competitiveness Index: Where America Stands*: skills; manufacturing; financial markets; infrastructure; and healthcare. With the Compete 2.0 Initiative, the Council will set a concrete action agenda to ensure that the United States can compete in the 21st century. To achieve this, the Council will publish benchmarking reports for each of these areas over the next two years and convene a series of outreach events centered on each report, targeting a diverse audience. Compete 2.0 will culminate with the publication of the Council's 2009 *Competitiveness Index.*

For this initiative, the Council convened a diverse and distinguished group of thought leaders from industry, academia and labor. We are very grateful to these advisors for so generously giving us their time and wisdom, providing guidance and feedback on this report, and serving as spokespeople for the initiative's outreach efforts. I would also like to acknowledge the Council's Compete 2.0 team for their outstanding work: Debra van Opstal, senior vice president for programs and policy; Chad Evans, vice president for strategic initiatives; Bill Bates, vice president for government affairs; and James Knuckles, research associate.

The United States is approaching a tipping point as the competition becomes ever more innovative, and the Council's Compete 2.0 Initiative will address how the United States can harness its intellectual, financial, entrepreneurial and human capital to ensure prosperity for all Americans in the 21st century. As we move forward, we welcome your participation and support.

Sincerely,



Deborah L. Wince-Smith

President

Key Take-Aways

The United States Needs a National Skills Agenda

During a time of turbulence and transition—driven by globalization, accelerating technological change, and volatility in global energy, currency and financial markets—**America needs a national skills agenda to compete globally and to ensure a rising standard of living for its citizens.**

National and Global Demographic Trends Are Raising Red Flags
Slowing growth of the U.S. workforce has the potential to slow economic output if productivity does not increase. Lack of adequate reading and math skills among new U.S. workers compounds this challenge. At the same time, hundreds of millions of educated foreign workers are entering the global workforce and competing for jobs that are increasingly vulnerable to offshoring.

Four Critical Skills Strategies for the United States

Meet the Demand for Middle Skills
Middle-skilled jobs represent the largest number of total openings in the United States until 2016, and the United States is failing to adequately train Americans to take advantage of this opportunity. These jobs do not always require a college degree, but most require training, technical sophistication and initiative. They pay well and do not offshore easily.

Build Service Economy Skills
More than three-quarters of all jobs in the United States are in the service economy, yet many policymakers view them as low-skill, low-wage options. In fact, the service sector is driving demand for more complex and creative skill sets—including problem solving, communications, entrepreneurship, computational analysis, collaboration and teamwork.

Compete for Innovation Advantage

Simply saying America needs more scientists and engineers is no guarantee that the United States can compete successfully in a global economy in which many nations have copied our model. Policymakers must recognize that the margin of advantage will flow from the fusion of cutting-edge capabilities with entrepreneurial, creative and interdisciplinary talent. Four potential areas to start with to create competitive advantage:

- More integrative scientists and engineers
- More entrepreneurial scientists and engineers
- More business-savvy service scientists and engineers
- More computational scientists and engineers to leverage America's IT advantage

Create Skills for Sustainability

Sustainability will become a more important determinant of global hiring and investment patterns. Where new and growing companies locate and where jobs are created will depend in large measure on which countries successfully anticipate these opportunities and take steps to educate and train workers in these fields. America must get out front and move fast to develop the talent and skills workforce to capture these opportunities.

Competing in the Global Economy

Globalization is a game-changer. The competition has evolved and the playing field is more competitive. Global enterprises and networks that transcend national boundaries, hundreds of millions of middle-class consumers that reside outside the United States, and millions of new, sometimes highly credentialed workers whose average salaries are typically lower than the average American salary, all increasingly shape and mold the world's competitive landscape.

The United States' human capital, entrepreneurial culture and can-do spirit are some of the nation's strongest assets. But America will need new and proactive skills for success to ensure that we optimize those assets.

These Choices Are Ours to Make.

The Future Is Ours to Lose.

Creating the Context

As in the past, America today faces a period of economic transition and turbulence. Globalization and trade deficits, unprecedented competition in the world economy, an accelerating pace of technology change, and volatility in energy and financial markets pose great economic challenges as well as opportunities. There is no question that America needs to respond.

America's strength lies in a spirit that says: "The difficult we do immediately; the impossible might take a little longer."[1] America should concentrate its ingenuity, innovation and pragmatism on creating the strategies that will enable the country to compete successfully in the 21st century.

Some of the most critical strategies must focus around talent and skills—to ensure that America's workers have the tools to compete against anyone, anytime, anywhere in the world. In the emerging global economy of the 21st century, human capital is becoming the dominant competitive differentiator—for countries, companies and citizens.

Thrive: The Skills Imperative lays out a roadmap of the skills priorities for Americans to prosper in the jobs of the future.

Wanted: A National Skills Strategy

There are major demographic, educational and technological changes underway that could impede America's economic growth in the decades ahead: slowing growth in the U.S. workforce and flattening growth rates in educational attainment; growing competition from skilled workers around the world; and the ability to locate operations around the world wherever the right skills, infrastructure and incentives exist. A national skills strategy could mitigate many of these trends. Such a strategy has become an imperative to ensure that Americans have the skills to respond to current demands and to ensure that global companies invest in the United States. The trajectories and potential impact of each of these trends are briefly described in this report.

Economic Impact of a Slower Growth Workforce

For more than five decades, a growing labor force was one of the key drivers of the expanding U.S. economy. Driven by the baby boom generation and the entry of women into the workforce, the sheer growth of new entrants grew the economic pie by about 1.7 percent each year between 1948 and 2001.[2]

Falling Off the Flat Earth?

Norman R. Augustine
Retired Chairman & CEO
Lockheed Martin Corporation

Global leadership has come to be accepted by many Americans as our country's birthright. However, we would be wise to keep in mind that in the 16th century, it was Spain that was the dominant nation; in the 17th century, it was France; in the 19th century, it was England; and in the 20th century, it was America. The book hasn't been written on the 21st century yet, but it is clear that no nation has an entitlement to the future.

The United States is entering a global era in which Americans will have to compete for jobs in a global marketplace—not only with their neighbors down the street, but with highly motivated, highly capable, increasingly well-educated individuals from around the world. The change stems from what some have called "The Death of Distance." In the last century, breakthroughs in aviation created the opportunity to move people and goods rapidly and efficiently over very great distances. In the early part of the present century, we are approaching the point where the communication, storage and processing of information are nearly free. That is, we can now move not only physical items efficiently over great distances, we can also transport information in large volumes and at little cost.

In short, there is no longer a there, there—*there* is now *here*.

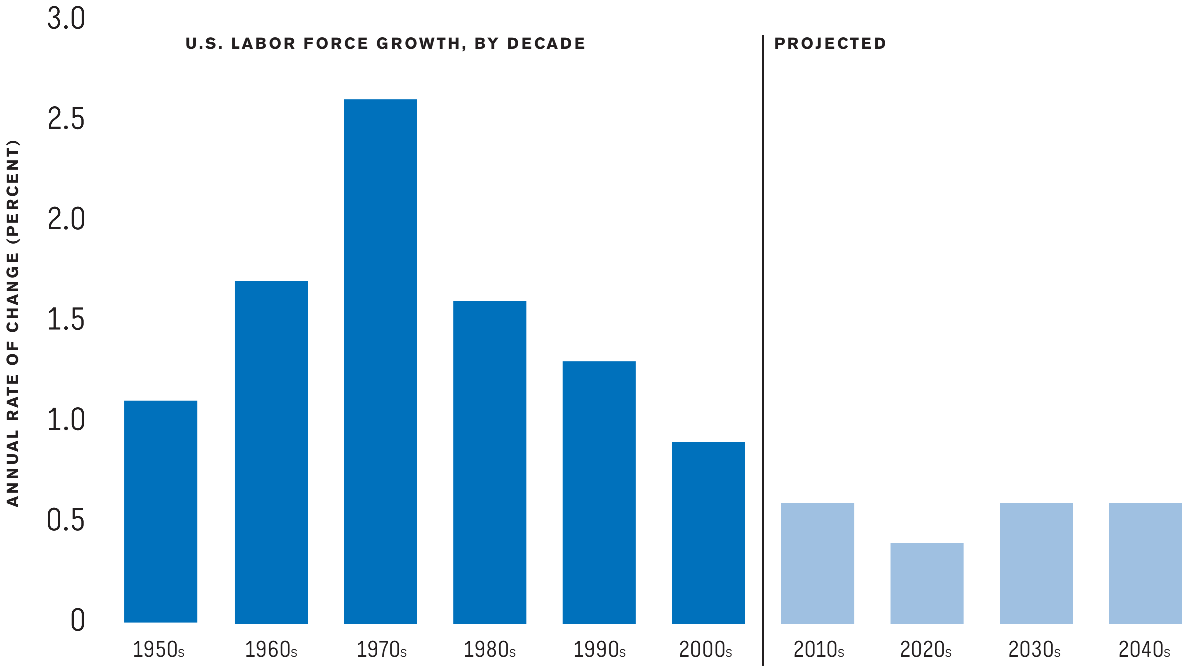
What does it mean for the average American that jobs throughout the food chain of employment will be just a mouse-click from candidates around the world? What does it mean—to cite one of many examples—that if you have a CT scan in a U.S. hospital it is likely to be read by a radiologist in either Bangalore or in Australia? As the Red Queen told Alice in *Through the Looking Glass*: "It takes all the running you can do to stay in the same place. If you want to go somewhere else, you must run twice as fast as that." And indeed that's where we find ourselves.

Today, it is possible that our nation's adult generation will, for the first time in history, leave their children and grandchildren a lower sustained standard of living than they themselves enjoyed. Should that occur, it will be the consequence of a collective failure to respond to the increasingly clear signals that are emerging and indicate that we have entered a new era, a global era, an era in which Americans must compete in the marketplace not merely with each other but with highly qualified people around the planet. It will represent a change of seismic proportions with commensurate implications for America's economic well-being, national and homeland security, health care and overall standard of living.

Is American Falling Off the Flat Earth? National Academy Press, 2007

1. Slowing Workforce Growth Could Impede Economic Growth

Source: United States Bureau of Labor Statistics, *Monthly Labor Review*, 2007



However, the contribution of a growing labor force to economic growth will fall during the next decade. Growth in the labor force is slowing down as baby boomers retire and participation rates (especially by women) level off. According to the U.S. Bureau of Labor Statistics, labor force growth will slow to below 0.5 percent by 2020 before increasing again to only around 0.5 percent by 2040.[3]

If the U.S. economy must rely on fewer workers to sustain growth and support baby boom retirees, then those workers must become more productive if they are to preserve their living standard and that of their fellow citizens. Absent accelerating improvements in productivity, a slower growing workforce could put a drag on future GDP growth.

Flattening Growth of Educated Workers

The economic impacts of slower growth in the labor pool can be offset by improvements in technology infrastructure that enhance productivity, by higher quality skills or skills better matched to demand, or by game-changing innovations that open up new high-value markets.[4] Higher education and skills tend to make workers more productive.[5]

For most of the 20th century, education drove steady increases in workforce quality; in every successive generation, the workers entering the labor force were more educated than those they replaced. That influx of better educated workers allowed employers to exploit new technologies and create flexible, adaptable workplaces that could respond better to a more dynamic business environment.[6]

But the growth rate in the number of educated workers entering the workforce is beginning to flatten. Between 1980 and 2000, the increase in the number of workers with more than a high school education was 19 percent. For the next 20 years, the growth in educated workers is expected to slow to just 4 percent. Indicators point to a mismatch between the demand for higher skills and the supply of skilled workers.[7]

The Global Skills Competition

Perhaps the most profound change is the growth in educated and skilled workforces around the globe. Today, American workers at every skill level—from low-wage, low-skilled to high-wage, high-skilled—face growing competition from workers around the world.

The global labor supply effectively quadrupled between 1980 and 2005. For example, China's labor force—those working or looking for work—reached nearly 800 million in 2005, more than five times the size of the U.S. labor force. China's manufacturing employment alone exceeds the manufacturing employment of the entire G7 by 30 million workers. The entry of lower-wage workers from Eastern Europe and the former Soviet republics is also changing the dynamics of the global labor pool.[8]

2. A Growing Global Talent Pool Competes for Jobs

Source: Council on Competitiveness, *Competitiveness Index: Where America Stands*

Large professional workforce in emerging markets

YOUNG PROFESSIONALS, 2003, THOUSANDS

	Engineers	Finance/ Accounting	Life Sciences Researchers	Analysts
China	1,589	945	543	202
United States	667	1615	852	175
India	528	2273	674	537
Russia	486	1082	108	107
Japan	317	702	180	55
Philippines	290	423	14	16
Brazil	158	355	75	16
U.K.	150	165	100	27
Germany	128	137	31	26
Mexico	115	319	23	8
Poland	82	231	25	22
Canada	81	150	89	18
Malaysia	49	83	19	11
Hungary	27	59	2	1
Ireland	22	32	4	3
Czech Republic	15	33	2	5

Emerging Markets

Developed Economies

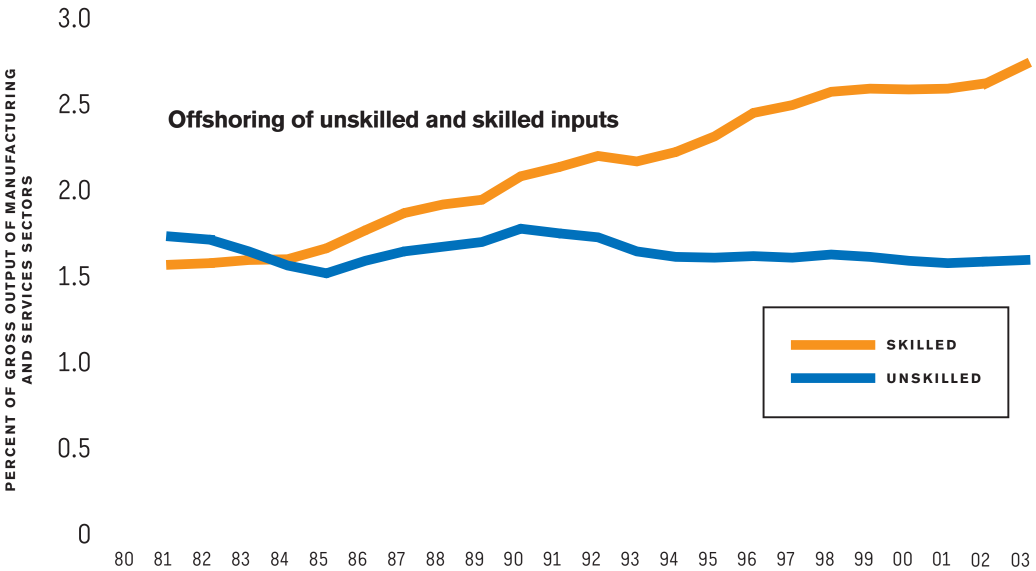
The Offshorability Factor

In lock step with the rise in global workforce skills are technological advances, particularly in telecommunications, software and information distribution, that make it easy to do business anywhere in the world. If a product, service or process is routine or can be broken down into a series of rules; if it can be digitized or reliably codified, it becomes a commodity. And its production is easier every day to ship digitally and rapidly to workers and consumers in other locations around the globe.

Princeton economist Alan Blinder notes that the offshorability factor should play a role in determining what kinds of skills to cultivate for national competitive advantage.

3. Jobs Requiring High Skills Are Becoming More Vulnerable to Offshoring

Source: IMF *World Economic Outlook*, April 2007



Note: Data are for the G7, the Netherlands and Australia

Although commodity production lines have been going to low-wage countries for decades, the ability to off-shore highly skilled jobs—radiology, engineering, accounting, computer programming—is a relatively newer trend. Increasingly, the critical distinction may no longer be between high-skilled and low-skilled jobs. Both are now offshorable.

Blinder postulates that, in the future, the dividing line might fall between occupations that can be performed at a distance with little or no diminution in quality and those that cannot. By that definition, as many as 30-40 million U.S.-based jobs might be vulnerable to offshoring.[9]

Bottom Line

As Compete 2.0 advisor Joseph Bordogna notes:

> Civilization is on the brink of a new economic world order. The big winners in this increasingly fierce global reach for leadership will not be those who simply make commodities faster or cheaper than the competition, ultimately leading to a downward spiraling competition for low wages and lower margins. Rather, the winners will be those who develop talent, techniques and tools so advanced, that reaching a dimension of innovation beyond competition is ensured.[10]

Increasingly, America needs to think in terms of fostering training, educational programs and man-agement systems that empower technology workers, build from its uniquely entrepreneurial culture, reinforce leadership in service industries with scientific discipline and data, and create unquestioned superiority in cutting-edge fields like nanotechnology, biotechnology, cognitive science, and information science and engineering. It means creating a workforce that is able and empowered to act on insight and experience, and an innovation system that is continually poised to deploy great ideas.

Skills Strategies for the Future

America must be more strategic about charting the path of future opportunities for workers, prioritizing around skills that do not offshore easily and are hard-to-replicate, that enable a faster pace of innovation, and that are emerging with new technologies and industries. Key areas of opportunity for the future prosperity of America's workers include:

- **Untapped Opportunities**
- **Service Economy Skills**
- **The Innovation Advantage**
- **Skills for Sustainability**

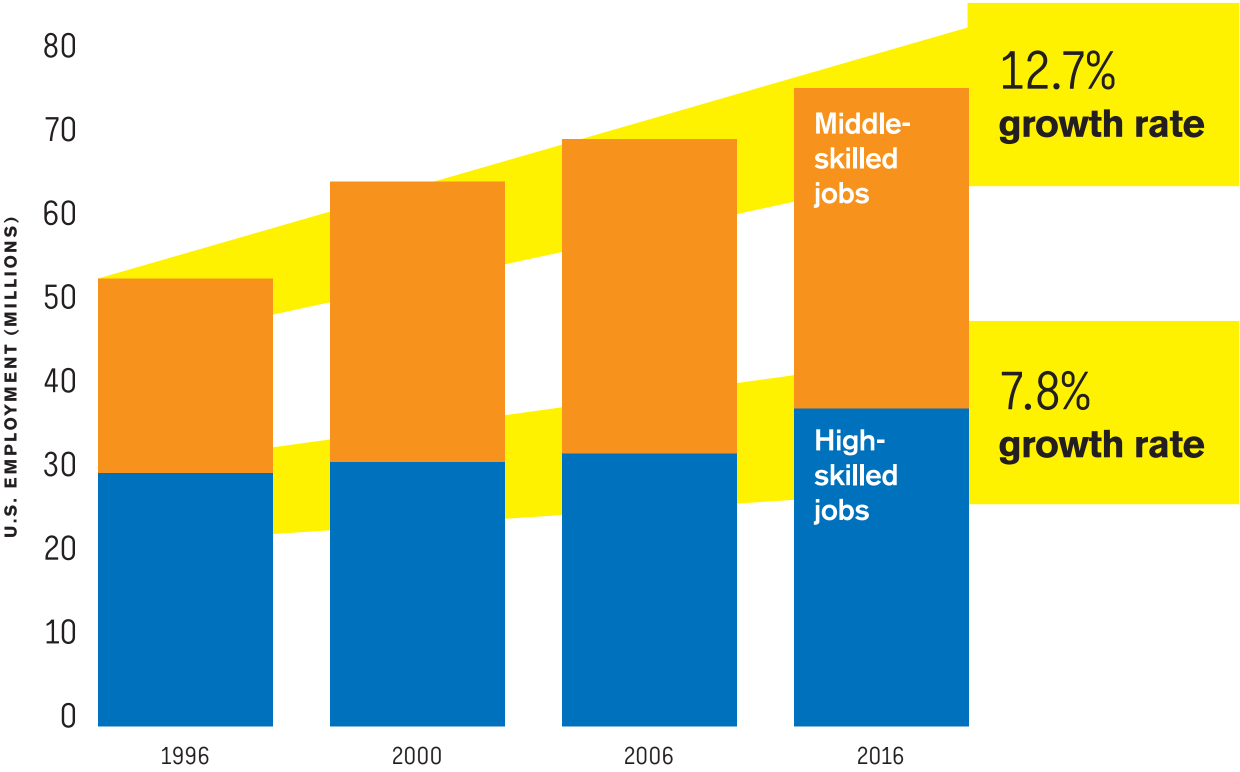
Untapped Opportunities

The U.S. Bureau of Labor Statistics estimates that between 40 percent and 45 percent of all job openings in the economy through 2014 will be in middle-skilled occupations, compared to one-third in high-skilled occupations and 22 percent in low-skilled service occupations.[11] As professor Harry Holzer of the Georgetown University Public Policy Institute observes, many of these jobs do not offshore easily and pay relatively well. And a number of these occupations face critical shortfalls in skilled workers.[12]

Two trends affect this job category significantly. Retiring baby boomers will create large vacancies in the low- to middle-skilled jobs. And immigrants are likely to fill the bottom- and top-skilled jobs more easily than those in the middle. Together, these trends will leave growing shortages of workers for middle-skilled jobs—those that require postsecondary education and training, but not necessarily a bachelor's degree.[13]

4. The Growth in Middle-Skilled Jobs Creates New Workforce Opportunities

Source: United States Bureau of Labor Statistics, Employment Projections



Short-term Shortages of Middle Skills

More than 80 percent of corporate respondents in the United States to a Deloitte survey commissioned by the National Association of Manufacturers indicate they are experiencing shortages of qualified workers overall—and more than 90 percent indicate moderate to severe shortages of skilled production employees, including machinists, craft workers and technicians.[14]

A 2007 survey of U.S. employers by Manpower Inc. indicates that technicians, mechanics and machine operators remain among the 10 top critical talent shortages.[15]

1. Sales Representatives
2. Teachers
3. Mechanics
4. Technicians
5. Management
6. Truck Drivers—Freight
7. Drivers—Delivery
8. Accountants
9. Laborers
10. Machine Operators

Musings of a Maintenance Evangelist

Joel Leonard
Founder
Skill TV

"No one wants to work in the boiler rooms,
No one wants to work with the tools.
The nation's youth are taking the easy way out,
There's no one left to fix our schools.
Maintenance technicians are `bout to retire,
Company executives got no one to hire,
How safe does it make you feel?
How safe does it make you feel?"
"The Maintenance Crisis Song" by Joel Leonard

Many experts, including myself, believe that America is in the midst of a major maintenance crisis caused by: 1) the millions of retiring skilled maintenance technicians and maintenance professionals; 2) lack of interest by future generations; 3) companies that are installing increasingly complex, new equipment with no or minimal budget allocated for additional training; and 4) old equipment that continues to age and requires more maintenance. A perfect maintenance storm is brewing—and is forming largely under the radar screen.

The basic question that every company should be asking is: "What is the product of the maintenance department?" The typical answer will be reactive—to repair broken equipment. But the real product of the maintenance department is not repair; it is capacity. Even as companies are substituting technology for labor in machine operations, they need more maintenance workers for the machines themselves. The highly sophisticated automated systems require even more care and attention to keep the plant running at optimal levels.

When people think of this field, they see Bubba and Skeeter. But the maintenance stereotype of grease monkeys is way off the mark. Companies now need technicians not just for mechanical systems, but also for electrical and electronic control systems as well as sophisticated predictive maintenance technologies like vibration analysis, ultrasonic leak detection and infrared thermography.

Business and government leaders need to remember that as they strive to fund bleeding-edge ideas to get cutting-edge results and competitive advantages in a global marketplace, they also must polish the rusty edge of business. We cannot neglect the proper maintenance of the hydraulic, electronic and electrical systems that sustain us today as we strive to develop biotech and nanotech solutions for tomorrow. If we can become the "Reliability Nation" by building a strong foundation of skilled technicians, uptime performance and rapid recovery strategies, our economy will grow and more high-paying jobs will be created and captured in the United States.

Looming Shortfalls

Demand for these types of skills will only grow during the next decade with the retirements of current workers. For example:

Maintenance Workers

For every 10 workers who retire, there are only three to seven to replace them, creating a shortage of skilled men and women who are trained to keep complex machines operating.[16]

Auto Mechanics

The Bureau of Labor Statistics forecasts that auto repair shops nationwide face an annual shortage of about 35,000 auto technicians through 2010.[17]

Welders

According to the American Welding Society and other industry research, average welders are in their mid-fifties, with many approaching 60 years old. Estimates suggest that more than half of the industry's highly trained workforce is nearing retirement, creating a potential shortage of more than 200,000 skilled welders by 2010.[18]

Electric Power Workforce

The average age of the power workforce is nearing 50—half of the country's 412,000 power workers are expected to retire in the next 10 years. A 2004 Edison Electric Institute survey shows that approximately 20 percent of the electric transmission workforce is expected to retire in the next five years.[19]

> The society that scorns excellence in plumbing because plumbing is a humble activity, and tolerates shoddiness in philosophy because philosophy is an exalted activity, will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water.
>
> John Gardner, former Health, Education and Welfare Secretary

The importance of these technology workers to the economy is growing in lock step with the sophistication—and fragility—of today's technology-based civilization. Increasingly, these jobs demand a capability to work with complex tools and systems. Technology workers need to be astute and anticipatory—able to spot problems and prevent potential failures. They need to be experienced and empowered, able to leverage their knowledge to propose improvements and even innovations. They keep the technical infrastructure of the nation humming.

Bottom Line

Many of these jobs pay well, often well above the national average.[20] The time has come to stop thinking of them as blue collar, and start thinking of the people as technology workers. These positions create solid career opportunities for millions of Americans. Community colleges must become an integral partner in expanding the technology workforce. And the nation must put a high priority on ensuring public-private partnerships to fund adequate training programs for what are likely to emerge as critical shortages.

5. Many Middle-Skilled Jobs Pay As Well As Jobs Requiring a Bachelor's Degree

Source: United States Bureau of Labor Statistics, Employment Projections, 2006-16

Jobs Requiring Training, a Vocational Award or an Associate Degree	Jobs Requiring a Bachelor's Degree	2006 Median Annual Wage
Air Traffic Controllers General Operations Managers	Airline Pilots & Copilots Nuclear & Chemical Engineers Computer Software Engineers	$70,000+
Nuclear Power Reactor Operators Police & Detectives Supervisors Radiation Therapists Nuclear Technicians Elevator Installers & Repairers Dental Hygienists	Environmental Engineers Civil Engineers Financial Analysts Personal Financial Advisors Architects (excl. landscape & naval) Logisticians	$60,000
Detectives & Criminal Investigators Registered Nurses Locomotive Engineers & Operators Flight Attendants Aerospace Technicians Telecom. Equipment Installers & Repairers	Orthotists & Prosthetists Landscape Architects Conservation Scientists Accountants & Auditors Food Scientists & Technologists Multi-media Artists & Animators	$50,000
Services Sales Representatives Fire Fighters, Inspectors & Investigators Police & Sheriff's Patrol Officers Aircraft Mechanics & Service Technicians Construction & Building Inspectors Electricians & Plumbers Industrial Machinery Mechanics	Surveyors Secondary School Teachers Editors Elementary & Middle School Teachers Forensic Science Technicians Kindergarten Teachers Probation Officers	$40,000

Note: 1) Not all occupations within a wage range are listed; 2) Only occupations projected to experience growth between 2006 and 2016 are shown; 3) "Jobs Requiring… or an Associate Degree" include only those whose most significant source of education and training comes from moderate or long-term on-the-job training, work experience in a related occupation, a postsecondary vocational award or an associate degree; and 4) Occupations listed under "Jobs Requiring a Bachelor's Degree" do not require education beyond a bachelor's degree.

The Changing Landscape of Education

Judith F. Cardenas
President
Lansing Community College

Workforce development, a key role of the comprehensive community college, is about more than just providing training for existing jobs. It is about building capacity for new jobs, about developing an educated and entrepreneurial population, and about creating ladders for learners to access learning throughout their entire lives. It is tied tightly to the community college/four-year transfer function, community responsiveness and developmental coursework roles of colleges. These functions bundled together create a strong response to community needs.

Workforce and economic development activities are fueled both by those who are creating work and by those who need work. This urgency reminds me of an African proverb from Thomas Friedman's book about the changing nature of work, found in an American auto parts company in China:

Every morning in Africa, a gazelle wakes up.
It knows it must run faster than the fastest lion or it will be killed.
Every morning a lion wakes up.
It knows it must outrun the slowest gazelle or it will starve to death.
It doesn't matter whether you are a lion or a gazelle.
When the sun comes up you better start running.

As leaders in today's higher education system, community colleges must be aware that the importance of working with their communities to prepare for the race is more critical than ever. However, our definition of community has drastically changed. We are no longer able to define community as merely our local and immediate community. Our global and competitive world has now become our new community.

Leaders throughout our nation are rethinking their position related to globalization within the construct of our academic systems. Creating programs which foster entrepreneurship, agility, cultural sensitivity and productivity will be required in order for the U.S. to stay competitive and ahead in our changing world.

Through the creation of strategic partnerships, private/public collaborations and integration of best practice models from corporate America, colleges can begin to transform themselves into highly credible, accountable and competitive centers of excellence. Colleges must look for new ways of forging partnerships and redefining their mission.

Our educational landscape is changing, and our world is changing. We must wake up every morning and run together as fast as we can.

Service Economy Skills

People sometimes have a misconception that most service jobs are low-skilled, low-wage, no-benefits jobs in fast food joints and beauty parlors.

But it is time for a reality check. During the period that America was making a transition to a service economy, the GDP more than doubled from $6 trillion in 1991 to nearly $14 trillion today, and the economy accommodated millions of new college graduates.[21]

Service Economy: Engine of Economic and Job Growth

The service economy is an engine of wealth creation. It now accounts for the lion's share of U.S. jobs and gross domestic product.[22]

The stereotype of low-skilled service jobs actually represents only a small percentage—just 22 percent—of the large and growing service employment in the United States. More than 30 percent of service jobs are in the highest skill category of professional, technical, managerial and administrative occupations which tend to be knowledge-intensive, using the latest collaboration and communications technologies.[23]

Services account for 75 percent of all jobs in the United States today. And virtually all of the projected employment growth in the U.S. economy until 2016, according to the Bureau of Labor Statistics, will occur in service-providing industries. Professional and business services, as well as health care services, are the areas of largest expected growth.

Who are these service workers? They are doctors and lawyers, architects and accountants, CEOs and scientists, branding and marketing specialists, software engineers and computer programmers, office workers and educators, transportation and logistics providers, health and human services workers, plumbers and electricians.

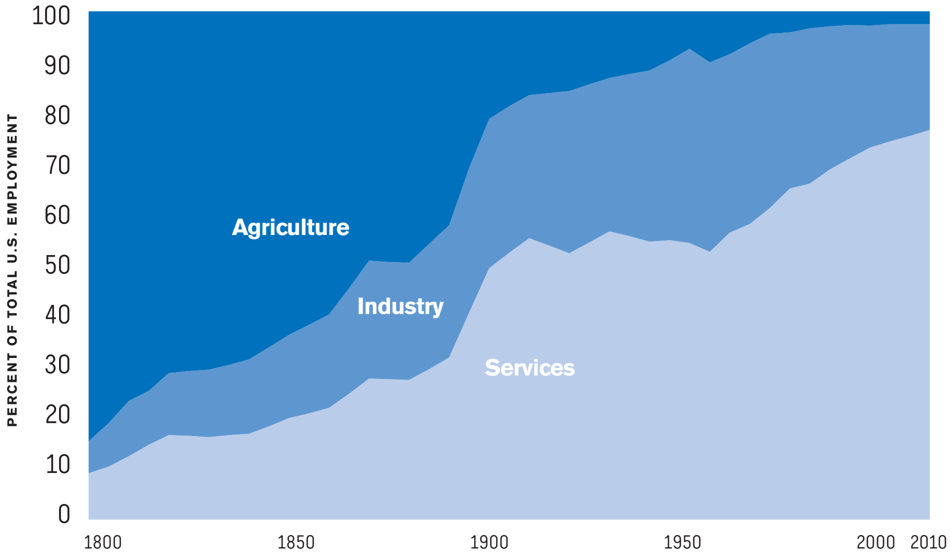
Hooked on (and into) Services

James C. Spohrer
Director of Service Research
IBM

We hear a lot about the service economy, but what is it really? To understand the nature of the service economy, get a piece of paper and start making a list of all the times you're in the role of a customer during the course of a day. Start from the moment you turn on the lights in the morning (electric utility services), commute to work (transportation services), boot up your computer (information services), grab a sandwich at your desk (retail food services), check your bank balance (financial services), or put your feet up and watch TV (entertainment services). We are all in the role of customers of service systems about 40 times a day. Maintaining the infrastructure and supply chains that deliver these and many new types of services creates local jobs near you. As customers' expectations of quality service rise, so do the number of knowledge-intensive service engineering and management jobs, as well as service sales and delivery jobs.

6. Services Power U.S. Job Growth

Source: IBM Study, 2004



These are the workers who will drive America's economic growth today and in the future.[24] The service economy accounts for a large and growing share of America's economic pie.

	Contribution to GDP	Share of GDP Growth
Private Services Producing Sectors [25]	83.3%	67.8%
Private Goods Producing Sectors	15.2%	19.8%

Services Drive Demand for Higher Skills

According to Professor Anthony Carnevale of Georgetown University, from the Civil War until the 1970s, the United States was the world's most successful mass-production economy; the very best at producing standardized goods and services at the least cost and selling them at the lowest price. These mass-production successes required rigorous discipline and narrow skill. As the world got richer, the competition shifted rapidly to new kinds of added value that required new kinds of skill. More of the value-added of manufacturing began to come from the services associated with production: marketing; financing; customer service and managing quality; variety; customization; innovation; convenience; novelty; and speeded operations.[26]

This approach to the service economy embraces, and does not exclude, manufacturing. To a large extent, the demarcation line between services and manufacturing is a relic of an outmoded data collection system. The most competitive companies today bundle products and services—and with good reason. With the rapid pace of technology diffusion, even advanced products can be commoditized. Integrating services into the mix changes the value hierarchy and transforms the revenue stream.

In the wireless industry, the profits come from voice and data services, and not from the sale of phones and devices. Jet engine manufacturers do not just sell engines and spare parts, but also propulsion services that continue to generate revenues through the product's lifespan—five times more revenues than the original sales price. Manufacturing companies are transforming themselves from product suppliers into solutions providers and competing on customer satisfaction and innovation. What they need are workers with the skills to meet these new demands.

That growth in value-added services is driving demand for higher-skilled and more educated workers. In 1973, only 28 percent of prime-age workers had any post-secondary education. Today, 59 percent attended some type of post-secondary institution.[27]

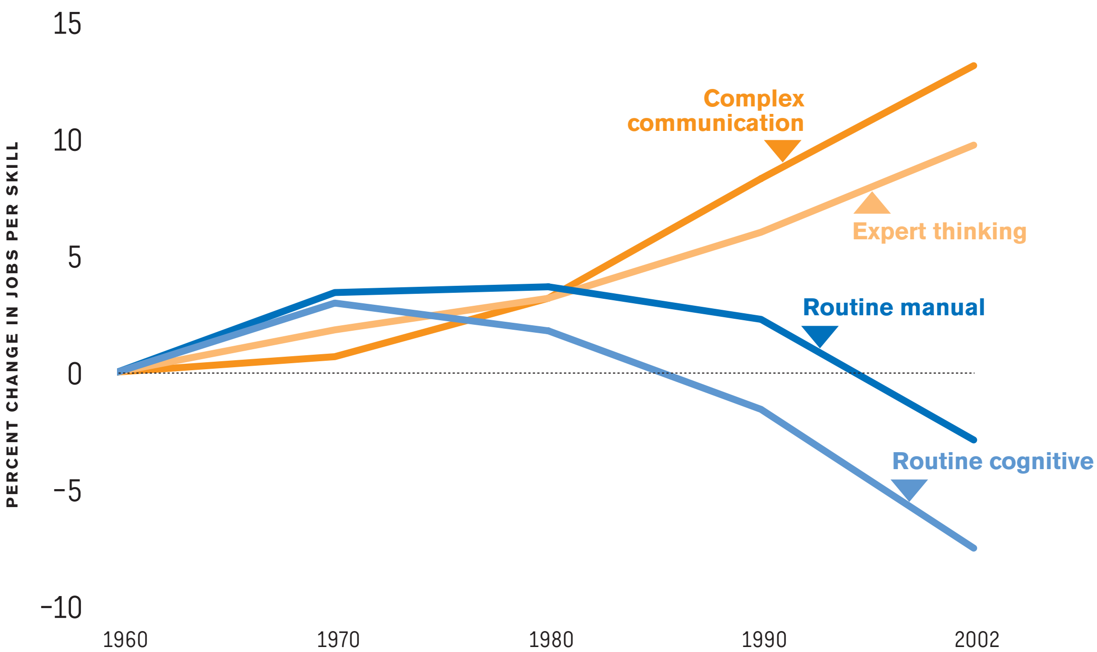
The service economy is creating a need for new and more complex skill sets—creativity, problem solving, communications, customer relations, computing, collaboration and teamwork. Increasingly, all workers have to be adaptive and flexible—able to respond rapidly and with independent initiative. These post-industrial jobs in legal, finance, business consulting, health care, education and other knowledge-intensive service industries require higher levels of communications and problem-solving skills because their work entails higher levels of human interaction and customized, often personalized, responses to challenges and opportunities.[28] Americans live and work in a service economy, yet are only just beginning to teach and train students and workers to improve service sector productivity and innovation.

Bottom Line

The time has passed to abandon the misguided stereotypes and focus on skills for the knowledge-intensive service economy. In virtually all advanced economies and successful emerging ones as well, new services are becoming the dominant driver of economic growth and are making it easier for entrepreneurs to innovate new business concepts. Competing for the future means it is time to get serious about figuring out how to create a skills advantage for American workers and companies. Understanding the best practices and skill sets in a more rigorous way is the key. Industry, academia and governments have begun to support multidisciplinary curricula, training programs and research agendas around service science—but much more needs to be done.

7. The Service Economy Generates High Demand for Higher Order Skills

Source: Council on Competitiveness, *Competitiveness Index*



Education and Market Advantage

James L. Oblinger
Chancellor
North Carolina State University

For many people, "globalization" conjures up images of worldwide competition for jobs, resources and markets. It holds out the promise of a more equitable, interconnected world and the challenge of preserving our position of economic, political and cultural leadership. It is only when we start to tease apart what globalization is that we start to get a better understanding of what it means for colleges and universities.

Former Secretary of Labor Robert Reich recently said: "Underlying all the debates over globalization, and all the debates over trade and direct investment is this most important singular fact…if you are well educated…if you are well able to innovate, you are advantaged in the global economy. You have a larger and larger market for your intellectual capital."

Simply put, education and innovation are intrinsically linked. In a world connected primarily and increasingly by its problems, the successful global workforce is one that excels at problem solving—and solving today's complex, global problems requires innovation.

Developing a globally attuned, innovative workforce involves widening the scope of educational experiences for our students beyond our borders, giving them opportunities to confront and solve real-world problems and bring together other disciplines, insights and approaches in novel ways. Such opportunities are not limited to study abroad programs. Corporate, government and university partnerships can catalyze innovation and provide students with a unique perspective.

Interdisciplinary education, research and collaboration help students expand their world view, as does creating opportunities for students to be entrepreneurial and work with practicing professionals. Corporate and government partners can model problem solving, mentor aspiring students, and challenge them with real-world, complex problems. But those same corporate partners benefit from the energy, enthusiasm and innovation our students bring.

On Centennial Campus at North Carolina State University, we have evolved the corporate partnership concept, literally moving corporate and government partners closer to students and faculty. Global organizations physically become part of campus, providing an opportunity for students to see and understand not just the problem or the solution, but the process of innovation and problem solving. Having this unique, tangible connection provides additional relevance to students' education. And corporations come to campus not just looking for a place to locate but with a mindset that includes student engagement, workforce development and innovation.

MeadWestvaco, a global packaging firm, recently engaged students to help the company improve "at the front-end of innovation." GlaxoSmithKline wanted interns with a background in computer programming, mathematics and facility with logic and cognitive science—students they found in the philosophy department—to help them turn ideas into action. Not only did the students gain valuable experience, the corporations gained as well. Innovation is not limited by age or position—it is catalyzed by diversity of perspective, a willingness to collaborate and a problem to be solved.

A critical part of education is helping students understand and experience problem solving and innovation. Those who learn to innovate will prosper in a global economy. As we think about the education our universities provide, we should not forget the education our corporate and government partners can share.

The Innovation Advantage

In this new global economy, America faces highly effective competition not just for low-skilled, low-wage jobs, but also for lower-wage, highly-skilled ones as well. Other countries are building innovation ecosystems that have been successful in generating new knowledge and patents, producing technical talent in large quantities, attracting higher-value investment, and building local industrial capacity in cutting-edge technologies and services. There is no question that the capabilities of innovator nations are getting better—in some cases, much better.

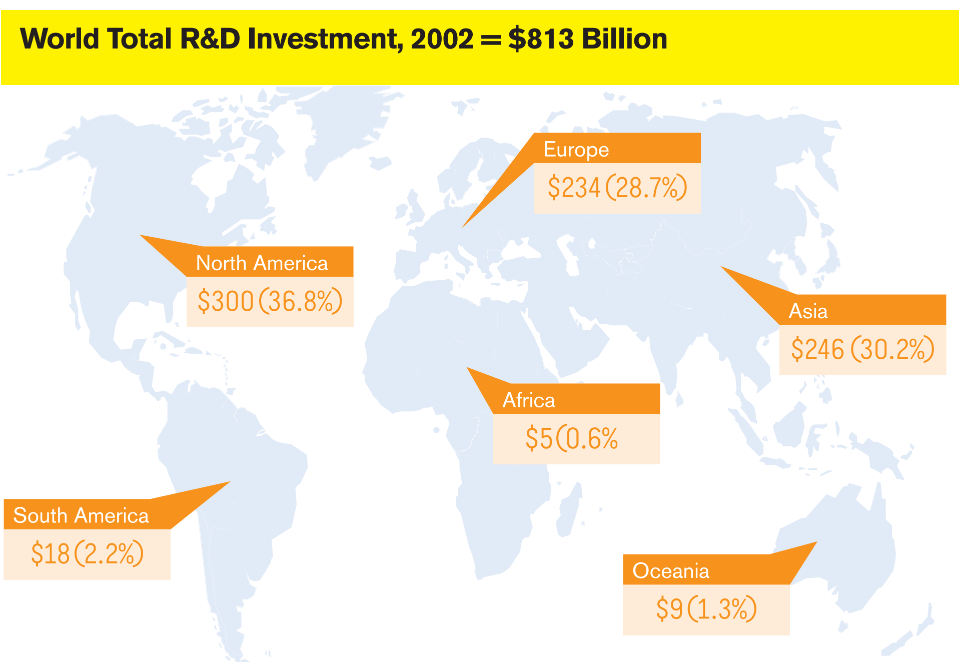
Consider that:

- R&D employment by American multinationals overseas is growing—about 76 percent during the last 10 years—while the growth in R&D employment by foreign multinationals in the United States peaked in 1999 and has been declining.
- The U.S. share of the world's scientists and engineers is projected to fall from 40 percent in 1975 to 15 percent in 2010.[29]
- America's share of global foreign direct investment (FDI) inflows has declined from its peak of 21 percent in 2000 to 11 percent in 2005, although FDI inflows to the United States have recently been on the rise.
- In 2000, the United States accounted for 20 percent of the world's high technology exports while China accounted for only 4 percent. As recent as 2005, however, the U.S. share of global high-tech exports dropped to 15 percent while China's share increased to more than 14 percent.[30]

In recognition of this changing competitive landscape, Congress passed the America COMPETES Act in 2007, which sought to restore technological leadership with significantly increased funding for frontier research, math and science education, and incentives to graduate more scientists and engineers. The critical issue going forward is to ensure adequate funding for these programs. Sustaining America's competitive edge requires both committment and action.

8. The United States Faces Competition in Research and Development Investment

Source: National Science Foundation, *Science and Engineering Indicators 2008*, p. 4-36, Figure 4-14.



But America needs to ask: *Is just doing more of the same going to be enough in the 21st century?* The U.S. margin of leadership may depend not just on doing more, but on a strategy for doing things differently. If the competition has successfully imitated the American innovation model, then we should be thinking about the new model that will differentiate U.S. capabilities from the rest of the world.

America must be as innovative in talent as it is in technology. Certainly, it will be critical to lead in the fields that are reshaping the global competitiveness landscape—for example, nanotechnology, biotechnology and information technologies. But America must also build on core talents and combinations of skills that differentiate and create a margin of advantage at the innovation frontier, including:

- Educating Renaissance Scientists and Engineers
- Creating a Cadre of Service Scientists
- Leveraging Leadership in Computational Technologies

Educating Renaissance Scientists and Engineers

Science and engineering have become part of global enterprise, and for the first time, American scientists and engineers are competing head-to-head with their counterparts in other countries.

9. Roadmap To 21st Century Engineering

Source: James J. Duderstadt, *Engineering for a Changing World*, Millennium Project, University of Michigan.

The Flaws of Engineering Today	The Needs of Engineering Tomorrow	The Destination
Profession Narrow skills Employed as a commodity Globalization Risk of obsolescence & offshoring Low prestige	**Profession** High value added Global Diverse Innovative Integrator Communicator Leader	**A New Profession** A learned profession Practitioner-trained Worldclass value added Guildbased rather than employed High prestige
Knowledge Base Exponential growth of knowledge Disruptive technologies Obsolescence of disciplines Analysis to innovation Reductionist to information rich Outsourcing / off-shoring of R&D	**Knowledge Base** Multi-disciplinary Use-driven Emergent Recursive Exponential	**New R&D Paradigms** Integrated Sci-Tech Cyberinfrastructure enabled Stress on creativity/innovation Discovery / innovation institutes
Education 20th century undergraduate curriculum High attrition rate Limited exposure to practice Unattractive to students	**Education** Liberally educated Intellectual breadth Professionally trained Value-driven Lifelong learner	**A New Approach To Education** Postgraduate professional school Practitioner-trained/intern experience Liberal education pre-engineering Structured lifelong learning Engineering as liberal art discipline Renewed commitment to diversity

In *Engineering for a Changing World,* Compete 2.0 advisor James J. Duderstadt notes that:

America does not need just more engineers, it needs a new kind of engineer. To compete with talented engineers in other nations, in far greater numbers and with far lower wage structures, American engineers must be able to add significantly more value than their counterparts abroad through their greater intellectual span, their capacity to innovate, their entrepreneurial zeal and their ability to address the grand challenges facing our world.[31]

When faced with robust competition from scientists and engineers from around the world, American scientists and engineers must augment their credentials with other capabilities to sustain a leadership position. Today's science and engineering students need to have a robust knowledge not only of disciplines, but of other combinations of skills as well—effective communications, entrepreneurial initiative, creativity and inventiveness.

To sustain America's margin of leadership, 21st century scientists and engineers need to be innovators with an understanding of business value and an ability to work in multi-cultural environments. They need leadership skills with a flexibility to adapt to changing conditions and a willingness to engage in lifelong learning. This requires a commitment by America's leading educational institutions to a different curriculum in both the sciences and engineering than we have today.

Creating a Cadre of Service Scientists

Although the knowledge-intensive service economy is a principle driver of economic growth, there is a dearth of research, funding, and educational curriculum to accelerate America's capacity for service innovation and productivity.

A recent essay, "The Service Imperative," notes that:

> Even today relatively few firms have formalized services R&D practices. When *Business Week* annually reports the list of the World's Most Innovative Companies, few service companies appear on that list. A major academic review article on product innovation reveals little explicit attention to service innovation in the academic literature. According to a 2005 report by the Organisation for Economic Co-operation and Development: "The sector has traditionally been seen as less innovative than manufacturing and as playing only a supportive role in the innovation system."[32]

Yet, the ability to drive innovation in services is going to be increasingly important to economic competitiveness.

Services are in the early stages of "industrialization." The industrial age was enabled by three factors: cheap energy; transportation networks; and standardized parts that enabled mass production. The infrastructure for services is evolving along roughly comparable paths. Computing is the analogue for cheap energy that powers the service industry. The Internet and worldwide communications networks provide a global infrastructure backbone. And standardization is already becoming available in some sectors. In the travel sector, for example, Web sites such as Travelocity or Expedia.com customize travel packages assembled from discrete providers.[33]

The challenge is that the assembly of complex service systems still remains a trial and error process rather than a predictable discipline. Proponents of a new discipline of service science seek to create a more systematic understanding of how to drive

Choose to Compete

Charles M. Vest
President
National Academy of Engineering

Look back about 25 years and think about what was not going on. There was no World Wide Web. Cell phones and wireless communication were in the embryonic stage. The big challenge was the inability of the American manufacturing sector to compete in world markets; Japan was about to bury us economically. The human genome had not been sequenced. There were no carbon nanotubes. Buckminster Fullerines had been around for about five years. We hadn't even begun to inflate the dot-com bubble, let alone watch it burst. And terrorism was something that happened in other parts of the world.

Some of the grandest accomplishments in human history were engineered in the century just passed. The widespread development and distribution of electricity and clean water, automobiles and airplanes, radio and television, spacecraft and lasers, antibiotics and medical imaging, and computers and the Internet are just some of the changes that transformed virtually every aspect of human life.

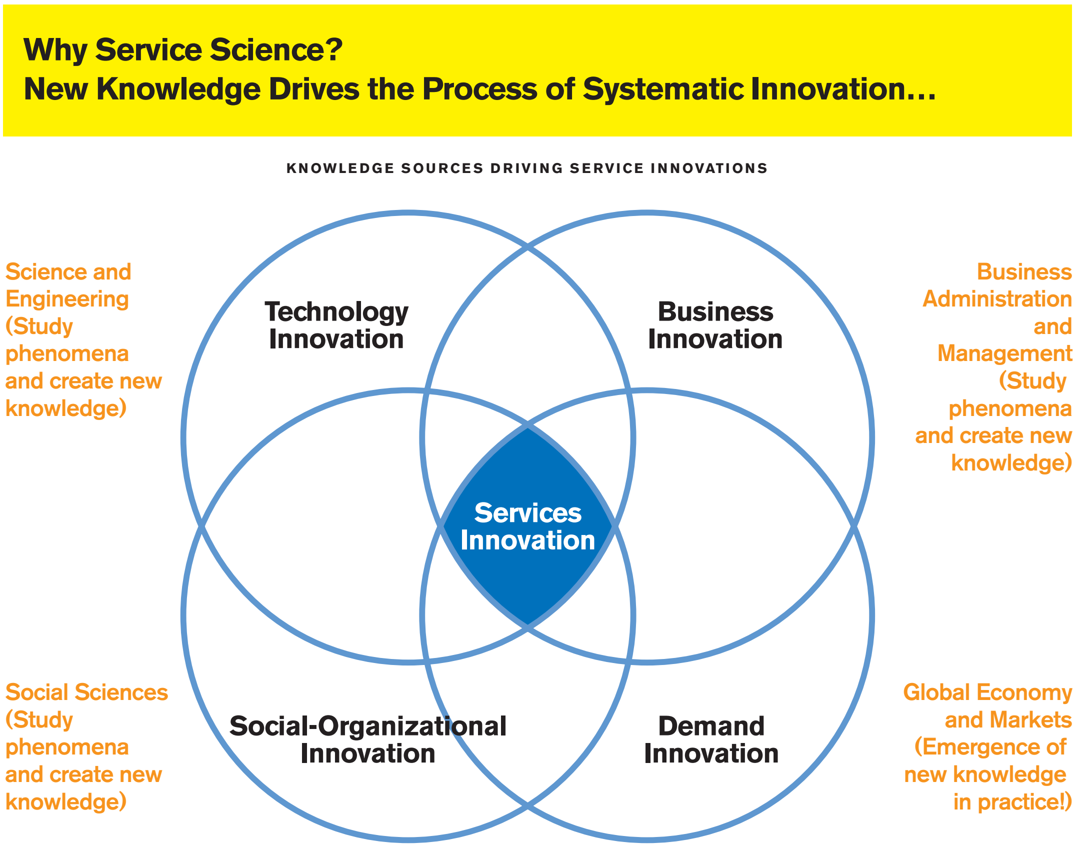
The century ahead poses even more formidable challenges. As the population grows and its needs and desires expand, the problem of sustaining civilization's continuing advancement, while still improving the quality of life, looms more immediate. Old and new threats to personal and public health demand more effective and more readily available treatments. Vulnerabilities to pandemic diseases, terrorist violence and natural disasters require serious searches for new methods of protection and prevention. Breakthroughs in energy security and sustainability—whether a revolution in solar cells or sequestering carbon generated by burning fossil fuels or nuclear fusion—would be game-changing in important ways.

The world is changing remarkably fast, and leadership in science and engineering will drive it. Where will this leadership come from? China? India? The United States? That choice is ours to make. Choosing to compete means that United States must lead in brainpower, organization and innovation.

improvements in productivity, quality, compliance, sustainability and innovation in the service economy and to create a cadre of workers to implement that knowledge. Many of today's science and engineering graduates will work in the service economy. They need the knowledge and tools to compete successfully.[34]

10. The Growing Service Sector Requires a New Combination of Capabilities

Source: IBM Research, 2005



Some of the questions this new discipline would address:

- How to accelerate the rate of innovation in services, business processes and business models by understanding and filling the existing knowledge and tool gaps?
- How to make innovation and creativity inside the company—intrapreneurship—as relevant to national competitiveness and growth as entrepreneurship?[35]
- How to anticipate customers' demands and understand their real needs? Henry Ford once said: "If I had asked my customers what they wanted, they'd have said a faster horse."[36]
- How to create an organization in which collective learning becomes a practice, not just a process?[37]
- How to design metrics for effectiveness, not just efficiency?[38]
- How to understand the fundamentals of service sector productivity and develop models to accelerate productivity growth?

The principles of service science remain nascent. But the country that masters this discipline—and produces a cadre of service scientists and engineers who are able to accelerate innovation and productivity in service industries—has a clear advantage in attracting high-value service investments and creating high-value service jobs. The Japanese were the first to master product quality, but so far, no nation has mastered service science, management and engineering.

Leverage Leadership in Computational Technologies

Ongoing research at the Council on Competitiveness is demonstrating that, in the 21st century, "to outcompute is to outcompete." America clearly has the technological edge. The most powerful computing systems in the world are in the United States, but America lacks sufficient numbers of computational scientists to exploit its leadership position. According to Council surveys, the biggest single constraint on the deployment of advanced computation tools is the lack of computational scientists.

At the frontiers of science and engineering, advanced computation has become a major element of the third leg of discovery tools—the other two legs being theory and experimentation. Computer modeling and simulation dramatically accelerate the pace of innovation—and enable new-to-the-world knowledge and insights.

But the business benefits of advanced computing are also becoming clear to the minority of companies that are able to use it. Leading companies are proving out the advantages of leveraging computational capabilities: accelerating design and engineering of new products; reducing time to market through virtual prototyping; and increasing supply chain efficiency and flexibility.

Consider that:

- In 1980, Boeing tested 77 wings in wind tunnels for the 767. Thanks primarily to high performance computing (HPC) simulation, Boeing needed to physically test only 11 wings for the 787 Dreamliner series, dramatically cutting costs and design time.
- Entertainment leader DreamWorks Animation SKG would not even exist without powerful computer graphics technology. Every movie is generated on a HPC system.
- At The Proctor & Gamble Company, computational analysis is used for everything from increasing absorbency in Pampers® diapers to designing the right geometric shape for Pringles® potato chips—one that allows the chip to drop gently into a container rather than flying off the conveyor belt.[39]
- Wal-Mart optimizes its entire supply chain on computer models, including daily data analysis to determine what to stock in every store worldwide.[40]
- On any given day at the NASDAQ Exchange, more than two billion transactions are processed at rates of more than 200,000 transactions per second. The secret sauce is the ability to use computer modeling to increase volume and transaction speed reliably.[41]

America's innovation advantage rests not just on having the most advanced tools and technologies in the world, but the people to use them.

Bottom Line

The world is being rewritten in digital, atomic and genetic codes. Information technologies, nanotechnologies and biotechnologies all hold out the promise that new ideas, inventions and innovations will ultimately create whole new industries, not yet conceived. America's innovation advantage means continuous innovation in scientific talent as well as technology and creating the competitive difference that will concentrate cutting-edge investments in this country.

Skills For Sustainability

Looking ahead, skills for sustainability could become a key competitive differentiator. As Joseph Stanislaw has noted: “We are at the very beginning of a global race to create dominant green economies.”[42]

Global warming and competition for resources could very well change the ground rules of globalization—at the very least, the need to reduce carbon footprints and achieve higher resource productivity could alter corporate calculations about where and how to distribute operations and assets globally. This trend may have already begun among the leading companies. Consider that The Proctor & Gamble Company is putting its first domestic green field manufacturing plant in the United States in more than three decades to be proximate to West Coast consumers.

America could get out in front of this paradigm shift. But it is not clear that the United States will have enough talent with the right set of skills, or has even defined the path forward on skills for sustainability.

America’s Scarcest Sustainable Resource? An Energy Workforce

Ironically, many of the “green skills” that have received the most attention are not actually new skills, but relabeled ones. Nowhere is this more evident than in the energy industries. The lack of energy workers actually constitutes one of the greatest barriers to more sustainable energy, according to a recent Council report, *Define: The Energy-Competitiveness Relationship.*

Consider that:

- The average age for energy workers is 50, nearly a full decade older than the average age of all U.S. workers.
- At least half of the country’s utility workers are expected to retire in the next 10 years.[43]
- More than half the oil and gas workforce is expected to retire in the next 10 years at all skill levels, from equipment operators and truck drivers, to scientists and engineers. Enrollment in undergraduate engineering programs fell by 79 percent between 1982 and 2004.[44]
- A 2005 study by the Nuclear Energy Institute found that half of the industry’s employees were more than 47 years old, while less than 8 percent of employees were younger than 32. The survey found that more than a quarter of nuclear workers were already eligible to stop working. The number of nuclear engineering majors at colleges around the country has risen to 1,800 last year from just 500 in 1998, according to the Energy Department, but that is still not enough to feed current needs.[45]

In many of these areas, new skills are not required, just adequate numbers of workers who have them. For example, the skills needed to operate a turbine do not depend on whether wind or petroleum turns the blade. Boiler maintenance does not change because solar power heats the water. And the need to have an efficient and effective electric power grid does not change by what generates the electrons. Sustainable energy requires, first and foremost, a workforce capable of supplying America’s basic energy needs.

Skills for Sustainability: Training for the U.S.'s Workforce

David F. Carney
Chairman and CEO
Lincoln Educational Services Corporation

The common perception in America today is that you need a college education to obtain a rewarding career. Consequently, parents and high school counselors are increasingly pushing students to attend college even when they know that college is not the right choice for many young people. As a result, tens of thousands of students every year drop out or graduate without skills to obtain a job.

This focus on college has created a shortage of skilled workers across the United States in many careers from nurses to automotive technicians and welders. For example the American Welding Society predicts that by 2010 the demand for welders will exceed supply by approximately 200,000 workers. Entry level welders with some skills can earn up to $30,000 while more advanced welders with experience can earn $60,000 to $100,000. Here is a job that is in demand and pays well. However, if current trends continue, the U.S. will be importing welders in order to meet demand.

For Lincoln Educational Services, the key to sustainability and competitiveness is a skilled workforce. Since our founding in 1946, Lincoln has been committed to providing students with quality, hands-on skills training needed to succeed in an ever-changing employment landscape. We are proud to be providing enterprising men and women the ability to become mechanics, electricians, HVAC repair technicians, welders, and practical nurses amongst other professions. We understand that many people prefer to work with their hands and to learn in an environment that incorporates industry experience with hands-on training.

Additionally we understand that workers need to upgrade their skills without leaving their jobs, and that is why we have developed online degree programs. Specifically we see a need for online management programs that will enable workers who have started at the bottom of the company ladder to acquire skills that will enable them to move into management positions. These online degree programs enable working adults to better manage the pressures of job, family and education.

Today we need to ensure that America has enough people with the skills to create, build and maintain a sustainable and growing economy. We need to educate parents, students and society as to the many job opportunities that continue to be available and to support training in these fields.

Educating for Sustainability

In fact, sustainability may demand more profound changes in higher education than it does in skills training. Virtually every profession needs to embed principles of sustainability into its core curriculum. Although some leading institutions are experimenting with new programs, these have yet to become widely available or accepted practice.

MBAs for Sustainability

With new C-suite positions in sustainability, energy and environmental impact springing up across the country—as well as demand for carbon analysts and carbon traders in the financial sectors—business schools will play a key role in educating a new generation of business leaders in sustainability. (At present, there is evidence that the principles are not always integrated across the enterprise. See Note 48.) Yet, the Aspen Institute survey, *Beyond Grey Pinstripes*, demonstrates that although business schools have begun to adopt course modules on the environment, much more needs to be done.

The percentage of schools surveyed that now require a course dedicated to business and society issues has increased dramatically from 34 percent in 2001 (when the survey began) to 63 percent in 2007. And the proportion of schools offering environmental content in one required course has increased in most disciplines—accounting, economics, management, marketing and strategy.[46]

But sustainability practices have been slow to find their way into the mainstream curriculum. Only 35 of the 112 business schools surveyed offer a concentration or major in these areas. According to Rich Leimsider, director of the Aspen Institute Center for Business Education:[47]

> What we are not seeing in most schools is an examination of these issues through the lens of risk management and strategy and the realization that mainstream, for-profit business can be a force for positive social and environmental change.[48]

Sustainable Design and Architecture

William McDonough, Founding Partner of William McDonough + Partners, challenged the current college curriculum in design and architecture, writing in the *Chronicle of Higher Education* in 2004:

> Each year American colleges and universities hand out design degrees by the thousands… Have their college educations prepared them to be the designers of the 21st century world?… At a moment in our history when the scientific community has warned of some technologies' negative consequences—global warming, water pollution, the loss of biodiversity and natural resources—designers have a crucial role to play in the creation of a more just, healthful and sustainable world.
>
> Our colleges, by and large, are not preparing design students for that challenge. While design for sustainability is increasingly seen as an important element of both basic and specialized courses, we still have a long way to go. Consider, for example, the 2003 *Metropolis* magazine survey of more than 350 deans, department chairs and professors on the relevance of sustainability to design education. Although 67 percent of the respondents strongly agreed that sustainability is relevant to their design curricula, only 14 percent

said their institutions were developing programs to educate their instructors about sustainable design. When asked how many graduate courses their department offered that included considerations of sustainability, 28 percent said none and 45 percent said they did not know.[49]

McDonough envisions a world in which sustainable design is not limited to simply trying to become more efficient. Rather than teaching architecture students and designers how to reduce the impact of their work to meet environmental standards, colleges and universities, he argues, should create industrial and architectural systems for the 21st century that set wholly new standards that would:[50]

- introduce no hazardous materials into the air, water or soil
- measure prosperity by how much the positive effects of the human footprint are enhanced
- measure progress by how many buildings have no smokestacks or dangerous effluents
- generate more energy than they consume

These principles could be embedded across all disciplines. Green chemistry could encourage the design of products and processes that reduce and even eliminate hazardous substances. Green engineers could apply sustainability principles to industrial processes and products that diminish environmental and human hazards and reduce waste and cost. The accounting profession could play a central role both in providing the needed information for social and environmental reporting and helping to verify its accuracy. Public policy analysts can begin to connect ecological variables to economic ones. For example, the Brookings Institute recently completed a study that shows that an increase of a few percentage points in the water quality in the Great Lakes could drive billions of dollars in regional economic value.[51] Higher education institutes will play a pivotal role in assuring that Americans can understand and apply innovative new concepts for sustainability in every discipline and profession.

Bottom Line

Sustainability is likely to become a game-changer for citizens, communities, companies and countries in the decades ahead. Costs could dramatically change consumer behavior. Regions may eventually compete for global investments based on their carbon footprint and resource productivity; the more resource efficient regions attracting investment through their ability to manage supply and price volatility. Companies could increasingly factor sustainability concerns into their site and investment decisions, with proximity to customers and shorter supply chains receiving greater weight.

Leadership in global markets may depend on getting out in front of the sustainability shift with a sprint toward creating the right combination of talent, technology and infrastructure to support the green economy.

Last Thoughts

Most Americans understand that globalization is a game-changer. But many are not sure that they are going to like the new game. For better or worse, the modern economy is a global economy, which the United States can influence given the sheer size of its market. But America is no longer the sole economic superpower.

The new global landscape is increasingly shaped by global enterprises and networks that transcend national boundaries, by hundreds of millions of new middle-class consumers that reside outside the United States, and by millions of new, sometimes highly credentialed workers whose average salaries are typically lower than the average American salary. What this enables is a redistribution of assets and operations on a global scale.

The old rules no longer dictate who wins or loses. What is clear is that new strategies for success are needed to create the kind of platform that will ensure that America's next generations enjoy a rising standard of living—in short, to ensure that Americans can compete successfully. That requires that the focus be put on:

- Enabling the supply of middle-skilled jobs to match future demand
- Integrating the more complex skill sets required in service economy jobs into education, training and research programs
- Extending America's innovation leadership with a focus on integrative, interdisciplinary, computational and entrepreneurial skills—and with a new emphasis on supporting innovation in service industries
- Anticipating future skills trajectories at the cutting edge of sustainability

The Goal Posts

To create a skilled workforce, strengthen existing industries, launch new firms and attract high-value investment into the United States, we must act and invest wisely. America needs to prioritize around the kinds of investment that generate high-wage jobs.

Success in the 21st century means looking forward—positively and proactively—at where the country is going, not backward at who is catching up. The rest of the world has been copying the American innovation model—investing in talent, research, education and technology, and building a policy infrastructure that protects IP, opens markets and supports investment. Their success in attracting jobs and investments is, in some measure, due to the fact that they copied a great American roadmap.

When everyone is copying this model, it is time for America to invent a new one.

Human capital is the nation's strongest asset. In assuring America's prosperity in the future, it is necessary to build from a position of strength—not just economically, but culturally. America truly is the can-do country. From the nation's founding, exploration and experimentation has been part of its DNA.

Americans need to get out in front and get out fast to translate that can-do spirit into wealth creation—creating a new roadmap that will:

- Embrace the freedom to test the frontiers of knowledge and technology
- Create the spectrum of skills that keeps a complex infrastructure humming
- Nurture the entrepreneurial spirit that risks a step into the unknown
- Enable the innovation that creates whole new industries, and
- Celebrate an innovation nation.

These Choices Are Ours to Make.

The Future Is Ours to Lose.

Notes

1 Motto of the U.S. Army Corps of Engineers during World War II

2 United States Congressional Budget Office, 2007. *The Budget and Economic Outlook: An Update*. http://www.cbo.gov/ftpdocs/85xx/doc8565/08-23-Update07.pdf

3 United States Bureau of Labor Statistics, Monthly Labor Review, 2007

4 For example, during the 1990s, internet technology, infrastructure, computer science skills and ecommerce innovation provided a large boost in service sector productivity (finance, information, retail, education, entertainment and government services)

5 Laitner and Ehrhardt-Martinez. "Information and Communication Technologies: The Power of Productivity," February 2008

6 "Grow Faster Together. Or Grow Slowly Apart. How Will America Work in the 21st century?" The Aspen Institute, 2002

7 Kazis, Vargas and Hoffman. *Double the Numbers: Increasing Postsecondary Credentials for Underrepresented Youth*, 2004

8 International Monetary Fund, World Economic Outlook, April 2007; Leith, Lawrence. "China's Changing Economy," *Monthly Labor Review*, United States Bureau of Labor Statistics, 2006

9 Blinder, Alan. "Free Trade's Great, But Offshoring Rattles Me," *The Washington Post*, 6 May 2007

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Has your company ever consulted with you on any of the following?

(% respondents)

	Yes	No
How to interpret sustainability in the context of your job	34	66
What changes you could make in your business unit or department to improve its sustainability	49	51
Whether or not you would wish to be involved in any sustainability initiatives	32	58
What aspects of sustainability you feel are most important	31	59
Where sustainability could lead to new products or services	38	62

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The Council's mission is to set an action agenda to drive U.S. competitiveness, productivity and leadership in world markets to raise the standard of living of all Americans.

The Council on Competitiveness is the only group of corporate CEOs, university presidents and labor leaders committed to ensuring the future prosperity of all Americans and enhanced U.S. competitiveness in the global economy through the creation of high-value economic activity in the United States.

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HOW WE OPERATE

The key to U.S. prosperity in a global economy is to develop the most innovative workforce, educational system and businesses that will maintain the United States' position as the global economic leader.

The Council achieves its mission by:

- Identifying and understanding emerging challenges to competitiveness
- Generating new policy ideas and concepts to shape the competitiveness debate
- Forging public and private partnerships to drive consensus
- Galvanizing stakeholders to translate policy into action and change

Compete 2.0: Program Leadership

Deborah L. Wince-Smith is the president of the Council on Competitiveness, a group of CEOs, university presidents and labor leaders committed to driving U.S. competitiveness. She is a Senate-confirmed member of the IRS Oversight Board and a member of the NASDAQ Stock Market Board of Directors. Wince-Smith also serves on the U.S. Secretary of State's Advisory Committee on International Economic Policy, the Board of Governors for the Argonne National Laboratory, and the boards of several private equity startup companies. She has more than 20 years of experience as a senior U.S. government official, including as assistant secretary for technology policy in the Department of Commerce during the George H. W. Bush administration.

Debra van Opstal is the senior vice president of programs and policy at the Council on Competitiveness. She has been a principal author on a number of Council publications, including: *Five for the Future* with Bill Bates; the Council's Enterprise Resilience Initiative 2007 publication, *Transform;* and *Innovate America*, the 2004 report of the National Innovation Initiative. Prior to joining the Council, van Opstal was the fellow in science and technology and deputy director of the S&T program at the Center for Strategic and International Studies in Washington. Van Opstal currently chairs the judging panel for the Gerald R. Ford journalism award.

William Bates is vice president for government affairs at the Council on Competitiveness. He is the co-author of the Council's *Five for the Future* competitiveness agenda. Bates previously served as director of government relations for the United States Telecom Association. Prior to that, he was chief of staff and legislative director to House Commerce Committee member, U.S. Congresswoman Anna Eshoo (D-CA). With more than 14 years experience working for and with government policymakers, Bates brings a unique combination of political and policy expertise to the Council.

Chad Evans is vice president of strategic initiatives for the Council on Competitiveness. He leads the Council's Strategic Initiatives programs, including the National Innovation Initiative, the Global Innovation Initiative, the Technology Leadership Council, and several special projects. In addition to his work on national and global innovation ecosystems, Evans' portfolio during the past decade has centered on benchmarking the competitiveness of developed and emerging economies, including spearheading the Council's flagship publication, *The Competitiveness Index*.

James Knuckles is a research associate with the Council's Strategic Initiatives. His primary areas of focus include conducting research to benchmark U.S. competitiveness for the Council's Compete 2.0 initiatives and to support the Council's global engagements, and assisting with the planning and implementation of many of the Council's outreach events. Prior to joining the Council's staff, Knuckles was an intern with the Council. Before this, he worked for Harley Davidson Financial Services, Inc. on their cash management team.

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Progressive Dialogue I: The Energy–Competitiveness Relationship

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Progressive Dialogue I:
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Letter from the President

On behalf of the Council on Competitiveness, I am pleased to release the proceedings from the first in a series of high-level expert dialogues that are being conducted under the auspices of the Council Energy Security, Innovation & Sustainability (ESIS) Initiative. We believe that the insights generated at *Progressive Dialogue I: The Energy–Competitiveness Relationship,* add a valuable new dimension to the national debate about our energy future—and our future competitiveness.

The ESIS Initiative was launched in July 2007 in recognition of the fact that energy security and sustainability have become increasingly important factors of competitiveness in the 21st century. The overarching goal of this undertaking is to enhance U.S. competitiveness and energy security by shaping a public-private agenda to drive private sector demand for sustainable energy solutions and support the creation of new industries, markets and jobs.

A diverse and distinguished Steering Committee comprised of leaders from industry, academia, labor, national labs and other prominent organizations is guiding the Council's efforts. The Steering Committee is co-chaired by Shirley Ann Jackson, President of Rensselaer Polytechnic Institute; D. Michael Langford, National President of the Utility Workers Union of America, AFL-CIO; and James W. Owens, Chairman and Chief Executive Officer of Caterpillar Inc.

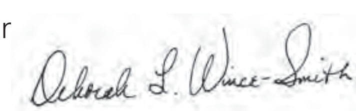
We would like to thank the U.S. Department of Energy for underwriting the Progressive Dialogue Series. We greatly appreciate the time and expertise that the Department's leadership is personally dedicating to this undertaking, particularly Secretary Samuel W. Bodman, Assistant Secretary for Energy Efficiency and Renewable Energy Alexander A. Karsner, Principal Deputy Assistant Secretary for Energy Efficiency and Renewable Energy John F. Mizroch and Office of Industrial Technology Programs leader Douglas E. Kaempf.

We are also very grateful to the more than three dozen high-level experts and several ESIS Initiative Steering Committee members who gave so generously of their time and wisdom over the course of two days at the Airlie Center. We are honoured to have had Daniel Yergin deliver the evening's keynote address. Within the Council, I would like to acknowledge Susan Rochford, Lars-eric Rödén and Kara Jones for doing the "heavy lifting" in conceptualizing and organizing the Dialogue.

In 2008, the Council will conduct two more Progressive Dialogues that will explore the role of the private sector—as the leading innovators, investors and adopters of new energy sources, technologies and management practices and powerful change agents of our national energy system. The desire and ability of the private sector to move forward on these fronts are absolutely pivotal to our nation's success in achieving a more secure, sustainable and competitive energy future. As such, we will work to understand what influences organizational decision-making and investments related to energy and identify the conditions that will drive and enable greater demand for sustainable energy solutions.

We firmly believe that by creating the conditions that will foster private sector innovation and investment in more sustainable energy approaches, we can improve America's energy security and economic productivity and prosperity. As we move forward, we welcome your participation and support.

Sir



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Executive Summary

In the past forty years, worldwide energy consumption has nearly doubled, driven by population growth, rising living standards and the invention and wide-scale deployment of technologies, products and services dependent upon energy to function. If present trends continue, global energy consumption will double again by mid-century. These demand pressures, coupled with periodic volatility in energy supplies, has put an upward pressure on energy prices in many parts of the world including the United States.

The cost of energy is clearly impacting the competitiveness of the United States. But the story does not end there. The economic toll exacted by maintaining the current state of U.S. energy use, as well as the prospective windfall for ending it, has not been adequately captured or communicated in the context of national competitiveness. A more fulsome understanding of the various ways in which energy is now impacting—and driving—U.S. productivity and global competitiveness will add a critical new dimension to the national debate. This articulation of the business case for action and a policy path forward will create the foundations of a public-private sector action agenda, while also adding momentum to the case for energy system change.

To bring these issues to light the Council on Competitiveness convened 44 senior officials from U.S. industry, labor, government, academia and non-governmental organizations at the Airlie Center outside of Washington, D.C., to participate in the first in a series of three Progressive Dialogues being conducted under the auspices of the Council Energy Security, Innovation and Sustainability (ESIS) Initiative. The Dialogue series is made possible through the generous support of the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy.

Over the course of two days a number of major competitiveness themes emerged from the expert discussions.

These findings are instructive, pointing a way forward for constructive action and change at the national, regional and enterprise level.

National Competitiveness Findings

- **The United States Is a Global Laggard in Energy Productivity.**
  The United States is the most energy-intensive developed region today and lags behind its OECD competitors in improving energy productivity. At the same time, many developing regions are making rapid progress in reducing their energy intensity. To the extent that energy is an important part of production costs, the United States is losing competitive ground relative to its global competitors. Energy productivity, like labor and capital productivity, is important for wealth creation. The United States has underinvested in energy efficiency. American business leaders in general are not as knowledgeable or open to the economic opportunity inherent in improved energy management as they should be.
- **U.S. Government Policies and Regulation Can Inhibit Energy Competitiveness.**
  There are current policies in place that serve to maintain existing energy technologies, such as depreciation cycles meant to keep old coal plants running, input-based emission standards, rules against hanging wires over streets and subsidies. It may be better to reassess and reform or disas-

semble these policies rather than simply layer new policies over existing ones. Lack of credible policy commitments, those that are sustained over adequate periods of time, can fail to motivate business behavior as intended. Local codes and state government policies can also inhibit the deployment of cleaner energy and energy efficiency technologies.

- **Transparent, Positive Price Signals Are a Key Ingredient in the Innovation Formula.**
  To maintain competitiveness and profitability going forward, businesses increasingly need to understand the significant "energy cost" of products they make or resell. The assignment of a market price to carbon, done carefully, can be a driver of innovation. Rather than being framed as a punitive measure to curtail energy use, energy/carbon pricing will work best if businesses or consumers see it as a positive, motivating force to get more value for their money (example: miles-per-gallon ratings of automobiles). Public utilities should also expand the use of motivational pricing. It is important to build excitement around reform and transition by carefully crafting policy and regulatory commitments that seek to motivate not through punitive measures but through incentives that reward innovation and action.

- **America Faces a Severe Energy Workforce Challenge.**
  Even as the demand for electricity continues to grow, the United States stands to lose half of the electric power industry workforce within the next five to ten years due to retirement. America's oil and gas workforce averages 50 years in age. Half are likely to retire in just three years. New energy technologies will not compensate for this workforce shortage. There is also more competition for talent today across countries and across sectors. Undergraduate students are not aware of the important role that electrical/mechanical engineers will play in addressing environmental challenges and that they could help solve real problems in this arena. More students are choosing careers in finance and business, and fewer are choosing science and engineering. Advanced placement courses are the key to college admissions, yet they are nearly devoid of engineering content. Much more needs to be done in K-12 education and beyond to promote careers in the energy field.

- **Consumers Are a Crucial Part of the Energy–Competitiveness Solution.**
  More than 60 percent of energy demand growth is driven by individual consumers. The economy continues to grow despite rising energy prices, and American consumers keep absorbing the higher prices suggesting that the price elasticity threshold has not yet been crossed. To address the consumer role, we need to find attractive ways to modify consumer behavior—not primarily to use less energy, but to get more productivity out of given amounts of energy. We need energy-efficient products whose value to consumers can be articulated simply and concisely. We need to educate consumers better so that they can make wiser and more effective decisions, and we need better information about consumers so that we can pursue smarter innovation.

- **An Integrated Policy Framework is Vital to Ensuring Economic Prosperity, Energy Security and Environmental Sustainability.**
  We are confronted with the need to address multiple imperatives at the same time. It is important that we take a systems approach to the various

choices and decisions ahead of us. This includes the assessment and design of public policy measures. As state, regional and international energy and sustainability initiatives proliferate, we need to better understand how these are impacting the ability of U.S. enterprises to compete at the national and global level. This also applies to energy and related technology choices, as each source has its own benefits and limitations. There are trade-offs across these areas, and it is important to employ life-cycle analysis to underpin decisions.

Enterprise Competitiveness Findings

- **Climate Change Is Becoming a Critical Driver of Business Competitiveness.**
  Climate change is viewed as an unpredictable, disruptive force ("Hurricane Katrina in slow motion") that has focused attention on the pragmatic need to better manage energy use. Leading companies recognize that climate change concerns will impact their energy costs and business competitiveness, and they are preparing for that future by assessing their carbon footprints and building these issues into their business strategies. Climate change is having a profound affect on business models and operations, investment decisions and the management of critical industries such as energy and agriculture.
- **Leading U.S. Corporations See Energy and Sustainability Challenges As Opportunities for Competitive Gain —and Are Not Waiting To Act.**
  Although industry experts participating in Dialogue I see a pressing need for public policy advances related to energy and sustainability, leading firms are not waiting until these measures are proposed and implemented to act. A number of the firms already have relevant internal programs and initiatives in place across their worldwide operations. These companies typically view such initiatives not merely as compliance activities but as opportunities—seized or missed—for business development, innovation and competitive advantage. In fact, the ability to exploit energy and sustainability-related opportunities is becoming a barometer for a well-run company.
- **Energy Efficiency Powerfully Impacts the Ability of All Companies to Compete.**
  The rapid rise in energy costs in recent years has added significantly to the costs of U.S. goods and made it more difficult for U.S. firms to compete with countries with lower energy costs. Higher energy costs have a pervasive effect on the business ecosystem. For example, the transportation, manufacturing and information technology sectors are highly sensitive to the cost of energy. In the agricultural sector, energy prices ripple up and down the supply chain, affecting the cost of producing crops, feeding animals and transporting foodstuffs. Initiatives that increase energy efficiency can powerfully benefit the competitiveness of U.S. business. Energy quality and reliability are also crucial. According to a study by Sandia National Laboratories, annual financial losses from power disruptions in the U.S. amount to $150 billion and one-third of all computer problems are related to poor power quality.
- **Supply Chains Are Being Pressed to Align with Customer Energy Initiatives.**
  U.S. industry participants indicated that they are increasingly extending their interest in improving their energy management and reducing their carbon footprint to apply across their supply

chains. Companies have become much more conscious of the energy costs and related risks that are passed along through the supply chain, and they are actively working to improve practices in this regard. The best firms design processes and innovative technologies with both their suppliers and consumers in mind. Dialogue participants noted that opportunities to optimize energy use exist across all industries, including healthcare, energy, manufacturing and retail. Participants observed that companies that manage their energy well tend to be better managed companies. The supply chain represents a very potent vehicle for promoting energy efficiency across the economy.

Summary

It is clear that the United States faces serious challenges and a new competitiveness landscape as it contends with the twin challenges of energy security and sustainability. America's continued economic growth and prosperity is at risk if we do not improve our energy productivity. Though the policy and regulatory response to these issues is still in flux–and can vary considerably at the state, national and international levels–leading companies are not waiting to act. As they do so, they are realizing significant cost savings and new opportunities for top line growth.

It is becoming evident that business is a powerful agent for promoting change in energy and sustainability practices, particularly as companies begin to push their energy and sustainability initiatives through the supply chain. Increasingly, effective environmental and energy management is viewed as an indicator of good business management. The private sector more broadly would be wise to be alert to these new competitiveness drivers and customer expectations. The ability of companies to respond to these trends would be enhanced by the development of transparent and positive price signals and a greater understanding of the true cost of energy inputs.

While companies can play a leading role in the transition to a more competitive and sustainable energy future, there are other issues the United States as a nation must tackle. America must elevate the importance of energy productivity as a measure of its economic competitiveness. The impending energy workforce shortages must be acknowledged and aggressively addressed by both the public and private sectors. Consumers must become part of the energy solution, and concurrently, a more influential factor in the energy innovation process.

Finally, the importance of a rational and integrated policymaking process cannot be understated. This may include retiring policies or regulations that serve to inhibit innovation or the deployment of more sustainable energy practices, products and technologies. It may involve greater coordination and harmonization of state, regional and federal policies. It will certainly require a greater level of systems thinking about the choices and trade-offs involved in reconciling our comprehensive need for energy security, sustainability and competitiveness.

Dialogue Proceedings

Energy and Competitiveness—The Need For Action

Deborah Wince-Smith
Council on Competitiveness

The Role of the Council on Competitiveness. The Council on Competitiveness celebrated its 20th anniversary last year as the only group that brings together CEOs across all sectors, leading university presidents and labor leaders to understand the drivers and the evolving agenda needed to ensure America's continued prosperity, security and success in global markets. The America COMPETES Act, a bipartisan piece of legislation signed into law by President Bush in 2007, is already beginning to have an impact across the nation and directly reflects work done by the Council's National Innovation Initiative (NII) since its inception in 2003. The purpose of the NII was to really understand how innovation is the key to U.S. prosperity, economic growth and standard of living. In this process, we identified a number of critical over-the-horizon issues, including this nexus between energy security, innovation and the ongoing movement for sustainability. The ESIS Initiative is a result of this important recognition. We are very grateful to have one of the principals of the NII, Dr. Shirley Ann Jackson, serving as a Co-Chair along with James Owens of Caterpillar and Michael Langford of the Utility Workers Union of America for this new effort. The work of participants in Progressive Dialogue I will be essential for advancing the understanding of the major energy and sustainability-related challenges and opportunities facing the nation.

Susan Rochford
Council on Competitivenes

The Council Launches A Progressive Dialogue Series. The concept for the Progressive Dialogue Series was born of the recognition that we are operating in a dynamic and rapidly evolving environment. We are witnessing record levels of private and public investment into new energy technology ventures in the United States and around the world; significant shifts in public sentiment regarding the urgency of our energy and climate change challenges; the introduction of new energy policy initiatives at the state, federal and international levels; and continuing concerns about energy price and supply volatility and the reliability of our energy infrastructure and supply chain.

The aim of the Progressive Dialogue Series is to harness the knowledge of a diverse range of experts from around our nation to forge well-balanced and objective answers to a number of important—but heretofore unaddressed—questions about America's energy future and America's future competitiveness. Participating experts are taking part in a hands-on, real-time research and analysis process that will bring forth new information, insights and analysis about the increasingly critical importance of energy as a factor of competitiveness at the enterprise, national and international level.

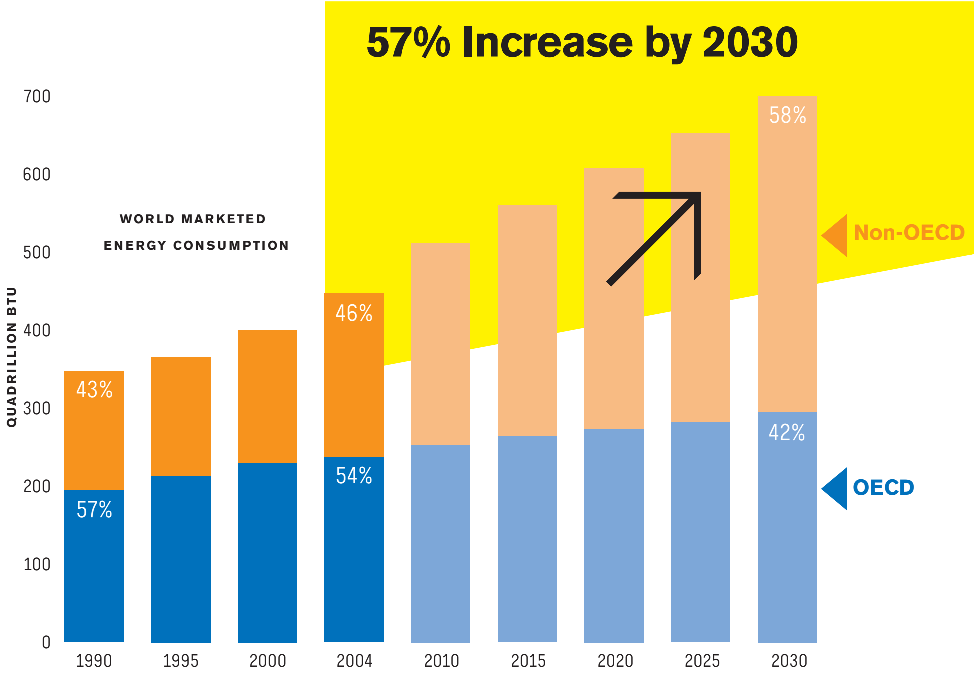
STEERING COMMITTEE PERSPECTIVES

Shirley Ann Jackson
Rensselaer Polytechnic Institute and ESIS Initiative Co-Chair

The Need for Energy Security. Worldwide energy consumption has nearly doubled in the past 40 years driven by population growth, rising living standards, increasingly energy-dependent new technologies and greater energy consumption. If this trend continues, energy consumption will double again by mid-century. Energy independence is not feasible because the challenges are interdependent and global. What must be fostered is energy security, which recognizes the interlinked effects of global business, global competition, global energy supply chains, vulnerability to supply disruptions and cost within a global marketplace. For the foreseeable future there will likely be a mix of solutions that includes innovative extractive and transportation technologies for fossil

1. The United States is Not Alone in its Growing Appetite for Energy. Demand is Projected to Grow in Both Developing and Developed Countries Alike.

Source: Energy Information Administration



fuels, innovative conservation technologies and innovative alternative fuel technologies across a broad front, including nuclear. We must advance discovery and innovation. We need to understand the essential linkages between energy policies and initiatives at the federal and state levels, on the one hand, and, on the other, the competitiveness needs of U.S.-based multinational firms and U.S. firms that operate only domestically but are affected by global marketplace and energy dynamics. We need to understand energy security as a business enabler and business driver. At the end of this Progressive Dialogue Series, we hope to have a policy framework or at least the key questions that need to be addressed by the next Administration. The results of each Dialogue will stand alone (as well as contribute to succeeding Dialogues) so that we can begin to inform and influence the policy framework as we go along.

Michael Langford

Utility Workers Union of America, AFL-CIO
and ESIS Initiative Co-Chair

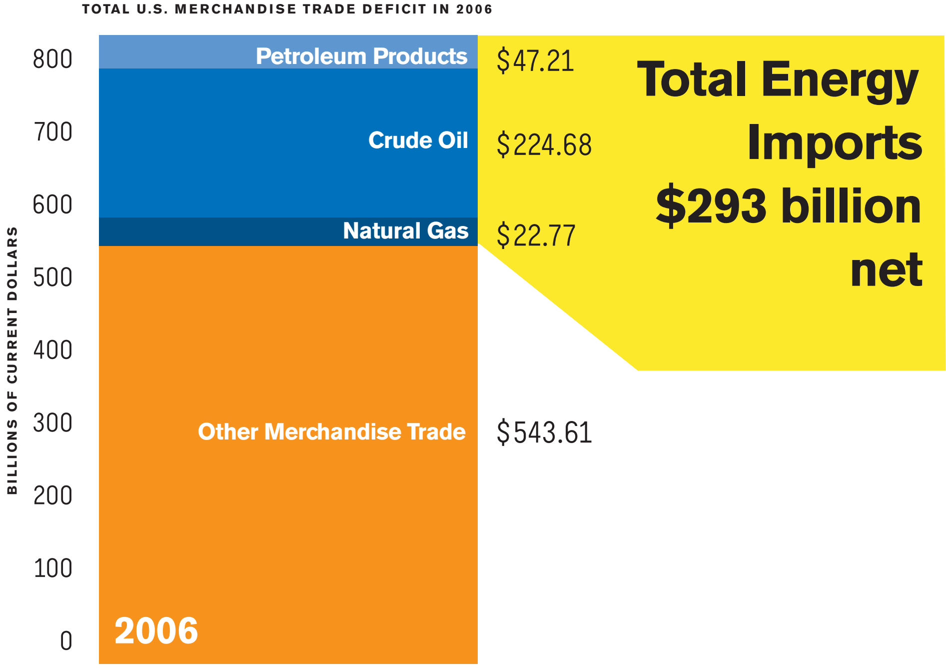
Talent as a Natural Resource. Americans can feel the impact of energy price and supply volatility at gas pumps and elsewhere as individual consumers and as manufacturing and other businesses. We cannot wait any longer to address these challenges. Our efforts to do this will have competitiveness implications. Our success will depend not only on innovation but also on the men and women who build and operate the energy infrastructure. New technologies will not compensate for worker shortages caused by the expected retirement of half of the country's 412,000 power workers over the next 10 years. This represents a vast amount of knowledge walking out the door. Many of these are highly skilled jobs. We will need to attract hundreds of thousands of new workers into the energy industry. We will need more resources for education and on-the-job training. We must encourage innovation and also invest in our workforce. This will move America toward real economic security. This Dialogue is important because it is posing questions that haven't been asked before.

Lou Anna Simon
Michigan State University

The Hidden Opportunity Cost. Capital export is a daunting, seldom-discussed problem for the United States that is inherent in our conventional, petroleum-based economy. Capital export results in the loss of American jobs and greater foreign control of U.S. firms and real estate. In 2006, oil imports were the largest component of the U.S. trade deficit, accounting for 33 percent. The 2006 petroleum deficit was roughly $270 billion, which was an increase of roughly $42 billion (or 18 percent) from 2005. Each $1 billion of trade deficit costs 27,000 U.S. jobs; hence, this increase in oil imports translates into the equivalent of 1.1 million American jobs. This transfer of wealth is expected to continue. Capital export must be considered in combination with other strategic factors, such as the instability of the Middle East and the finite supply of petroleum.

2. Total Energy Imports Accounted for Over One-Third of the U.S. Merchandise Trade Deficit in 2006.

Source: Bureau of Economic Analysis, Energy Information Administration



Robert Rosner

Argonne National Laboratory

Sustainability of Resolve. At some level, we've been here before. Most of us, I think, are definitely old enough to remember the 1970s when we had our energy crisis. When we talk about the word 'sustainable' it also applies to our "stick-with-it-ness" on focusing on problems-like what we do about energy supply. Americans didn't stick with the energy-saving habits we formed during the '70s—and here we go again. It is crucial to sustain energy initiatives. This is a very serious issue.

The role of innovation is also critical. Innovation comes up in all the baseline scenarios for how to move forward in our energy future in an environmentally benign way. And yet, the process of driving innovation is not well understood and needs to be discussed more.

John Treat

Alternative Hybrid Locomotive Technologies

Small Steps, Substantial Effects. Efficiencies could be applied in many areas, such as transportation, home and office climate control, manufacturing and electricity generation. If we really turn on innovation within the American business and academic communities, we can find ways to improve energy productivity. Improving our energy productivity also has policy implications, including foreign policy. Even though many people believed the Star Wars program wouldn't work, the Soviets believed it would, and this contributed to the breakup of the Soviet Union. If we increased our energy productivity, this could have a tremendous effect on other countries' attitudes toward us.

A VIEW FROM THE U.S. DEPARTMENT OF ENERGY

John Mizroch
Office of Energy Efficiency and Renewable Energy,
U.S. Department of Energy

The Secretary of Energy is anxious to hear from Progressive Dialogue I participants. Energy is the number one issue facing the world today. It is framed by two different issues: energy security and climate change. The importance of energy security is reflected in the fact that eight countries in the world control 80 percent of the world's oil. We need to diversify our fuel sources. Climate change will be addressed by a combination of policy, technology, capital markets and finance. I am thrilled to be at the Dialogue and part of the illustrious group the Council has brought together. I hope the group will realistically discuss how America can transform energy use while improving competitiveness.

The 21st century may be the century of cleaner energy. The incandescent light bulb was invented in the 19th century, and we're still using that technology even though transformational technology is available for power generation and energy efficiency. I would like Dialogue participants to address questions such as, why can't we deploy the transformational technology, and not just in the United States? And how do we look at the future, say, 20 years from now, adding jobs while improving the economy and addressing climate change? The results of this Dialogue will be offered to decision-makers and opinion leaders. We will all work together to keep America competitive.

Setting The Stage—Expert Presentations

The purpose of the stage-setting presentations was to equip all Dialogue participants with a common baseline of information and a high-level perspective on the state of the major energy segments and related competitiveness issues.

HOW ENERGY BECAME A COMPETITIVENESS CHALLENGE

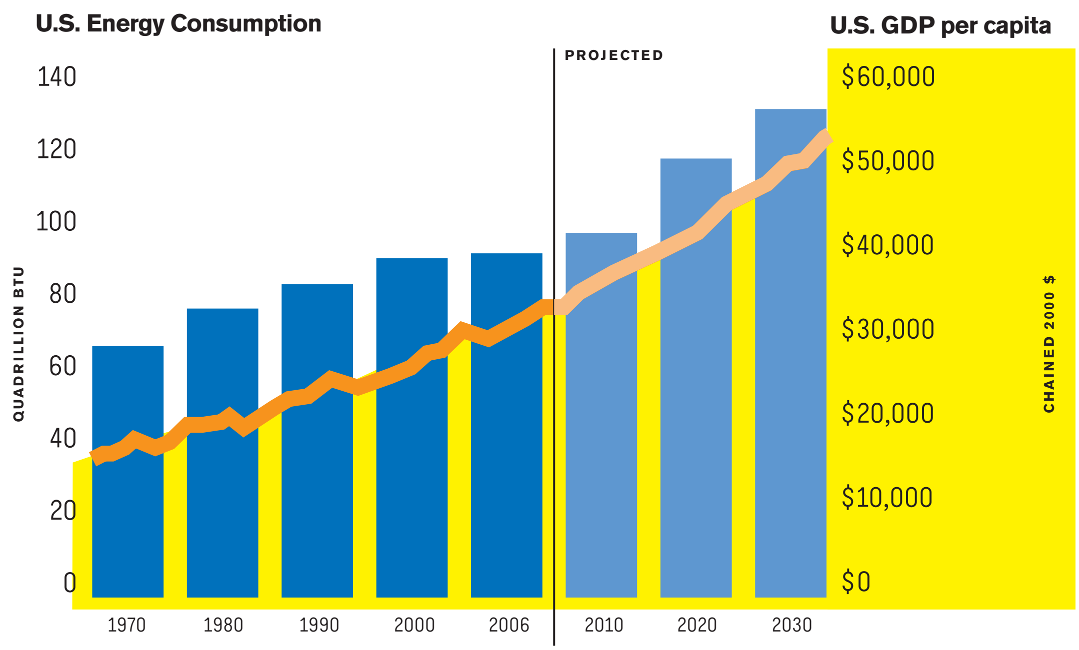
Larry Chorn, Platts

Developing countries use large amounts of energy to fuel their GDP growth. Over time, they become more efficient in using energy. But as you become more efficient, your energy dependence decreases through conservation and by refocusing your GDP on less energy-intensive industries. U.S. energy use per capita rose until the 1970s, dropped during the 1970s energy crisis, and then gradually resumed through the current decade because the United States didn't sustain its energy efficiency efforts.

Power usage is growing in all sectors but more slowly in the industrial sector. In 2006, the United Sates imported 60 percent of its crude oil needs. The price shocks started in 2000, moving from roughly $18 to $80 a barrel today. It's not clear that the United States is using less energy, even though the price has gone up at least four-fold during this period. Jumps in price are usually associated with economic recessions. The impact occurs quickly, within a few months. But in the U.S. energy market, not much price elasticity is evident yet.

3. Population Growth Combined with Increasing Affluence Will Continue to Drive U.S. Demand for Energy.

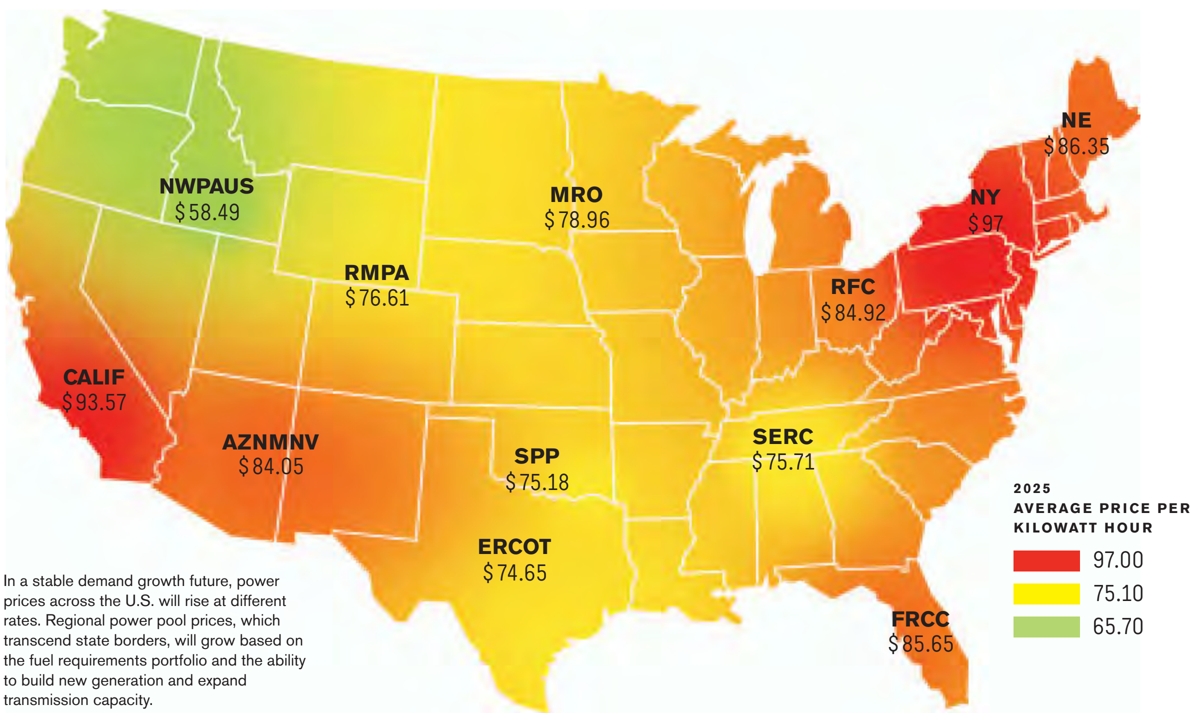
Source: Bureau of Economic Analysis, Energy Information Administration



What is our energy future? If we proceed with "business as usual," projections through 2017 show the price of everything going up: crude oil, natural gas, coal and electric power. Our demand for all fuels is increasing and this drives the pricing. And after 2025, the projections for electric power get quite ugly.

4. U.S. Electric Power Costs Are Projected To More Than Double By 2025 Under "Business As Usual" Scenario.

Source: Platts *Power Outlook Research Service*



In a stable demand growth future, power prices across the U.S. will rise at different rates. Regional power pool prices, which transcend state borders, will grow based on the fuel requirements portfolio and the ability to build new generation and expand transmission capacity.

The United States is increasingly competing for energy supplies and energy security. Take for example, the following potential scenario: Russia regains control of some former Soviet Union states and periodically restricts natural gas flows into Western Europe. This could increase European demand for liquefied natural gas (LNG) from European sources, which in turn could restrict the U.S. ability to import LNG. Gas prices in the United States would "rocket up", and they would stay there. The implications for the economy would be enormous.

Today about 80 percent of power comes from fossil fuels and about 20 percent from nuclear. Unless we start building nuclear plants more aggressively, or put so much wind and solar in place to take the load off, Platts sees fossil fuels remaining as the primary energy source for at least the next three decades. A nuclear plant takes seven to 12 years to get in place, and a large power plant also takes seven or more years. We have some decisions to make very quickly or we will find ourselves behind the eightball.

The largest problems are those that can not be repaired quickly, such as losing a world-scale refinery. This can cause prices to rise dramatically.

But there is reason for optimism. The United States has historically shown a great ability to innovate once it achieves consensus.

PROSPECTS FOR RENEWABLES

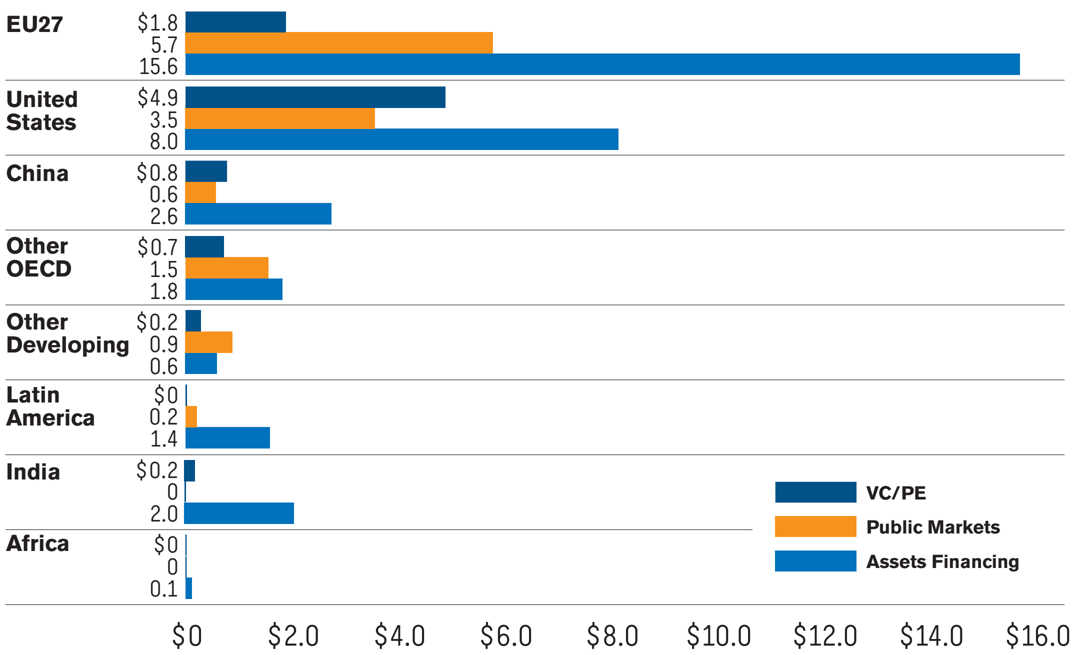
Scott Sklar, The Stella Group

There is no one technology that deals with the energy issues we face; a blend of efficiency and renewable technologies will be needed. Recent studies showed that far more private venture capital is now going into clean energy than into fossil energy.

Renewable portfolio standards now exist in 20 states. The big-population states are taking the initiative. As renewable technologies scale, they go down in cost. However, biomass is the laggard. Although the United States has a large biomass capacity (for example, ethanol), there are many competing uses for it. A new Massachusetts Institute of Technology (MIT) study shows that America is using 5,000 megawatts of geothermal energy and has a capacity of nearly 90,000 megawatts. Traditional hydro power use is declining, but in the next decade other water technologies will be deployed, such as tidal energy and freeflow hydro without dams or diversions. Wind power is good but is not always where the populations are. Concentrated

5. Global Investment in Sustainable Energy, by Type and Region, 2006 in Billions

Source: SEFI, New Energy Finance



Note: Grossed-up values based on disclosed deals. VC/PE figures: include PE buy-outs, and investor exits made through OTC market offerings. OTC & PIPE deals are included. Figures in brackets refer to (disclosed deals / total deals). Public Market figures: represent location of exhange on which as company raises money, not the location of the company. Includes investor exits through Public Market offerings. Figures in brackets refer to number of (IPOs / Secondaries / Convertible & Other). Asset Financing figures: represent total investment, and so include new build and refinancing of clean energy projects. Acquisitions of projects are not included. Figure in brackets refers to (total deals).

solar power is a Southwest technology and has been a reliable resource for California. The United States has enough for about 9 million megawatts.

Grid tied renewables are growing at about 10–15 percent a year, and overall renewables are growing at about 30–35 percent a year in terms of investment and output. Not all of this is tied to the grid. The question is whether the grid can handle the expansion. A very important consideration is power quality.

Twenty years ago, when we weren't a digital economy, the sags and surges in the grid and the transients did not matter as much. But today, according to a Sandia National Laboratory study, losses from power disruptions cost more than $150 billion a year. As a result, the private sector and the military is turning to on-site power generation for everything from data centers to telephone systems and even basic HVAC equipment. Sophisticated digital equipment cannot be run with poor, unpredictable power quality. One-third of all computer problems are due to power quality. We may see that there will be several systems, with the richest part of society, companies and individuals, getting the most reliable power quality. Will we have a system that can provide the same level of power quality to the bottom third of our society as it does to the upper third?

"Ultimately, having choice in the market place changes things. We still have supply constraints, but once you have choice, every option costs less. In another 15 years, two-thirds of energy users will probably have options that cost less than what they're paying now."

Scott Sklar, The Stella Group

OPEN DISCUSSION HIGHLIGHTS

Energy storage is "the Holy Grail" for system optimization and recovery from grid outages. Utilities are motivated to sell, not save, electricity. They do not make much profit from renewables. To give renewables time to develop and take hold, we must press on energy efficiency, and there must be incentives (for example, tax credits, grants, bonds) for more rapid integration into buildings and vehicles. Efficiency must come first to give lag time for renewables. In our lifetimes we will see paint applied to buildings that produces electricity. But it takes a long time for advanced technologies to percolate into the economy.

We have a very fragile grid system and energy delivery systems (pipelines, electricity—all of it) that are very easy to disrupt. The United States needs to follow industries like the Internet, cellular phones and the seamless and smart grids with their networks, because we are at considerable risk—not just from terrorism but severe weather patterns as well.

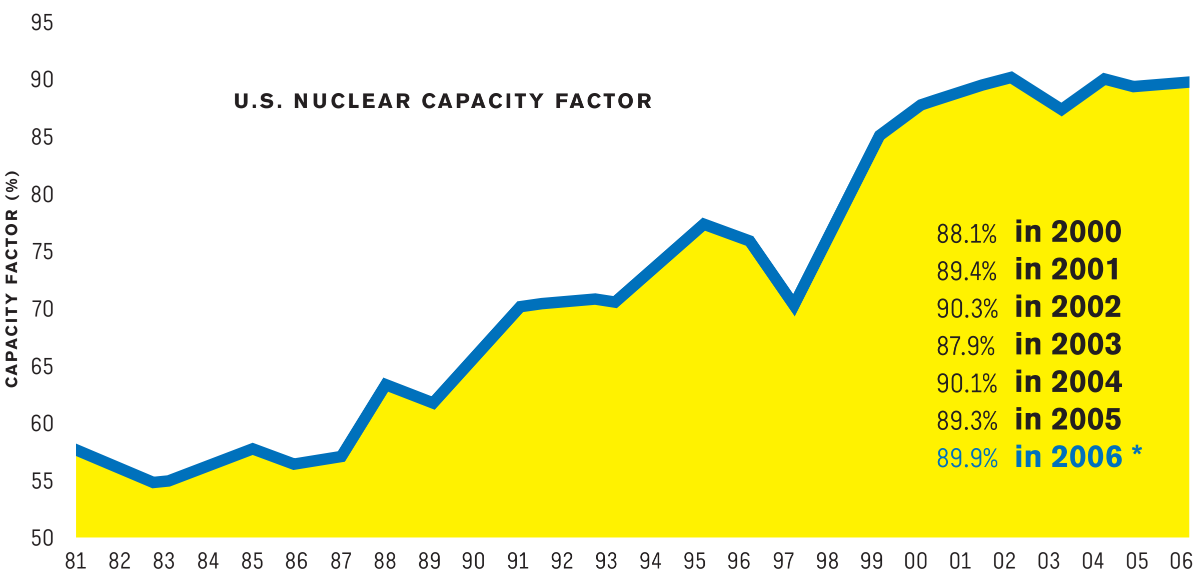
FORECAST FOR THE NUCLEAR INDUSTRY

Angelina Howard, Nuclear Energy Institute

We need all our energy sources to generate electricity. Each source has advantages and disadvantages. In the United States, there are 104 nuclear plants that produce 20 percent of our power generation (16 percent worldwide). No nuclear units are under construction in the United States today, but about 40 are in the planning stages (although it's uncertain whether all will be built). Nuclear baseload power is a 24x7 reliable source. Today, America's nuclear plants are operating at 85 percent to 90 percent of capacity—as high as can be expected. We've brought down the cost of generation to about 1.7 cents per kilowatt hour, lower than everything but hydroelectric generation. The foremost concern is the safety of these facilities. The Nuclear Regulatory Commission put together a rigorous process for license renewal. There is strong public support for nuclear power, but NIMBY [not in my backyard] is always a factor. Major investments are being made in the design and engineering for new plants. One challenge is getting the investment to build these plants.

6. Sustained Reliability and Productivity

Source: Global Energy Decisions, Energy Information Admninistration



* Preliminary

Note: Capacity factor is the ratio of the electrical energy produced by a generating unit for the period of time considered to the electrical energy that could have been produced at continuous full power operation during the same period. (Energy Information Administration)

The Energy Policy Act of 2005 provided investment stimuli for new nuclear as well as other types lower emitting power generation. The federal loan guarantee is the most important of these because it addresses the construction cost. Another challenge is spent fuel management. Small quantities are stored at the nuclear plant. We're making the reprocessing of spent fuel a priority. We're doing extensive R&D over the next 35 to 50 years to develop technologies to recycle used fuel, and we're looking at the Yucca Mountain site in Nevada for long-term storage. We will need 45 new nuclear plants to achieve 25 percent of U.S. electric power generation by 2030. There is strong potential for high temperature reactors for deployment in the 2020s.

OPEN DISCUSSION HIGHLIGHTS

Electricity demand is driving decisions about new nuclear plants more than whether the states in question are regulated or deregulated. The number of nuclear engineering students and other types of engineers needed to run nuclear plants is a concern. Although the number of students wanting to major in nuclear engineering is going up, the number of graduates is still small. The issue is the scarcity of professors, many of whom have been retiring because of the hiatus in building plants. Union apprentice programs have been re-started on the construction and operation sides.

THE ENERGY PRODUCTIVITY OPPORTUNITY

Matt Rogers, McKinsey & Company

Based on recent McKinsey Global Institute research, energy productivity will be the single largest approach to meeting global growth in demand over the next 25 years. There are 135 quadrillion BTUs of positive NPV (net present value) energy productivity investments available on a global basis that could improve the competitiveness of the United States, and competitiveness and growth on a global basis.

Looking at the data, country by country, sector by sector, shows that this is a developing market story. 85 percent of energy demand growth is going to occur in developing nations. It is also important to note that it is a consumer story. Consumers drive 60 percent of global growth. To address climate change and think about the energy equation on a global basis, we must think more about how to address the consumer. And this is a different problem than we faced in the 1960s and 70s.

If we look at this just as a U.S. problem, we won't have much impact on it. China will pass the United States in energy consumption by 2020 or before. By

> "Fundamentally, in the United States, we have not had either the price signals, the regulatory issues, or frankly, the commercial focus on energy productivity as an important source of economic competitiveness. Therefore, our rate of change historically, and our rate of change on current course, is not as rapid as our major economic competitors."
>
> Matt Rogers, McKinsey & Company

2020, Middle East consumers will use more oil than Europe. The United States needs to engage China, India and the Middle East to solve this problem. U.S. energy demand growth is accelerating to 1.6 percent per year from 1 percent per year over the past two decades, and this is good news about our economy becoming wealthier.

There are very substantial energy productivity investments that could make U.S. demand growth flat over the next 20 years. Our recent study shows residential and commercial energy efficiency in the United States improving over the next decade, but at a much lower rate than in China. On its current course, America will remain the most energy-intensive developed economy over the next 20 years, even as developing regions are making very rapid progress bringing energy intensity down. The U.S. rate of change is not as strong as its OECD competitors. This is where we get into the competitiveness question, because if energy is an important part of production costs, and our rate of change is slower than our major competitors, then our delta in economic wealth creation will go against us during that time period.

There are market failures due to policy distortions, lack of information among consumers, “agency” issues between landlords and tenants and related financing issues as to who has access to capital—all of which affect investments in energy productivity.

The goal should be not to make consumers use less or suffer more but to get more productivity out of a given amount of energy. If we can do this, it will improve our overall productivity and economy over time.

It was the demand-side phenomenon that took us here, and we would argue that if the prices stay at high levels, the demand-side responses will hold the basis for taking us out of the current oil situation. We are starting to see behavioral changes in response to higher prices. It takes about three years for these to become apparent. In the 2010–15 period, the most powerful force will be substitution, such as biofuels in the transportation sector. The 2015–2020 period will see the accelerating impact of innovation, with regulators also taking action.

What is energy productivity?

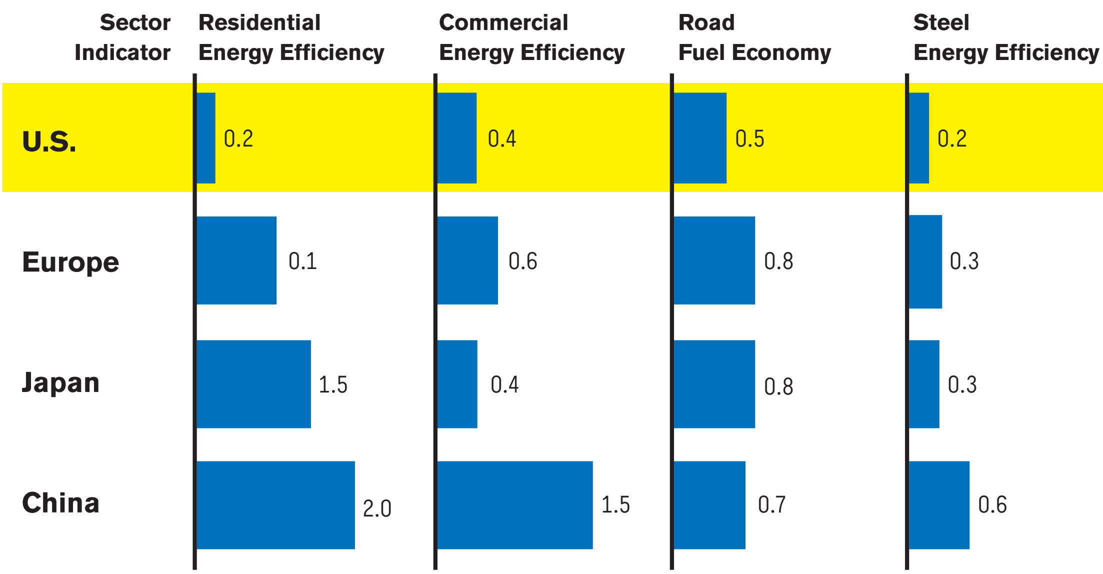
Like labor or capital productivity, energy productivity measures the output and quality of goods and services generated with a given set of inputs. McKinsey Global Institute measures it as the ratio of value added to energy inputs, which is the inverse of energy intensity of GDP, measured as a ratio of energy inputs to GDP.

Source: McKinsey & Company

7. Energy Productivity Improvements Are Lower in the United States Than in Europe and Japan Across all Sectors.

Source: Energy Information Administration, Lawrence Berkeley National Lab China Energy Group, McKinsey Global Institute

ANNUAL IMPROVEMENT OF ENERGY-PRODUCTIVITY INDICATORS, 2003–2020



OPEN DISCUSSION HIGHLIGHTS

The markets are still relatively inefficient in underwriting energy efficiency. (A few banks give a few thousand dollars off for energy efficient homes, for example.) In terms of financing energy investments, the markets have been somewhat paradoxical. Because capital has been widely available, energy inefficiency has actually been encouraged. Companies could finance increased energy costs and put in on their balance sheets. Countries have done it by keeping subsidies up, and automakers did it by putting higher subsidies for fuel inefficient vehicles on their balance sheets. Low interest rates have actually contributed to energy inefficiency.

The Implications of the Energy–Competitiveness Challenge

AN OPEN DISCUSSION

Moderator: Shirley Ann Jackson, Rensselaer Polytechnic Institute

Discussion Highlights:

- It is important to increase energy productivity (GDP output for every BTU input), but the calculation should include the multiplier affect on the economy of the related investments.
- Based on the presentations, it is striking how important the consumer is in the energy equation. We must motivate consumers, including the top and bottom quintiles, to get involved. We need to innovate energy efficient products—the value of which can be articulated to consumers simply and concisely. Given that today's energy challenges are demand-driven, it is vital that we drive efficiency among end users and extract as much benefit from this as we can. Consumer education is essential.
- Energy price differentials do have an impact on an economy's energy productivity. For example, it takes 28 percent more fuel to drive a mile in the United States than in the European Union, mainly because higher gasoline prices have incentivized higher fuel efficiency in Europe. At the same time, it is important to recognize that there is not a uniform reaction to price signals across the economy—some industries and small businesses are more sensitive to price fluctuations and are hit harder by the increases.
- Market failures are inhibiting U.S. energy productivity. These include not only lack of information among consumers but also misplaced incentives, principal agent problem, etc. In tandem, there are policies in place today that effectively lock in incumbent technologies. Market friendly standards in combination with removal of market distorting policies and regulations can help the United States make progress. These reforms need to include the state and local level, and there should be alignment on these efforts between the state and federal level.
- It is important to understand the time relationship as to when other energy and related technology options are available and what material difference they can make. Without a sense of direction and forward goals, it will be difficult to set priorities for investments and actions. There is a lag time between R&D investments and innovation. We need to understand that relationship if we are to succeed in cranking up innovation.

The Hard Truths About Energy

A KEYNOTE PRESENTATION

Daniel Yergin addresses Progressive Dialogue I expert participants and special guests.

Daniel Yergin
Cambridge Energy Research Associates (CERA)

Oil's rapid rise creates an incentive for this discussion and its urgency. One major force shaping the energy challenge is economic growth, which is lifting poor people out of poverty on a large scale in places like India and China and creating growing numbers of middle income people. This is evident in the millions of new cars sold in Russia and India, let alone China. All this growth requires a lot of energy. Each week, China adds the equivalent of two coal-fired power plants. Modern societies are good at solving problems—for example, cars with lower emissions, according to a National Petroleum Council study.

Energy will certainly loom large in U.S.-China relations. There are also energy security issues, as for example the natural gas question between Russia and Western Europe. Resource nationalism is once again at the fore. In many ways, the real issue is energy insecurity, accentuated by the access question—can you get in and develop the resources—and the huge problem of the rapid rise of costs in the energy sector. For example, according to the new IHS/CERA Cost Index, an upstream oil project started today will literally cost double what the same project would have cost had it be started three years ago. One reason for the high cost of oil is the shortage of people and equipment. One sees similar forces at work on the cost structure in the electric power industry.

There are two positive factors. First, we have never seen so much stress on energy efficiency, across the board. This is true in Europe and in the United States. China is changing, too, although price is a complex issue for Beijing. Another new thing is what I've dubbed "The Great Bubbling" in energy R&D. Especially interesting is the entry of the venture capital community. VCs are now investing billions annually in clean energy, far more than just a couple of years ago.

Former Senator J. Bennett Johnston, Chairman, Johnston & Associates

Ralph Peterson, Chairman and CEO, CH2M Hill

Dr. Shirley Ann Jackson, President, Rensselaer Polytechnic Institute

The National Petroleum Council (NPC) recently completed a major study entitled "The Hard Truths about Energy." The starting thought for the study was concern about the future of oil and gas supplies. There were 350-plus participants—65 percent from outside the oil and gas industry—who looked at more than 100 other private and publicly commissioned energy studies to arrive at a balanced assessment of the outlook for energy supplies in the coming decades. The study concluded that:

- World energy demand will probably grow about 60 percent over the next 25 years unless there are very dramatic changes in energy efficiency.
- The energy mix will include oil, gas, coal, renewables and nuclear.
- The world is not running out of oil, but there is an access issue, as well as technical challenges.
- The risks are growing around energy—where it's located, the supply chain, the scale and cost of the environmental impact. These risks are adding to the challenges for the global economy.
- The solution is to use everything, including demand moderation, oil and gas, renewables, nuclear, etc.
- Energy independence is not foreseeable in the near future. The issue is about enhancing U.S. energy security, including by such means as strengthening U.S. trade relations.
- We need well-functioning global energy markets.
- We must address the reality that 55 percent of the U.S. oil and gas workforce is 10 years or less from retirement—similar to the power industry.
- Carbon constraints will be a very important part of the future energy equation.

The NPC report made five major recommendations:

1 Pursue both energy efficiency and conservation.

2 Expand and diversify the U.S. energy supply. Exploit marginal oil and gas well. Another example: Although exploration is not allowed off the U.S. East Coast today, it would be constructive to at least assess what might be there, using today's technology and environmental practices.

3 Strengthen U.S. and global energy security.

4 Promote science education and technology leadership.

5 Address the need for carbon constraints.

OPEN DISCUSSION HIGHLIGHTS

Since its publication, the NPC report has generated debate, especially from people who believe the world is running out of oil, about the weighting of the recommendations. There has also been debate about the report's push for strong fuel efficiency in autos. Regarding a possible fuel tax, nothing is likely to happen ahead of the Presidential election. An MIT study on coal said it is still too early for reliable data on carbon sequestration. There has been considerable surprise on the macroeconomic side: as prices rose, demand didn't seem to fall; there was no elasticity. This raised the question, have we hit the threshold yet or is there a lag? We need to develop a consensus on the elements of energy policy and how to move it forward. The Chinese are very concerned about energy issues. They are heavily occupied with their own environmental issues. In order to participate in the global energy security system, India and China need to see this as a global market that is not rigged against them.

Governor John Engler, President, National Association of Manufacturers and Council President, Deborah Wince-Smith

Richard Meserve, President, Carnegie Institution and Angie Howard, Vice President and Executive Advisor to the President, Nuclear Energy Institute

George Manoogian, Director of Strategic Planning and Special Projects, Utility Workers Union of America, AFL-CIO; Michael Langford, National President, Utility Workers Union of America, AFL-CIO; Ann Randazzo, Director, Center for Energy Workforce Development

The Energy–Competitiveness Relationship

INDUSTRY PERSPECTIVES

Moderator: Robert Fri, Resources for the Future

When familiar information on energy is viewed through the lens of competitiveness, it takes on a new dimension. The NPC report concluded that the energy system is consumer driven. Energy policy that works is policy that serves the consumer. And because oil and gas resources are mainly in the hands of the non-private sector, energy depends as much on foreign policy as energy policy. We all understand that energy technology will be a big part of the solution, but how it comes to be and how it gets deployed is a process that we don't understand very well. As others here have commented, maybe we need to think about how innovation really works. We are now going to get away from the big picture of the scene-setting presentations and get to some ground truth. We are going to ask real competitors in the global marketplace, who are facing real threat and real opportunities from the changing energy system, to tell us what they see.

James Fischer, U.S. Department of Agriculture; Marilyn Brown, Georgia Institute of Technology; Gene Huang, FedEx Corporation; Robert Fri, Resources for the Future; Peter Evans, General Electric Company.

Gene Huang

FedEx Corporation

By 2030, transportation will be the largest consumer of energy. Today, transportation depends almost exclusively on liquid petroleum fuel. Industry has been relentless in pursuing fuel efficiency. Hybrid engines are being tested for truck fleets. Real growth for transportation volumes is projected at roughly 6–6.5 percent per year but fuel consumption at only 2–2.5 percent. Part of the fuel efficiency comes from new materials, part from operational measures. It is much more difficult to apply new technology to air fleets because the average life of a plane is 25 years. For trucks, the life cycle is roughly three years, so it's easier to adopt new technology. An uninterrupted fuel supply is essential. Jet fuel imports account for 12 percent of U.S. demand, so a goal of zero imports would be unrealistic. Major international oil companies provide less than 20 percent of global oil, with the other 80 percent government-controlled. Most new sources of oil are in Asia and Europe, not the United States. Within NAFTA, Canada and Mexico have oil and natural gas, and this might help meet U.S. demand. FedEx increased its storage capacity after Katrina, as did most U.S. companies. In our case, this included storage at airports. We also developed contingency plans on a worldwide basis.

James Stanway

Wal-Mart Stores, Inc.

Wal-Mart operates the first- or second-largest private truck fleet in the United States and is China's seventh-largest trading partner. We are the largest private electricity consumer in the United States. Our goals are to reduce cost and exposure by moving to 100 percent renewable energy consumption and decarbonizing our supply chain. We've boosted our energy efficiency within our own footprint by, for example, using LED lighting in collaboration with GE. This close collaboration has brought about significant reductions in energy consumption. We also have goals for making our truck fleets more efficient, such as using hybrid 18-wheel trucks.

With projects this big in the United States, local policies and codes can prohibit more energy-efficient changes. We need something that's standardized if we're going to get energy technology out there quickly. Compact fluorescent light bulbs can make a big difference on the customer side. In our Sam's Club operation, the cost of sales to small businesses has historically impeded new technology adoption. We're testing ways of marketing energy services to small businesses. For our supply chain, we have a technology transfer program that could be very powerful if it works. For the products we sell ourselves, we've asked about 50 supplier companies for information on the energy embedded in their products. Many lack expertise and see this as compliance issue rather than a business development issue. It is not about compliance. It's important to understand where the energy is in your supply chain. The companies that are good at this today tend to be European.

Scott Brown
Exelon Corporation

In the electric industry, energy is our business. Congress passed an Energy Policy Act in 1992, and after it was implemented in 1999, this act opened up the wholesale marketplace in our industry. It allowed competition to replace command-and-control in local markets. It allowed companies to sell into other markets. It led to new players, including independent power producers and independent transmission companies and resulted in the consolidation of companies along with new technologies, such as the combined cycle gas turbine. There were winners and losers. The Exelon nuclear fleet in the late 1990s had availability of 50 percent. By the end of 2000 this had risen to more than 90 percent. Availability is over 96 percent today in our fleet of 17 nuclear plants. We also saw the emergence of organized regional markets, thanks to the formation of a large transmission highway where the best products can be sold over a wide area. Over 70 percent of the wind energy in the United Sates is sold in these organized markets. On a macro basis, since 1990, U.S. electricity prices have decreased 15 percent with inflation accounted for, yet demand has increased. With new science, we now know that climate change is real, so the electric industry has a big challenge. There is also the challenge of the global economy that's produced double-digit increases in fuel costs. Federal legislation will call for the reinvention of how

"We haven't abandoned the Bentonville legend. We're still going to drag you in and talk to you about price. But there are going to be environmental metrics now, too. And we want to reward those high performers. So if there's a product with environmental attributes, delivers a great customer value, then we can give it some extra shelf space. And we firmly believe that the companies that go through the kind of processes and thinking in taking this risk out of the supply chain and down to the individual companies—these are going to be the better companies to work with in the long run."

James Stanway, Wal-Mart Stores, Inc.

> "I heard a theme throughout the talks, and it was one of the ones I circled. And my walk-away was the value of looking at the supply chain. And I think we have to look at the supply chain on energy production as well."
>
> Scott Brown, Exelon Corporation

we produce and deliver energy in this country. We need to see consumer behavior changes. The big challenge for policymakers is whether to go forward with market competition or command-and-control. We think the struggle of competition has to be there.

Jody Howard

Caterpillar Inc.

Caterpillar is involved on many sides of the energy issue. Our products and technologies are used worldwide to harvest, transport and convert fuels. Our power generator products represent one-third of our business. We are also the world's largest producer of clean diesel and natural gas engines. Our key choices have been around operational efficiency in plants/facilities, energy efficient products for our customers and advocating policy decisions that are environmentally friendly, but economically sound. Conservation is a critical step to buy time, but it is not enough. We need to fully leverage existing technologies and resources. In my lifetime, today's main fuels will remain the main fuels, so we have to use them efficiently. We need the flexibility to develop more energy supplies, including nuclear and diesel fuel. And we need to invest in developing new technologies and sources, including alternative and renewable fuels. Ultimately, we need a balanced energy portfolio that includes traditional and new energy technologies. We need not just national, but global, legislation.

Glen Lewis

University of California, Davis

Energy and climate change issues are critical in all aspects of the food and agriculture supply chain, including the energy costs of crop production and animal feeding. California is the world's fifth-largest producer of food and agricultural commodities and the largest producer in the United States. People take food safety and availability for granted, but this system is very fragile. After 9/11, food safety and security received more attention. This is really a national security issue. Only certain areas of the world can produce food, and climate change can affect weather patterns critical for food production. Increased soil temperatures require more irrigation, and that creates higher energy costs. Logistics are another concern: the fresher produce people want, the greater its perishability because of increased transportation frequency. The food industry is heavily regulated, but it has a strong history of innovation—and as many business case studies can reference, industries and countries that are heavily regulated are typically the most innovative and competitive.

> "What we found in Dupont was we first set our energy efficiency goals in the pretty early '90s, and it really took putting a thumb on the scale to get people to actually pay attention to that as a preferred place to put their dollars. Because in the manufacturing segment, the first place you want to put your dollars is in more pounds. What we did is say, 'You know what?... Figure out how to make more pounds with less energy. Make energy efficiency a productivity tool. You're going to do better that way.' But it really does take a level policy and focus to bring even those cost-effective investments up to the top of the pile so people look at them differently."
>
> Michael Parr, Dupont

John Keith
Pfizer Inc.

The pharmaceutical industry is not a major user of energy because its products are low in mass—there is not as much to make or ship. Still, energy is a major and growing cost for pharmaceutical firms. On a pound-for-pound basis, pills are very energy-intensive products because of their long, complex manufacturing processes and supply chains. Pfizer conducts extensive R&D that is very energy-focused. The pharmaceutical industry is global and highly competitive. No one has a dominant share in any market. Competition from Indian pharmaceutical companies is very real, for example. In the United States, more than 50 percent of prescriptions are from generic pharmaceutical companies. Over-the-counter medicines have even higher volumes. There is growing sensitivity to the cost of energy and the cost of goods. We've looked at energy efficiency for more than five years and have teams focused on this around the world.

As energy prices and competition with generics have increased, we have paid more attention to energy-efficient, green operations. The availability of the energy supply is critical. Any interruption could result in the loss of product through lack of refrigeration or other factors. On the R&D side, an interrupted energy supply could mean the loss of a year's work. To ensure reliability, we focus on back-up suppliers, but there's only so much you can do on site. A lot has to come from the grid. Hospitals and clinics have very high energy costs and opportunities for improving efficiency. The cost of health care is a major concern in the United States, and energy is a big factor in health care costs. I've seen little evidence that people are paying attention to this.

"Our experience has been that the more we look into energy efficiency, the more we find opportunities, conventional opportunities, like making our buildings more efficient, and process opportunities, by making greener processes. In fact, we're not seeing a bottom to this well. We're not seeing that we're running out of low-hanging fruit."

John Keith, Pfizer Inc.

Elizabeth Cheney
Shell Energy Resources Company

Fossil fuels are at the heart of the energy system and should continue to be part of the mix. The world produces 85 million barrels a day of fuel and consumes a bit less than this. We need near-term access to untapped energy sources, such as off the continental shelf. Shell is developing technology to get more out of current sources. We expect unconventional sources to grow within our portfolio, including technologies that are not oil-based, such as wind, solar, hydrogen, and second-generation biofuels. Our goal is to make a substantial commercial business out of at least one of these. Unconventional sources could grow to one-third of our supply mix by 2015. The key is to manage our carbon footprint. We are doing many things in this area. We have a corporate commitment to sustainable development, which we define as meeting current needs without compromising the ability of future generations to meet their needs. This includes safeguarding the health of our employees and the communities where they work. We also have workforce challenges, especially the "crew change" that will be needed because of the retirement of the aging workforce.

"We see Shell's ability to remain competitive as greatly impacted, or maybe dependent upon, our ability to access new resources; expand our own conventionals; develop technologies around alternatives; manage CO^2 emissions; maintain our license to operate through economic, environmental, and social responsibility; and continue to develop our workforce. And these things not only have to be done, but have to be done very well."

Elizabeth Cheney, Shell Energy Resources Company

OPEN DISCUSSION HIGHLIGHTS

- **Decarbonization of the supply chain is very complicated. The first step is to understand how much energy is in the products we get from suppliers. We need to start bringing the supply chain up the learning curve.**
- **A lot of energy is embedded through feedstock use. As we think about energy costs, we need to think about feedstocks.**
- **There is little difference between the energy efficiency performance of overseas foreign suppliers and U.S. factories. Some companies have standards that call for terminating any supplier in any part of the world that intentionally disregards environmental standards.**
- **If a coal-fired plant increases its efficiency by 1 percent, that means 100,000 fewer tons of CO^2. These are the types of efficiencies to look for.**
- **To get to significant scale in biofuels, significant breakthroughs in innovation are needed. There ought to be open access, transparency and opportunity for innovators to take the business risk and be rewarded for it.**

INTERNATIONAL DIMENSIONS OF THE ENERGY–COMPETITIVENESS RELATIONSHIP

Moderator: John Mizroch, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy

The United States has five percent of the world's population yet accounts for 25 percent of the world's energy use today. The most significant global developments in the 20th century were not the invention of the computer, the Internet or penicillin, but population increase and urbanization. These developments have had incalculable effects and will drive what happens in this century.

In 1950, there were 191 cities in the world with a population of one million or more, and two megacities (8 million or more), New York and London. Today, China alone has over 40 cities with populations of four million people.

In 1950, there were 70 million vehicles in the world. Today, there are more than 800 million. China alone—which had around one million privately owned vehicles in 1992, and sold over seven million in 2006—now has as many as 30 million vehicles and is projected to have over 200 million in two decades. Department of Energy estimates show that in a short time, the world will add half a billion vehicles to today's one billion.

Three of the world's largest, most important nations have not signed the Kyoto Protocol. At least 50 percent of what multi-nationals make is outsourced. The rest of the world has the means, the capital and the right to develop. How do we influence things under those circumstances? Whatever we do in the United States is fine, but we're less than 5 percent of the world population.

We're playing a multidimensional chess game, where we see the nationalization of energy resources and their potential use for political purposes.

Peter Evans

General Electric Company

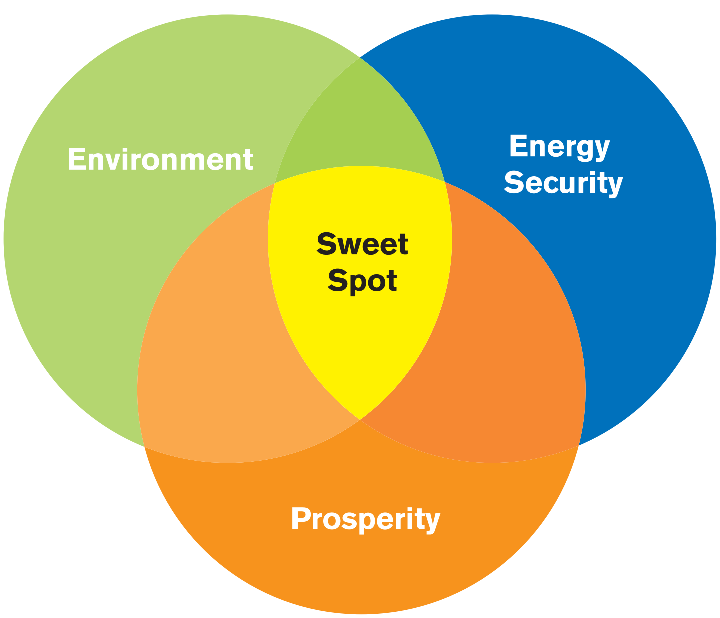
Global energy dynamics include rapid economic growth, rising prices, workforce shortages and global warming concerns. There is a basic structural change in the marketplace. The need to develop new technology solutions is driven by higher energy prices, the need for energy security and for more diverse solutions and concern about the environment. GE has a strong commitment to developing new energy technologies through worldwide acquisition and organic growth.

About four years ago GE bought a wind business. It was considered kind of a small thing but not really part of the main business of supplying power to the energy generation system. That has changed. We have grown that business from about a half a billion to four billion dollars. And a lot of investment is going into making wind a mainstream generation technology.

There are two types of government policies that breed demand: "demand-pull" policies such as environmental regulations, administrative measures, tax incentives, and subsidies; and "supply-push" policies such as providing market information to address market failures and diplomacy engagements with other countries. Some government interventions can distort markets and lead to policy failures. Lack of credible commitment is one example. Another is protectionism. A concern I have is that environmental regulations are often a mask for protectionism. We need to be vigilant about green industrial policy. The United States has maintained an open trade system, and we need to keep this up in a carbon-constrained world.

8. Energy Security, Innovation and Sustainability —What is the Optimal Policy Focus?

Source: GE Energy



"Obviously there are multiple goals that we are trying to achieve. One is energy security. One is environment. One is prosperity. I think that these overlap. And so what we need to focus on is thinking about how we can develop policies that hit that sweet spot that combine all of those. But certain policies can—if they are too far out of that sweet-spot—lead to the dead rat syndrome, where you are concocting products or policies that maybe achieve some but not all of the goals that you are trying to achieve."

Peter Evans, General Electric Company

Jayant Santhaye

Lawrence Berkeley National Laboratory

On the technology front, our lab does a lot of R&D. We signed a $500 million contract with BP recently. We expect a lot of new biofuels science in the next five years. Tech transfer from the labs to industry has grown in our lab and other DOE labs.

For private sector firms, intellectual property rights are a major challenge for competitiveness. But an even bigger problem is unequal environmental controls. If American manufacturers put controls into their plants but Chinese manufacturers don't need to do it, the Americans are at a competitive disadvantage. Developing countries have resisted, from a government perspective, dealing with emissions controls. But they have been trying to reduce local air pollution. If we develop technologies that allow them to do both, it would be an enormous benefit. Many technologies exist today but are not being implemented in developing nations. Many of these are negative cost solutions. We need to figure out what the transaction costs are and work around them.

Michael Walsh
Chicago Climate Exchange, Inc.

We operate the European Climate Exchange and Chicago Climate Exchange. A capital markets-based, positive mechanism for managing emissions creates enormous advantages for those that embrace that pricing and management mechanism. The country in the world with the most emissions under contractual commitments by the end of this year will be America and no longer Germany. The potential for terrestrial carbon sequestration (for example, trees) is largely ignored in the United States. We need to focus on a business emissions budget. There should be aggressive mitigation goals with solid enforcement. We should let the market work. Many improvements are very low-tech and just require organizing.

Robert Estill, Marathon Oil Corporation and John Amdall, Caterpillar Inc.

"So, if we let the market work, encourage grabbing of that low-hanging fruit, use a positive pricing system, you're going to get competitive advantages thrown off as a result–better materials used, better energy used, smarter management of both quantities and prices. These are things we are seeing from a cap and trade tool."

Michael Walsh, Chicago Climate Exchange, Inc.

Mark Petri, Argonne National Laboratory and Michael Parr, DuPont

OPEN DISCUSSION HIGHLIGHTS

- Top-down solutions are not going to emerge. Progress will occur company by company, and the private sector can show governments what to do. An exciting side benefit of an emissions budget is that people want to beat it. They take ownership of the problem. Cap-and-trade could be the dominant tool, although not the sole tool. The market responds powerfully to innovative incentives, not to punitive policy.
- The implementation details of a carbon pricing mechanism are extremely important and that is where a lot of the debate will happen. It may make more sense to do cap-and-trade within nations rather than as a global regime.
- Quantification of emissions is not so difficult, but the definition of what we cover and how we allocate is difficult. It is unlikely that we will go to a single standard. There are different types of crude oil, for example, and different accounting methods in the United States and Europe.
- The National Commission on Energy Policy (NCEP) has spent time discussing the cap-and-trade system. The NCEP endorses it because it promotes innovation and carbon reductions of the cheapest nature. For example, if a company can not afford to reduce their carbon they can focus elsewhere and buy emission credits from someone else. We need to put a cap on the cost of a permit and have this cost rise over time. We need to put a cost on carbon. Tax and cap-and-trade are not that much different in that respect.
- There is a powerful tool in supply chain management to change the dynamic around carbon. As supply chains become more global and interlinked, customers are telling companies what to do and what not to do.
- Whether we implement carbon taxes or cap-and-trade, if global businesses have price structures driven by this and competitors are not subject to it, that creates an incentive for outsourcing to those places.
- We may not get cap-and-trade right the first time, but it is better not to wait for perfection.

WORKFORCE COMPETITIVENESS WITHIN AN ENERGY SECURITY FRAMEWORK

Moderator: Carl Van Horn, John J. Heldrich Center for Workforce Development, Rutgers, The State University of New Jersey

Many ambitious plans have been discussed in this Dialogue, and none can be achieved without an effective workforce strategy. On the labor demand side, there is more competition for talent across countries and across sectors. Other sectors are demanding the same kinds of skills. Also, there has been a decline in the number of U.S. laborers. College attendance is probably at maximum level. There are also many examples of dislocation in the American workforce. On the supply side, there is debate about immigration policy in the United States. All of this is happening in the context of a complex, local-state-federal intergovernmental structure. If some government intervention is needed, what are those policy pearls? We also need to think about the consequences of energy changes in dislocating industries: which workers will pay the price?

Limited Natural Resource–A Well-Educated and Skilled Workforce

Energy companies are experiencing all of the workforce challenges faced by other U.S. firms, but the problems are more severe than in other sectors of the economy:

- The average age for workers in the energy industry is near 50, whereas the average age of all U.S. workers is just above 40.
- At least half of electric utilities' technical workforce may retire in the next 5 to 10 years.
- America's oil and gas workers average 50 years in age. Half are likely to retire by 2010. Retirements will occur at all skill levels—from equipment operators and truck drivers to scientists and engineers. There is an inadequate supply of qualified replacement workers. For example, enrollment in U.S. undergraduate engineering programs fell 79 percent between 1982 and 2004.
- Demand for 250,000 replacement workers in the energy utility field (2007–2017) is projected to far exceed current supply—not including thousands more needed to fill related construction jobs.
- By 2010, the shortfall in the supply of electric lineworkers may be as high as 10,000–21 percent of the current number working for utilities or outsourcing companies.

Source: John J. Heldrich Center for Workforce Development, Rutgers, The State University of New Jersey

Ann Randazzo

Center for Energy Workforce Development (CEWD)

The CEWD, formed in March 2006, is consortium of major national associations for the energy industry. It also has members who are electric and natural gas utilities. The organization came together around a single issue: creating a new energy workforce. It decided to pursue strategies that could be developed regionally. Baby boomers will start retiring in five years. This will hit utilities four years earlier than other industries. We face losing half our workforce in the next five years while the demand for electricity is increasing. Energy companies are willing to invest in bricks and mortar; the obstacle is finding new workers to build and run new plants while we are also replacing retiring workers. There is a significant need for more skilled workers in the electricity and natural gas industries. Some companies are already having problems with this. CEWD identified the most critical job categories and conducted a survey to quantify how many new workers would be needed in each category. Some of the results: 30,000 new line workers, 30,000 new power plant technicians and 15,000 new technicians will be needed. We must understand what skills are involved so that we so can develop the right training programs and partnerships with educational institutions. We also need to look at mid-career hires and the military.

> "What is the challenge when we are dealing with this workforce? We've got two things: we have an aging workforce at the same time that we have an aging infrastructure."
>
> Ann Randazzo, Center for Energy Workforce Development

George Manoogian

Utility Workers Union of America (UWUA), AFL-CIO

Technological changes will make production more efficient but won't compensate for the labor shortage on the near horizon. The UWUA is partnering with companies with which we have contracts to create pockets of educational opportunities across the country. We are asking educational institutions to put in place the needed curricula.

How will we deliver cost-competitive energy? Unless we create a trade policy in the United States that recognizes how we do business with other countries, our utilities won't be on a level playing field with the rest of the world. The whole world needs to implement some of the same standards that U.S. utility companies have to follow. GE and Wal-Mart are already ensuring that their non-U.S. suppliers meet their environmental standards. The U.S. government needs to do the same thing and keep our utilities on a level playing field with the rest of the world.

"The one thing that I really learned that was different than what I had thought about on both energy and in the context of climate change is better understanding the workforce constraints–understanding the fact that we have very limited skilled labor to really implement the kinds of energy-related investments we think are going to be necessary over the next several decades."

Joseph Aldy, Resources for the Future

Douglas Banes

United Brotherhood of Carpenters & Joiners of America

When we add costs to our utilities, it threatens U.S. companies' competitiveness. America needs not just free trade but fair trade. For the past 10-15 years there has been a shortage of skilled workers. The number one issue in the 2000 FMI study on U.S. construction markets was the fierce competition for talent. There are problems recruiting new workers into our industry. There are perceptions of intransigent managements and pay no better and benefits much worse than in most industries. We have been taking these problems seriously and offer extensive apprenticeship programs, along with skilled training at 230 centers in the United States and Canada, certification for millwrights and college-level training programs.

"No one likes outages at home, but these will become longer and longer if we don't have a trained workforce that's large enough."

George Manoogian, Utility Workers Union of America, AFL-CIO

OPEN DISCUSSION HIGHLIGHTS

- **The workforce issue is huge for energy producers and consumers. Science education needs to be made attractive and fun. Career progression needs to be better articulated to young people. Hiring is not enough; you need to also retrain workers from other sectors.**
- **The necessary quality of education is not there. In the eighth grade, kids choose college over the technical track.**
- **Undergrads are not hearing about the relationship between electrical and mechanical engineers and the environment. They are not being told they can help solve real problems in this field. The teachers and textbooks do not do this.**
- **The National Science Foundation has been grappling with this education issue for some time. More students are choosing finance and business, and fewer are choosing science and engineering, which pay much less.**
- **The teachers themselves need to be educated. The United States has created a national structure in which advanced placement courses are the key to college admissions, and they are essentially devoid of engineering content.**
- **There is a fundamental disconnect between universities and industry. People are graduating with little sense of what is available in the marketplace or how to get a job in energy.**

Dialogue I Postscript

Following the Workforce Implications discussions, Dialogue participants broke up into three groups to address a number of questions designed to help the Council on Competitiveness encapsulate and distill the outcomes from the two-day convening. In the course of these small group discussions, the experts developed conclusions, "take-aways" and also put forth ideas and suggestions for how both the government and private sector could step up to meet the challenges and opportunities presented by the need for energy security and sustainability. The group's output is reflected in the themes that have been articulated in the Executive Summary of this proceeding. They have also been integrated into the ongoing deliberations of the Steering Committee for the Energy Security, Innovation & Sustainability Initiative. The Council would like to express its deep appreciation to all who participated in Progressive Dialogue I for their active engagement, thoughtful contributions, good will and for committing their valuable time to this Initiative.

"My take-away from this Dialogue is that the carbon footprint is going to be a key element of competitiveness for businesses; they are going to start to focus on it. I am going to look for that in the business plans and annual reports that I get and see if companies have a strategy for this or not."

Nag Patibandla, Rensselaer Polytechnic Institute

Energy Security, Innovation and Sustainability Initiative Steering Committee (As of January 1, 2008)

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Frank L. "Skip" Bowman, U.S.N. (Ret.)
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University of Illinois at Urbana-Champaign

Susan Hockfield
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About the Council on Competitiveness

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The Council's mission is to set an action agenda to drive U.S. competitiveness, productivity and leadership in world markets to raise the standard of living of all Americans.

The Council on Competitiveness is the only group of corporate CEOs, university presidents and labor leaders committed to ensuring the future prosperity of all Americans and enhanced U.S. competitiveness in the global economy through the creation of high-value economic activity in the United States.

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HOW WE OPERATE

The key to U.S. prosperity in a global economy is to develop the most innovative workforce, educational system, and businesses that will maintain the United States' position as the global economic leader.

The Council achieves its mission by:

- Identifying and understanding emerging challenges to competitiveness
- Generating new policy ideas and concepts to shape the competitiveness debate
- Forging public and private partnerships to drive consensus
- Galvanizing stakeholders to translate policy into action and change

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To the 130 social entrepreneurs who offered their time and perspectives, a heartfelt thank you for your candor, courage and inspiration. And, our best wishes for your success. A list of social entrepreneurs who participated in our research is provided in Annex 2. We have omitted, however, those organizations who asked for confidentiality in their responses.

In addition, we would like to thank others who made helpful — in some cases usefully provocative — inputs: Gib Bulloch of Accenture; Bill Drayton of Ashoka; José Manuel Entrecanales of Acciona; Tim Freundlich of the Calvert Social Investment Foundation and Good Capital; Jonathon Hanks of University of Cambridge Programme for Industry; Gary Hirshberg of Stonyfield Farm, Inc.; Kurt Hoffman of The Shell Foundation; Jean Horstman of InnerCity Entrepreneurs; Oliver Karius of VantagePoint Global; Colin Le Duc of Generation Investment Management; Martin Newman of The Company Agency; Jacqueline Novogratz of Acumen; Eric Rassman of UCLA; Linda Rottenberg of Endeavor Global; Samer Salty of zouk ventures; Björn Stigson, World Business Council for Sustainable Development; Tom Vander Ark of The X Prize Foundation; and, from the SustainAbility Faculty, Sir Geoffrey Chandler, Francesca van Dijk, Bob Massie and Andrea Spencer-Cooke.

We hope that those who took part recognize most of their contributions in what follows. We gratefully acknowledge the use of the '10 Routes to Money' framework, taken from *The Power of Unreasonable People: How Entrepreneurs Create Markets to Change the World*, by John Elkington and Pamela Hartigan, to be published by Harvard Business School Press in February 2008. Finally, our gratitude to Rupert Bassett for his design. As ever, all errors of omission or commission are ours alone.

Sally Osberg

Forewords

Skoll Foundation foreword

Fast forward: it's 2020, and the world has changed. With perfect hindsight we take stock of what we did, or didn't, to bring about what's different — good, bad and negligible. It's a good bet that we will be saying that 2007 marked a turning point, and that John Elkington, SustainAbility, and a relatively new phenomenon called social entrepreneurship can take the credit for changing the way we think about business, investment and social progress.

For two decades, SustainAbility has tuned its radar to pick up signals of what the future might hold, and then used this intelligence to advise mainstream corporations on how to re-tool for long-term competitive advantage — with that advantage encompassing what founder John Elkington has termed the 'triple bottom line' of economic, social, and environmental performance. So when John began tracking signals from social entrepreneurs and considering their relevance to corporations doing business in a globalized world, we at the Skoll Foundation took note.

This report is the first product of the Skoll Foundation-SustainAbility partnership, and we hope our fellow travelers in the worlds of business and social entrepreneurship find it informative, useful, and provocative.

On one level, the report probes familiar themes: social entrepreneurs feel hamstrung by their lack of access to capital, concerned for the visibility and differentiation of their solutions in a competitive landscape, and worried about their ability to attract the talent and commitment needed to expand their impact. No surprises here, but humbling, even sobering reminders for those of us committed to investing in these folks, their models and their ventures. Serious challenges persist, challenges that constrain what social entrepreneurs will be able to achieve even as their ranks increase and their champions multiply.

The report becomes more intriguing in the soundings it takes of the healthcare and energy sectors. Here the increasingly complex environments — geographic, economic, socio-political — in which business must operate today seem to cry out for what social entrepreneurs have to offer: innovative, highly adaptive models that directly and indirectly serve mainstream business's larger interests.

Social entrepreneurs who are changing the landscapes of these industries, SustainAbility suggests, have a distinctive way of 'reperceiving' many of the enormous and urgent challenges before us — climate change, access to and delivery of healthcare for developing world populations, and overwhelming poverty — as opportunities 'to leverage the power of markets and business to have transformative, system-wide impacts.' The report dubs this emergent, integrated approach 'Mindset 3.0,' differentiating the advance from predecessor 1.0 compliance-focused and 2.0 'cause related' stakeholder-involved modes still dominant even at progressive corporations.

Mindset 3.0, of course, is fundamentally entrepreneurial; in 'reperceiving' well-entrenched but unsatisfactory systems as opportunities, Mindset 3.0 cracks the code of resistance inherent in any well-established equilibrium — from fossil fuel dependence to health care delivery to over-consumption. That social entrepreneurs should excel at 3.0 thinking comes as no surprise. After all, social entrepreneurs are entrepreneurs first and foremost; it's just that their value propositions target neglected, disadvantaged or suffering segments of society. Underlying Mindset 3.0, I'd suggest, is the realization that this segment of society matters, that it is no longer possible to ignore two-thirds of the planet's population or fail to account for the consequences of industrialization in the developing world. Our very survival as a species and as a planet is at stake.

Yes, mainstream business absolutely needs what social entrepreneurs know and do. And social entrepreneurs need much of what corporations have and take for granted. Ultimately, this first SustainAbility report suggests that a better future — for business, society, and the planet — may very well depend on how well both learn and work together.

Onward!

Sally Osberg
President and CEO


Maggie Brenneke


John Elkington


Sophia Tickell

SustainAbility foreword

The entrepreneurs we surveyed are experiencing growing pains, but their capacity to see new market opportunities and experiment with novel business models and leadership styles makes them an amazing source of insights for mainstream business.

A growing array of apparently insoluble socio-economic, environmental, and governance challenges presses in on decision-makers — including climate change, the risk of global pandemics, the growing threat to natural resources like water and fisheries, and the ever-present issues of poverty and hunger. *Growing Opportunity* — the first in an annual series of surveys conducted by SustainAbility in partnership with The Skoll Foundation [1] — explores the potential for more entrepreneurial solutions to such challenges. The key messages: At a time when such challenges seem to narrow our horizons, they are creating a wealth of new opportunities, but to enjoy them longer term we must ensure real opportunity for a very much greater proportion of the global population.

This first survey has been financially supported by Allianz and DuPont, as noted in our Acknowledgements. We are proud to work alongside these partners and, over time, we believe that a growing number of mainstream business and financial institutions will follow their lead in recognizing the extraordinary potential value of what social and environmental entrepreneurs are doing. That said, it is clear that many people in mainstream business still struggle to understand what is going on in this space and its relevance for them.

More positively, a number of recent developments have helped ensure that growing numbers of business people do at least invest the effort to learn.[2] Indeed, these are extraordinary times, with social and environmental entrepreneurs alike on a roll. Muhammad Yunus — probably the world's best-known social entrepreneur — won the 2006 Nobel Peace Prize,[3] following in the steps of Wangari Maathai in 2004. The work of social entrepreneurs is also increasingly spotlighted at events like the World Economic Forum in Davos, by the Clinton Global Initiative and at summit meetings organized by Acumen, Ashoka, Endeavor Global, the Schwab Foundation, and the Skoll Foundation. The efforts of social entrepreneurs are extensively covered in the media — in the pages of *Time*, *Newsweek*, *Fast Company,* and the *Financial Times*.

New initiatives network them in novel ways, among them xigi [4] and i-genius.[5] And a growing wave of money chases for-profit cleantech investments and markets for healthy living, such as organic food.

Growing numbers of mainstream corporations are switching on to the area — and trying to work out what the business case might be for investment, partnership, or other forms of engagement. Take DHL, with its new initiative, the Young Entrepreneurs for Sustainability (YES) Awards, initially launched in five Asian countries and designed to support young entrepreneurs working to help meet the UN Millennium Development Goals.[6] Or take the case of Groupe Danone, the French dairy company, which is leading the new trend with its breakthrough partnership with the Grameen Group in Bangladesh. The aim: to supply fortified yoghurt products to the nutritionally deprived.

Coincidentally, the launch of Growing Opportunity at the Skoll World Forum will mark the 20th anniversary of SustainAbility's founding. The report is a companion piece to an ongoing study of the future of globalization, due to be published in mid-2007. Through its evolving Skoll Program, SustainAbility plans to develop and communicate a deeper understanding of the links between social entrepreneurship and the six sectors on which we now focus: Capital Markets & Finance, Chemicals; Energy; Food & Beverage; Healthcare; and the Knowledge Economy.[7] Our overarching aim: to help build bridges between the mainstream corporations and financial institutions, which make up most of our client and partner base on the one hand, and — on the other — the extraordinary entrepreneurs and enterprises described in the following pages.

Maggie Brenneke
Director and Skoll Fellow

John Elkington
Founder and Chief Entrepreneur

Sophia Tickell
Chair

1 www.skollfoundation.org
2 www.sustainability.com/downloads_public/skoll_reports/business_primer.pdf
3 http://nobelprize.org/nobel_prizes/peace/laureates/2006/
4 www.xigi.net
5 www.i-genius.org/home/
6 www.dhl.com/yesawards
7 www.sustainability.com/sa-services/sectors.asp

Paul M. Achleitner

Linda Fisher

[8] Note: unless otherwise stated, all $ references are to US$.

Allianz foreword

As a leading financial services and insurance company, Allianz is acutely aware of how global trends such as aging populations, climate change and the globalization of supply chains are affecting our customers and our communities. The sorts of questions we address on a daily basis include: How can people ensure that their loved ones and assets are protected from the full spectrum of risks, including ever-increasing manmade and natural disasters? Do people have access to affordable and reliable health care — and, if not, what can be done to meet their needs? And where will the processes of globalization take our customers, our industry and our company?

We see it as our responsibility to empower our customers to prepare for and respond to these and other challenges. But we cannot do this alone. While we bring significant experience, knowledge and passion to bear, we also seek inspiration from partners who can help us to think outside the box and act as catalysts for innovation.

Social entrepreneurs are one potential wellspring of insight and inspiration. Individuals from Bonn to Bangalore are seizing the chance to turn challenge into opportunity, in the process identifying and pioneering new markets. Microfinance, as an example, is now a $9 billion market that is increasingly empowering citizens to realize their full potential in society. Our hope is that collaborating with creative thinkers will help our people to realize their full potential — and to better serve the needs of present and future customers.

We are delighted to work alongside The Skoll Foundation and SustainAbility. This project has helped us to take a first look at what collaboration between mainstream business and social entrepreneurs might look like. While this is new territory for us, it is exactly the sort of opportunity space that our business needs to explore. We look forward to ongoing conversation on ways to develop and deploy new generations of sustainability solutions.

Paul M. Achleitner
Member of the Board of Management

DuPont foreword

The need for truly sustainable options for 21st century life remains one of the most critical challenges facing the global community. The work of the social and environmental entrepreneurs profiled in *Growing Opportunity* is truly inspirational.

As a science company, DuPont has an interest in being part of the solutions by putting our science to work in ways that can design in — at the early stages of product development — attributes that help protect or enhance human health, safety, and the environment. Through our science, we will design products and processes that pass rigorous criteria for the use of renewable resources, energy, water, and materials. We believe this is a direct route to a successful, profitable business that adds value to our customers, their customers, consumers, and the planet.

DuPont has broadened its sustainability commitments beyond internal footprint reduction to include market-driven targets for both revenue and research and development investment. The goals are tied directly to business growth, specifically to the development of safer and environmentally improved new products for key global markets, including products based on non-depletable resources.

And we are investing to ensure that DuPont moves towards sustainable growth. By 2015, we have committed to:

- Double our research and development investment in environmentally smart market opportunities;
- Double revenues to $8 billion[8] from non-depletable resources;
- Grow annual revenues $2 billion or more from products that create energy-efficiency and/or reduce greenhouse gas emissions for its customers; and
- Introduce at least 1,000 new safety products or services.

Linda Fisher
Chief Sustainability Officer

Executive Summary

At a time when such challenges seem to narrow our horizons, they are creating a wealth of new opportunities, but to enjoy them longer term we must ensure real opportunity for a very much greater proportion of the global population.

A growing array of socio-economic, environmental and governance challenges presses in on decision-makers — including climate change, the risk of global pandemics, the growing threat to natural resources like water and fisheries, and the ever-present issues of poverty and hunger. ***Growing Opportunity*** **— the first in an annual series of surveys conducted by SustainAbility in partnership with The Skoll Foundation — explores the potential for more entrepreneurial solutions to such challenges.**

The key messages: at a time when such challenges seem to narrow our horizons, they are creating a wealth of new opportunities, but to enjoy them longer term we must ensure real opportunity for a very much greater proportion of the global population. The report attempts to assess the current state of social entrepreneurship — the possibilities presented by new mindsets, the challenges entrepreneurs face in scaling their organizations and the opportunities for greater collaboration with corporations and others.

The survey findings are discussed in Chapter 2 (pages 11–22) and the — increasingly persuasive — business case for mainstream corporations and financial institutions to get involved is explored in Chapter 3 (pages 23–29). We look at three different mindsets that have characterized business thinking in relation to the relevant issues. If 1.0 was about compliance and 2.0 about citizenship, 3.0 is about creative destruction and creative reconstruction.[9] Chapters 4 and 5 then probe a little deeper into two key sectors, health and energy.

Our main conclusions are that:

1 **Social entrepreneurship is on a roll.** Social entrepreneurship is emerging as a powerful catalyst of the sort of change that governments and business are increasingly committed to — but rarely know how to deliver.

2 **The potential for breakthrough solutions is considerable — and growing.** Among the routes to breakthrough solutions and scaling discussed by our respondents, the following surfaced repeatedly: (1) grow individual social enterprises; (2) establish multiple enterprises; (3) get big organizations — whether companies, public agencies or NGOs — to adopt the relevant models and approaches; and (4) spur public policy legislation designed to fix market failures.

3 **The field is growing, but still relatively small.** To put rough numbers on the three areas of social enterprise, cleantech and philanthropy, we estimate that less than $200 million is going into social enterprise worldwide from dedicated foundations each year, compared with over $2 billion into cleantech in the USA and EU and well over $200 billion into philanthropy in the USA alone.

4 **Money remains the main headache.** Accessing capital is the No.1 challenge for the entrepreneurs we surveyed, with almost three-quarters (72%) putting this at the top of their priority list. Foundations are still the favorite source of funding for social entrepreneurs (mentioned by 74% of respondents), but there is a wide recognition of the need to diversify funding sources.

5 **Financial self-sufficiency is seen as a real prospect within five years.** The proportion of respondents expecting to be funding their own operations, with little or no dependence on grants, jumped from 8% to 28%.

6 **There is a real appetite to partner with business.** Social and cleantech entrepreneurs are equally interested in developing partnerships with business — but with different expectations. Social entrepreneurs, in particular, are acutely aware that they often lack the experience and skills needed. A constant refrain was the growing need for brokering between the entrepreneurs and potential business partners.

7 **Beware blind spots.** There is a risk that we may become overly focused on narrow definitions of social and environmental entrepreneurship. For example, it's easy to get excited about small start-ups in the renewable energy field, but we should remember the huge contributions already being made by much larger companies like **Acciona** in Spain, **Vestas** based in Denmark or **GE** based in the USA. And there is also a need to focus on ways of supporting social *intrapreneurs*, change agents working inside major corporations and financial institutions. The potential leverage at their disposal is huge.

8 **For real system change, we must focus on government and public policy.** Governments need to do more to shape public sector targets, tax incentives and pricing signals to ensure that markets drive change — and that the sort of ventures covered in *Growing Opportunity* reach their full potential.

[9] We adopted the 1.0 – 3.0 terminology during an Australian tour early in 2006. *Fast Company* also talk of Business 3.0 in their 'Fast 50' survey report, *Fast Company*, March 2007. The terms label different aspects of the same phenomenon.

1 Introduction

One thing that is likely to bewilder mainstream business brains entering the world of social enter-prise is the near-fetish for discussing definitions. Huge effort has been invested — and continues to be invested — in defining social and environmental entrepreneurship and in identifying and classifying the relevant entrepreneurs

How do you grow economic, social, educational, and political opportunity to the degree required to ensure that the 21st century is significantly less turbulent and violent than the 20th? Part of the answer will be to invest in entrepreneurial solutions to the world's pressing problems, and to build the system conditions in which solutions are encouraged to replicate and scale. In this sense, the social and environ-mental entrepreneurs discussed in *Growing Opportunity* are models of how to push towards a more sustainable future.

But that's not always how they are seen.[10] Business people encountering the world of social entrepreneurship for the first time often emerge confused, at least to begin with. The sort of questions they raise include: Why all the excitement? How are these people different from NGOs? Isn't entrepreneurship what business already does? How can you expect the world's poorest to represent any sort of market? And how can ventures operating at this relatively small scale ever hope to change the world, as they proclaim their ambition to be. All great questions, but before we start looking for answers, it is worth remembering the critics at the time could easily have expressed — indeed often did — the same skepticism about the likes of Pasteur, the Wright Brothers or, in more recent times, Steve Jobs and Steve Wozniak, who not only founded Apple but also catalyzed the early growth of the personal computer industry.

No doubt a great deal of debate went into what a germ was, into what sort of future aircraft might have or whether PCs would ever challenge the computing power of IBM's 'Big Iron.' One thing that is likely to bewilder mainstream business brains entering the world of social enterprise is the near-fetish for discussing definitions. Huge effort has been invested — and continues to be invested — in defining social and environmental entrepreneurship and in identifying and classifying the relevant entrepreneurs. Important work, no question, but you tend to know these people when you meet them. The air crackles with energy. They aim to turn apparently insoluble crises into tomorrow's political, social, and market opportunities.

Some definitions can be found on page 7, but as Jed Emerson — one of the field's most influential thought-leaders — warned us, an over-emphasis on definitions can be distracting. 'We risk wasting the coming years in endless discussions of how many angels dance on the head of a pin,' he argued, 'as opposed to what wonderful garments we might collectively stitch together.'

The key point is that a range of social, environmental, and governance challenges increasingly demand something more than corporate citizenship responses. They require innovative, entrepreneurial, and — often — disruptive strategies which incumbent companies are often ill-prepared to develop or deliver.

This isn't an either social entrepreneurship or big business agenda, but will involve both together. Looking at the worlds of our three sponsoring organizations, the evidence is clear. A company like the US chemical giant **DuPont**, with its long-standing 'sustainable growth' strategy, has the capacity to bring new solutions to scale. To take just two of DuPont's 2015 goals: it aims to grow annual revenues from products that create energy efficiency or cut greenhouse gas emissions by $2 billion, and to nearly double revenues from non-depletable resources to at least $8 billion. The involvement of German financial services group, **Allianz**, underscores the growing role of the financial sector in supporting entrepreneurial solutions to the broad spectrum of sustainability challenges. And Jeff Skoll's background as a co-founder of **eBay** spotlights the emergence of very different thinking on how business models can be designed to replicate and scale — even, if the **X Prize Foundation** has its way (page 29), in such demanding areas as poverty alleviation.

10 www.sustainability.com/downloads_public/skoll_reports/business_primer.pdf

'At its core, the corporate pursuit of sustainable development is not just about "doing good." It makes companies more entrepreneurial, nimble and competitive.'
Björn Stigson, WBCSD

So why are a growing number of business leaders suddenly so interested in the linked worlds of social and environmental entrepreneurship? And, with intensifying investor interest and lively media coverage, what is the current state of the key sectors now busily developing entrepreneurial solutions to the world's looming sustainability challenges? These are questions **SustainAbility** is exploring in its three-year Skoll Program (2006-2009).[11] *Growing Opportunity* is the first in a planned survey of studies into key aspects of this increasingly important field.

Why should business be interested in all of this? We asked Björn Stigson, President of the **World Business Council for Sustainable Development** (WBCSD). He replied: 'At its core, the corporate pursuit of sustainable development is not just about "doing good." It makes companies more entrepreneurial, nimble and competitive. One of our largest manufacturing members has taken the concept of eco-efficiency so seriously that it began focusing on selling less material product and more knowledge, with great success. A Latin American member understood base-of-the-pyramid business as a theory, but then found by experience that it makes good bottom-line business sense. Coping with sustainability challenges builds stronger companies.'

In 2001, SustainAbility concluded that the early decades of the 21st century would see a series of interlinked economic, technological, social, political, and managerial transitions that would transform the global economy, in very much the same way as the rapacious caterpillar is transformed inside a chrysalis. We are now embarked on a period of profound economic metamorphosis, of what the economist Schumpeter dubbed 'creative destruction.' Think of the entrepreneurs profiled in the following pages as the global economy's equivalent of the 'imaginal buds' that drive the process that converts a caterpillar into a butterfly inside the chrysalis.[12]

In preparing this study, we interviewed 20 entrepreneurs in depth — and over 100 more completed an online survey (page 48). It is clear that they are as determined as ever to drive change, but it is also clear that many of their enterprises are experiencing significant growing pains along the way.

Key drivers

Focusing down on today's world, at least four factors seem to be central in driving the growing mainstream interest in social and environmental entrepreneurship:

— First, 20 years after the **Brundtland Commission** first put sustainable development onto the political agenda,[13] a number of major challenges once seen to be (and often dismissed as) the preserve of activist NGOs and wider civil society have pushed forcefully into the political and business mainstream — a process often reinforced by the withdrawal or weakening of government activity. Successive summit meetings of the **World Economic Forum**, for example, have focused on an increasingly interconnected agenda linking such issues as poverty, hunger, pandemic risks, terrorism, human rights, energy security, and the growing threat of climate destabilization.

— Second, despite the huge progress achieved in corporate citizenship and corporate social responsibility over the past 10–15 years, there is a growing concern that we may be reaching the 'limits of CSR.' The *Harvard Business Review*[14] neatly captured this mood with a twinned pair of articles by Michael Porter and Mark Kramer ('Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility') and Clayton Christensen ('Disruptive Innovation for Social Change'). The conclusion: too many companies have seen the new, interconnected agenda as remote from their core business interests. The reality is that these complex issues pose increasingly strategic choices that need to be addressed in suitably radical and higher leverage ways — something that most corporate citizenship departments seem ill-equipped to do.

[11] www.sustainability.com/insight/skoll.asp
[12] John Elkington, *The Chrysalis Economy: How Citizen CEOs and Corporations Can Fuse Vales and Value Creation*, Capstone/John Wiley & Sons, 2001.
[13] *Our Common Future*, Report of the World Commission on Environment and Development ('Brundtland Commission'), Oxford University Press, 1987.
[14] See *Harvard Business Review*, December 2006.

One key reason why mainstream business needs to pay attention is that these people aim to achieve higher leverage than conventional philanthropy and NGOs, often aiming to transform the systems whose dysfunctions help create or aggravate major socio-economic, environmental, and political problems.

Panel 1.1
Definitions

Entrepreneurs are people who, through the practical exploitation of new ideas, establish new ventures to deliver goods and services currently not supplied by existing markets. That said, people like Greg Dees (Adjunct Professor of Social Entrepreneurship and Nonprofit Management, Fuqua School of Business, **Duke University**) argue that there is a spectrum of enterprise, from the purely charitable through to the purely commercial.[15] Our version of that spectrum — or landscape — can be seen in Figure 1.1.

On the purely charitable side, 'customers' pay little or nothing, capital comes in the form of donations and grants, the workforce is largely made up of volunteers, and suppliers make in-kind donations. At the purely commercial end, all these transactions are at market rates. Most of the really interesting experiments, however, are now happening in the middle ground, where hybrid organizations pursue 'blended value' and where less-well-off customers are subsidized by better-off customers.

Social entrepreneurs are entrepreneurs whose new ventures (social enterprises) prioritize social returns on investment, i.e. improving quality of life for marginalized populations by addressing issues such as health, poverty, and education. One key reason why mainstream business needs to pay attention is that these people aim to achieve higher leverage than conventional philanthropy and NGOs, often aiming to transform the systems whose dysfunctions help create or aggravate major socio-economic, environmental, and political problems.

Ashoka[16] defines social entrepreneurs as, 'individuals with innovative solutions to society's most pressing social problems. They are ambitious and persistent, tackling major social issues and offering new ideas for wide-scale change. Rather than leaving societal needs to the government or business sectors, social entrepreneurs find what is not working and solve the problem by changing the system, spreading the solution, and persuading entire societies to take new leaps.'

The Skoll Foundation puts it this way: 'Social entrepreneurs share a commitment to pioneering innovations that reshape society and benefit humanity. Whether they are working on a local or international scale, they are solution-minded pragmatists who are not afraid to tackle — and successfully resolve — some of the world's biggest problems.'[17]

Environmental entrepreneurs may be interested in social objectives, but their main focus is environmental. Many consider environmental entrepreneurship to be a subset of social entrepreneurship, but they are distinct. A major rebranding of the sector began in 2002, as the 'cleantech' sector. The **Cleantech Venture Network** (CVN) defines cleantech as embracing 'a diverse range of products, services, and processes that are inherently designed to provide superior performance at lower costs, greatly reduce or eliminate environmental impacts and, in doing so, improve the quality of life. CVN includes the following sectors: energy generation; energy storage; energy infrastructure; energy efficiency; transportation & logistics; water purification & management; air quality; materials & nanotechnology; manufacturing/industrial; agriculture & nutrition; materials recovery and recycling; environmental IT and enabling technologies.'

[15] J. Gregory Dees and Beth Battle Anderson, 'Framing a Theory of Social Entrepreneurship: Building on Two Schools of Practice and Thought,' in Rachel Moser-Williams (Editor), *Research on Social Entrepreneurship*, ARNOVA occasional paper series, Vol. 1, No. 3, The Aspen Institute, Washington DC, 2006.
[16] www.ashoka.com
[17] www.skollfoundation.org/aboutsocialentrepreneurship/whatis.asp

Figure 1.1
The opportunity landscape

It's remarkable how much of the financial world's vocabulary relates to water and to hydraulic imagery. We have liquid assets and liquidations, we manage cash flows and solvency, we float companies and exchange rates, there is sunk capital and there are investments below water, money goes down the drain, we try to deflate bubbles, and we — or at least some people — launder money.

In this spirit, Figure 1.1 plots five zones of the opportunity landscape for entrepreneurs. On the vertical axis, we plot 'Impact' (think leverage, blended value creation,[18] and system change), from Low to High, and on the horizontal axis we plot the degree to which the 'Drivers' of action are 'purely' Moral or 'purely' Financial. Clearly, entrepreneurs of different types will spot opportunity right across this landscape.

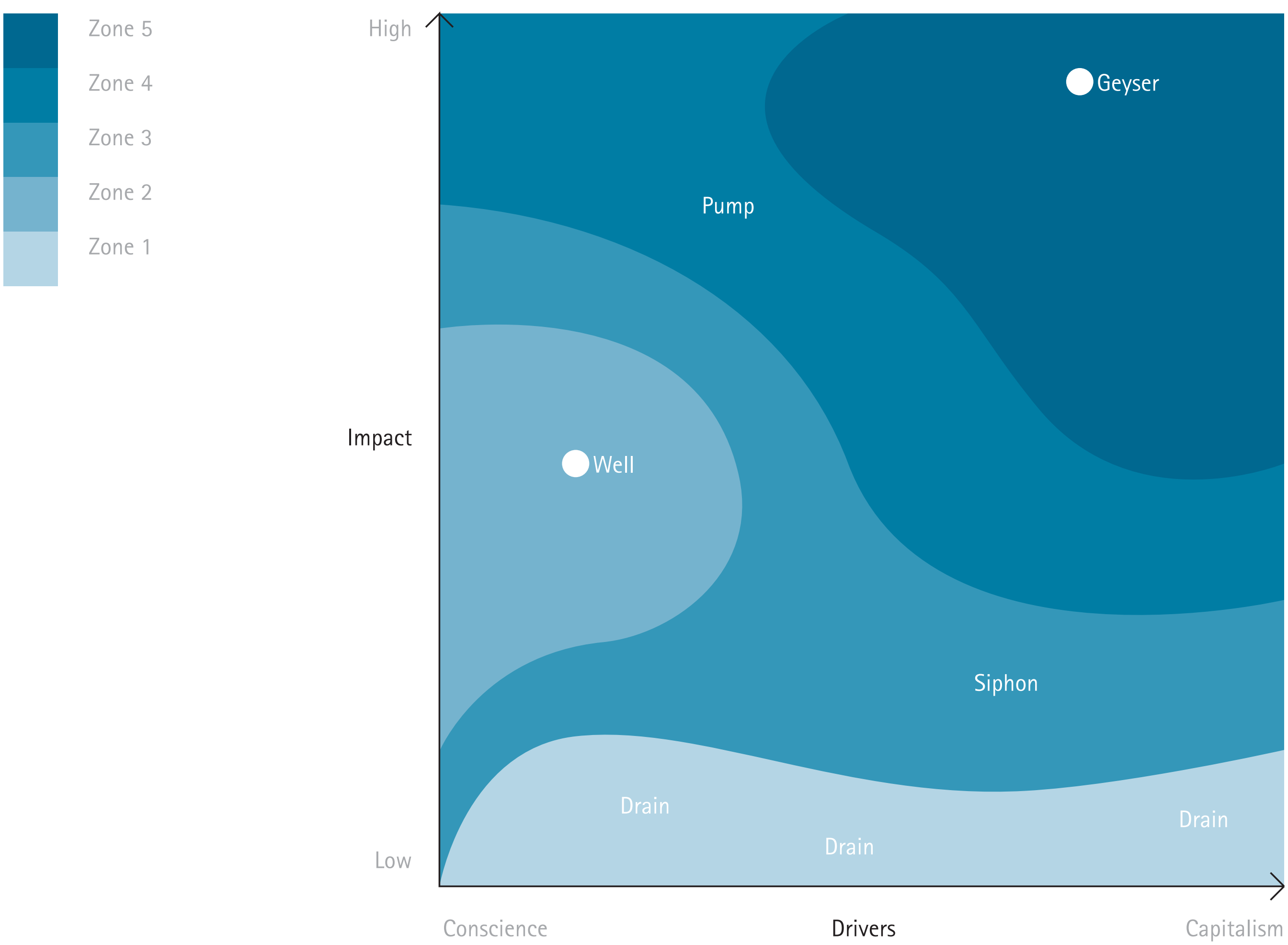
— **Zone 1 (The Drain)** is where money drains from the system, because of poor management — or because of the bribery and corruption that blights so many economies and new ventures. Enron operated in this space, as do the fraudulent 'briefcase NGOs' that blight countries like India.

— **Zone 2 (The Well)** is where communities under stress — or those that help them — dip into capital reserves and the benevolence of ordinary citizens, although (like wells) public benevolence can be over-pumped to the point of exhaustion or 'donor fatigue.' Médecins sans Frontières and the Red Cross are leading players here.

— **Zone 3 (The Siphon)** is the area of corporate philanthropy, where businesses create shareholder returns, but channel off a percentage, partly to ensure their continuing license to operate. Think of the Danone Communities Fund, Shell Foundation, or Google.org.

— **Zone 4 (The Pump)** is where predominantly non-profit or hybrid non-profit/for-profit ventures leverage resources to create blended value — and, through lobbying, promote wider systemic change. Organizations like Grameen Bank, OneWorld Health, and PATH create change here.

— **Zone 5 (The Geyser)** is where deep-seated seismic forces (think demography, economic development, technology trends, and eco-pressures like climate change) build a head of pressure that powerfully, if unpredictably, erupts in showers of new wealth — laying down deposits of value and helping irrigate the entire catchment area. Powerful players here include Acciona, GE, Vestas, and much of the cleantech sector.



— Third, a number of major corporations have begun to rebundle existing activities, and in some cases launch new ones, designed to meet sustainability-related needs. A case in point has been **GE**, with its 'ecomagination' initiative.[19] To illustrate the scale at which such companies can drive change, if minded to do so: when GE released its 2005 ecomagination report, it revealed that revenues from the sale of energy efficient and environmentally advanced products and services had hit $10.1 billion in 2005, up from $6.2 billion in 2004 — with orders nearly doubling to $17 billion.

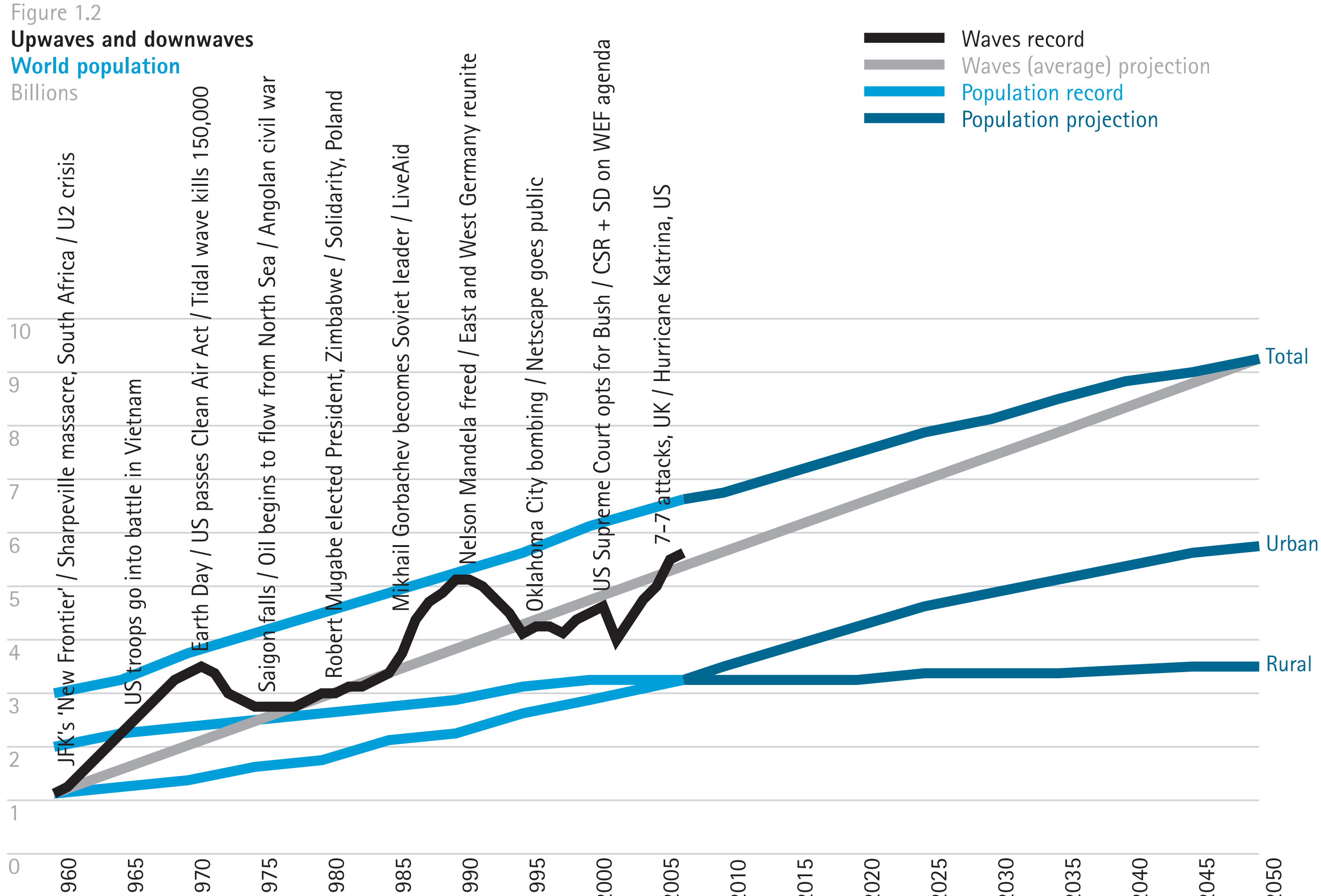
— Fourth, we have seen the emergence of two separate movements that have helped push entrepreneurial solutions further into the spotlight. (1) The social enterprise sector has been building for decades, but has been given a major boost by the work of **Ashoka** and initiatives launched by **The Schwab Foundation**, **The Skoll Foundation**, **Acumen**, **Endeavor**, and **Fast Company** (particularly its Social Capitalist Awards). (2) The 'cleantech' sector, in part a rebranding of environmental and energy-related enterprise, has seen rapid growth thanks to growing concerns around energy security and climate change — and the recent 'greening' of US state and mayoral politics.[20]

Closer than you think?

At the 2007 World Economic Forum summit in Davos a key question asked was: What could be done to spur entrepreneurial solutions to global sustainability challenges? The business media picked up on the theme. 'Imagine a world,' the front cover of *BusinessWeek* encouraged readers in its Davos issue, 'in which socially responsible and eco-friendly practices actually boost a company's bottom line. It's closer than you think.' This trend aligns closely with the emerging 'Fourth Wave' agenda SustainAbility has been tracking.

Just as a series of waves run through the caterpillar to uncover the chrysalis, so the global economy has been powerfully shaped by a series of societal pressure waves — at least in the OECD region (Figure 1.2).[21]

Figure 1.2
Upwaves and downwaves
World population
Billions



18 For more on blended value, see www.blendedvalue.org
19 http://ge.ecomagination.com/@v=022120072196@/site/index.html
20 One of the most notable actors in this sector is the Cleantech Venture Network. www.cleantech.com
21 The five-yearly summary of events is illustrative only, to give a sense of what else was going on at the time.

This report attempts to assess the current state of social entrepreneurship.

Given that 2007 marks the year when the human population becomes predominantly urban for the first time, the three blue lines map the trends in the rural, urban, and global populations. By our analysis, the waves have run as follows:

– **Wave 1** (peaking 1969–72) focused on new policies, rules and regulations, largely in the environmental, safety, and health areas. During this period, there was much counter-cultural entrepreneurship, particularly in areas like whole foods and 'alternative' or 'intermediate' technology. The compliance agenda continues to evolve globally.

– **Wave 2** (peaking 1988–91) drove voluntary market initiatives in such areas as reporting and certification, including the evolution of standards such as ISO14001 and the Global Reporting Initiative. Here, much of the entrepreneurship focused on environmental and sustainability-related services and socially responsible investment.

– **Wave 3** (peaking 1999–2001, before being knocked back sharply by 9/11) drove concerns around globalization and both global and corporate governance. This period saw a dramatic increase in the number of networks linking social and environmental entrepreneurs.

– **Wave 4** (which is just getting into its stride) appears to be rebounding energetically, with a growing focus on innovation and entrepreneurial solutions to sustainability challenges.[22] The promise is that mainstream players now get involved, potentially overwhelming or outflanking smaller players. Equally, however, the prospect of alliances, partnerships, mergers, and acquisitions will also likely grow.

2007 survey and report

This report attempts to assess the current state of social entrepreneurship – the possibilities presented by new mindsets, the challenges entrepreneurs face in scaling their organizations and the opportunities for greater collaboration with corporations and others. To explore these themes, we:

– E-mailed a quantitative survey instrument to 400 entrepreneurs, selected from the networks of the **The Skoll Foundation**, **The Schwab Foundation**,[23] **The Hub**,[24] **Columbia University's RISE project**,[25] and **Fast Company**.[26] Over 100 completed the full survey, representing a 27% response rate. The survey instrument can be found in Annex 1;

– Undertook extensive desk research, including 'Deeper Dives' into the health and energy sectors, and took part in a number of major events in the field; and

– Interviewed 20 entrepreneurs in depth, either face-to-face or by telephone.

We rounded out this research with feedback from our growing network. From Acumen to zouk ventures, we invited perspectives about the main challenges and opportunities facing social and environmental entrepreneurs today. The survey findings follow in Chapter 2.

22 Four scenarios based on SustainAbility's pressure waves analysis will feature in another report part-funded by The Skoll Foundation, focusing on the future of globalization. Due out in June 2007.
23 www.schwabfound.org
24 www.the-hub.net
25 www.riseproject.org
26 www.fastcompany.com/social

To our surprise, the entrepreneurs interviewed and surveyed were significantly more interested in responding than we had imagined — and the thrust of our questions was particularly appreciated. Indeed, it soon became clear that even the best entrepreneurs are experiencing real growing pains, mainly in the field of funding — but also in a number of other areas. For the sake of simplicity, let's boil down the questions to three main areas of interest:

1 Who are these people, what are they trying to do, how do they view the prospects for scaling what they do, and how optimistic/pessimistic are they currently?

2 What are the critical challenges they face in replicating and scaling successful solutions to sustainability challenges?

3 And how do they think of mainstream business in all of this — whether as a route to funding, a source of potential partnerships, or as a roadblock to progress?

We cover the first two areas in Chapter 2, the third in Chapter 3.

1 Meet the entrepreneurs

Who are these people?

For non-experts who know something of the field, Muhammad Yunus of the **Grameen Bank** is probably the first person who comes to mind. But Dr Yunus is not a typical social entrepreneur, however much many entrepreneurs may see him as their model. Not only does he now have a Nobel Prize, but he has been working in the area for over 30 years, his institution is large, successful and globally known, and already partnering with a number of major corporations — including **Danone** and **Telenor.**[27] By contrast, perhaps the best way to get a sense of the more typical high-performance social entrepreneur is to take a look at Ashoka's website.[28] Or, to focus on people who have gone through further hoops, visit the websites of **Acumen Fund**, **Endeavor Global**, **Fast Company**, **The Schwab Foundation**, and **The Skoll Foundation.**[29]

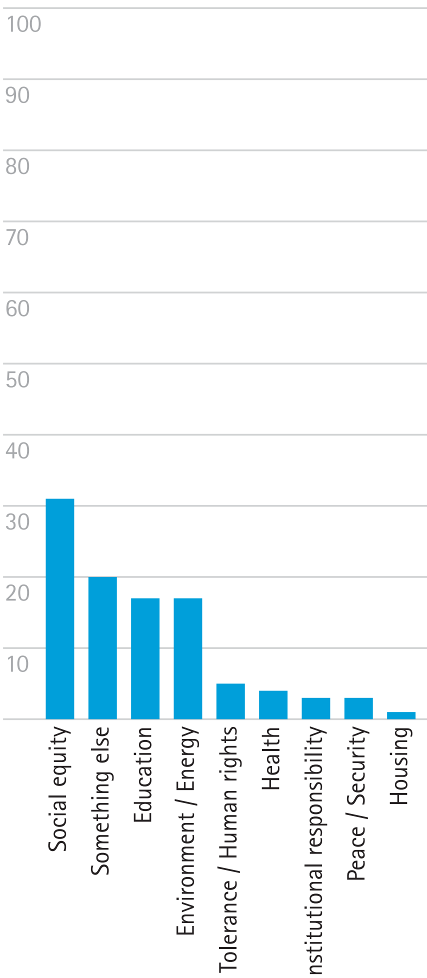
Panel 2.1
Organizational mission

Each organization was asked to identify its 'primary area of focus.' Social equity, selected by most respondents, includes organizations addressing poverty, economic development, and empowerment of marginalized citizens. Not surprisingly, a significant number of respondents selected 'something else' — an illustration of how social entrepreneurs see these challenges as interrelated and their solutions as out-of-the-box. Most used the 'something else' response to signal 'several of the above.' The results are shown in Figure 2.1.

27 www.grameenphone.com/index.php?id=64
28 www.ashoka.org
29 www.acumenfund.org www.fastcompany.com/social wwwschwabfound.org; www.skollfoundation.org

2 Survey Findings

Figure 2.1
Primary mission of organizations surveyed
N=109
%



As far as the respondents to our quantitative survey is are concerned, their missions and geographic focus are summarized in Figures 2.1 and 2.2.

How do they think of — or label — themselves?

Many respondents and interviewees clearly considered themselves to be 'social' or 'environmental' entrepreneurs, while others thought of themselves as entrepreneurs, innovators or even campaigners. Here are replies from four US respondents that underscore the diversity of perspectives even among entrepreneurs of the same nationality:

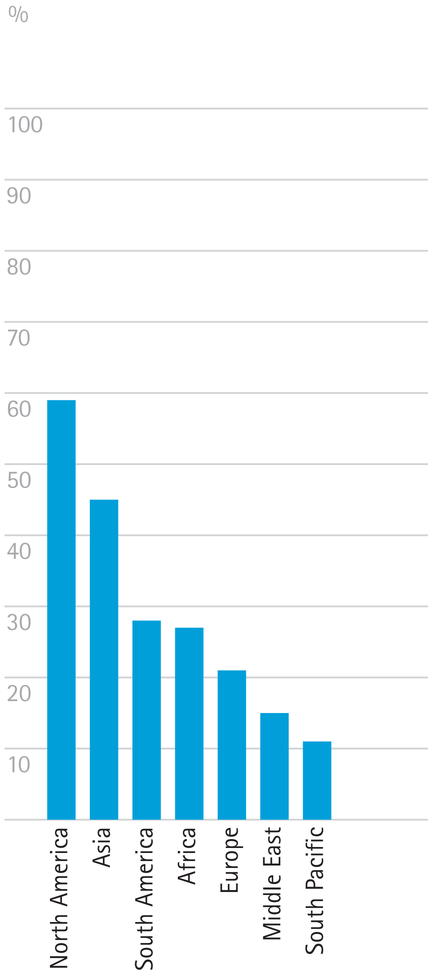
— **Rick Surpin, ICS**
Health Care, New York, NY
'I consider myself a social entrepreneur, but that is an approach to the work; it's not my vocation and no one would give us money, except Skoll possibly, on this basis. If people ask me what I do — I work on transforming the health care and social service system for low income adults with disabilities and create decent jobs for low income people at the same time. This is how I see myself and what I think is interesting and challenging and generally what makes other people interested as well.'

— **Chris Elias, PATH**
Health Care, Seattle, WA
'We are a relatively new entrant into this discourse and community of social entrepreneurs. It is clear that there are two groups. There are the organizations that were basically built around an individual social entrepreneur who had a strong vision and charisma and created an organization to meet that vision. Then there are groups like PATH and Technoserve, that may have started that way, but are now big organizations whose directors are certainly entrepreneurial . . . but it no longer makes sense to talk of PATH as the product of any one person. We have 550 staff worldwide with variable degrees of entrepreneurship. If I were to I ask, probably 100 or more of them would raise their hand and say "Yes, I'm an entrepreneur." '

— **Laura Peterson, Hands to Hearts International**
Health Care, Portland, OR
'Right now there is a ton of hype around social entrepreneurs. There are pros and cons to this, but the reality is that very few social entrepreneurs will ever get off the ground. I am a therapist, a supervisor, and an administrator. Now people call me a "social entrepreneur," but I'm not entirely comfortable with that. This title seems to come with super-human expectations that go beyond talent, innovation, and integrity and into unrealistic extremes of personal self-sacrifice.'

— **Josh Tosteson, HydroGen LLC**
Cleantech, Cleveland, OH
'We are a commercial business in the clean energy industry. So, we manufacture fuel cell systems for industrial applications, and as such, I wouldn't characterize our business strictly as a "social entrepreneurial" venture. It has clear social benefits that motivate and animate some of the reasons why I and some of my colleagues are involved with it in the first place. On the other hand, we are casting this as a straight up commercial venture subject to all of the challenges and opportunities inherent in that kind of a corporate enterprise. Even though we pay attention at a certain level to the social outcomes of the work we do, and focus intently on how we operate as an ethical enterprise both in internal and external dealings, as an investor-backed, public company we need to retain a first-order focus on business metrics that reflect our principal obligations to shareholders and investors.'

Figure 2.2
Primary regions of operation
N=109



Where are they on the optimism–pessimism spectrum?

Successful entrepreneurs, by their very nature, tend to be optimists — highly pragmatic optimists. No surprise, then, to find that, despite the challenges, the entrepreneurs we interviewed were overwhelmingly optimistic. Most cited what some might see as extremely aggressive growth plans, such as doubling their operations in the next three to five years, and taking local programs national or, if already operating at the national scale, international. Our survey results reflect this optimism — 32% believe they will move away from foundation funding to more sustainable source of funding in the next five years.[30] That said, several — including **PATH** — expect to scale significantly mainly on the basis of foundation funding.

Reading between the lines, however, we did detect a difference in tone from those addressing poverty issues as compared with the rest of the social enterprise community. We often heard a more frustrated (sometimes even desperate) tone, a sense that the challenges are much greater than currently acknowledged, and that — because this is an area of intense market failure — social entrepreneurs have to compete for limited foundation funding. Typical comments noted the need to live a 'hand-to-mouth existence,' and another spoke of the challenge of, 'Gaining recognition in a very crowded non-profit marketplace.' More fundamentally still, another respondent argued that, 'There needs to be a paradigm shift in order to reduce world hunger and poverty.'

More positively, the emergence and growth of the base-of-the-pyramid movement is seen as an optimistic trend, an attempt to reframe the issues in terms of the potential commercial opportunities. It will be fascinating to see how **The X Prize Foundation**,[31] which stimulated a huge wave of private enterprise in relation to space travel and is now working in such fields as genomics and automobility, applies the same approach with its planned prize for poverty alleviation (page 29). One key is to set the targets in ways designed to switch on the entrepreneurial juices of a wider group of innovators.

Panel 2.2
Regions

We asked where each respondent's organization 'primarily' operated, which allowed for multiple answers in terms of geographies. North America came top (54%), with the South Pacific — perhaps not surprisingly — bottom. The low positioning of Europe is notable.

[30] Note: there may be a risk of survey bias, on the basis that those responding could be more optimistic about their ventures, although there could equally be a reverse effect.
[31] www.xprize.org

'If I had twice as much money, I'd make at least four times as much impact.' Jim Fruchterman, Benetech

How do they view the prospects for replication and scaling?

For the new breed of funders, the capacity of social or environmental entrepreneurs to replicate and scale is fundamental. For many, scalability — of beneficial impacts, business models, and enterprises — is the Holy Grail. And that also creates a sense of frustration with the current order. Some respondents see the nature of much current funding as part of the problem — encouraging a sense of dependency. A related comment came from Keerti Pradhan of **Aravind Eye Hospitals**, in relation to the state of other NGOs, particularly in India: 'NGOs get hooked on a sense of *getting* when they rely on foundation or non-sustainable funding sources. As a result, people don't apply their brains to different ways to break that barrier of dependency on foundations. The question is: whose responsibility is it to help NGOs with this? NGOs have huge potential, but huge knowledge gaps exist about how to access market-rate funding sources that could help support non-profit work.'

Perhaps not surprisingly, most interviewees and respondents are enthusiastic about the ability of their model to replicate and scale. This trend seems to be independent of geography. Only one entrepreneur suggested that their model is too complex to scale at the pace that the Skoll and Schwab Foundations, and others, are pushing for — and clearly felt a great deal of pressure to do this beyond the organization's ability.

The drive to scale is seen to raise its own very particular challenges. In addition to the financing, marketing, and maturation/development challenges highlighted in the next section, social entrepreneurs underscore issues such as: 'finding the right partners' for joint ventures and franchising; maintaining the quality of service, particularly when working with third parties; and the question of pace of growth — 'How fast can I grow, continue to deliver and not compromise my mission?' Anyone working with mainstream entrepreneurs will recognize the thrust of the questions.

Finally, a significant minority of the entrepreneurs stressed the need for government to play a more effective role in making scaling possible. In particular, entrepreneurs suggest that government:

- **Needs to provide an enabling environment**, through policies that create, as a minimum, a level playing field for solutions and, at best, that strongly incentives the development and deployment of new solutions; partly by developing incentives that allow the most cost-effective solutions to compete, for example by removing perverse incentives. In many countries, more fundamentally still, governments also need to provide basic infrastructure, such as sewers, roads, and schools.

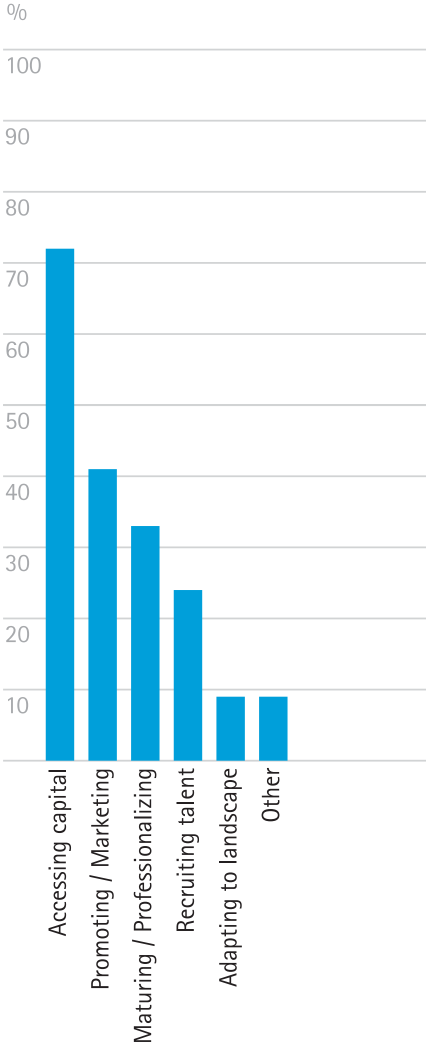
- **Must make social and environmental issues a political priority.** A number of respondents expressed concern that their issues were not top priorities for politicians in their country.

- **Should explore alternatives.** Sylvia Aruffo of Careguide Systems in the healthcare sector said, 'It's very difficult for any entrepreneur when you have a breakthrough idea and the structure is already set up for another way to solve that problem. What do you do when your solution is better, but it just doesn't fit?'

- **Has a role to play in setting minimum standards for provision**, and in scaling solutions, not just as service providers, but as policy makers, procurers of services, landlords, experts, and so on.

- **Can be a major stumbling block in some countries**, particularly where there is widespread corruption. Some governments, we were told, don't want social entrepreneurs to succeed, because it would make them look bad and accentuate their failures.

Figure 2.3
Challenges facing social entrepreneurs
Respondents select the top two challenges they face in growing their organizations
N=109



2 Critical challenges

The central thesis of *Growing Opportunity* is that the undoubted progress of the social enterprise sector is often being bought at the expense of growing human, organizational, and opportunity costs. This is inevitable, given that the same could be said of all entrepreneurial ventures, but the conclusion calls for a thoughtful, coordinated set of responses from those who fund and otherwise support these people. The pains, as Panel 2.3 suggests, come in various areas: funding, promotion and organizational development. The majority of respondents operate in the not-for-profit sector, which intensifies the challenges of raising funding and recruiting and retaining talent.

A number of challenges raised by not-for-profit enterprises are clearly much less of an issue for their for-profit counterparts, particularly in terms of the ability to attract and hold talent. But for-profit social enterprises have their own challenges. Since a number of for-profits (both independent and owned by others) were included in our interviews and survey, it is worth focusing on one case which seems to provide a benchmark for quality scaling. Our interviewee: Gary Hirshberg, President and self-styled 'CE-YO' at **Stonyfield Farm, Inc.**,[32] now part of the French food and beverage group **Danone**.[33] We asked what he had had to give up when Stonyfield was acquired by Danone.

'First,' he said, 'I don't feel that I gave up very much in doing this deal. They bought out all of my non-employee shareholders, which was something that I needed to do in any case. But even though they were going to own 80% (it is now 85% as I have sold some shares to them) of the company, they left me with majority control by granting me the right to vote three of the five board seats for as long as I remain active as Chairman and/or CEO. In fact, the only veto rights that I did give them were that they had to approve (a) any capital improvements over $1 million and (b) any acquisitions of other companies.'

Panel 2.3
Critical challenges, 2007

1 Raising capital
Overwhelmingly, social entrepreneurs cited access to capital as one of their two primary challenges (72%), because capital is what enables the entrepreneurs to hire talent, market, rent space, pursue pilot projects, and carry out other activities related to growing their organizations.

2 Promotion and marketing
Promoting or marketing their organizations and offerings was the second most frequently mentioned challenge (41%). The focus: making consumers, businesses, funders, and other relevant stakeholders aware of the good work that the organization is doing. Like mainstream entrepreneurs, however, social and environmental entrepreneurs are usually ahead of the curve and it takes time for the rest of the world to catch up, including funders, government policy makers, and potential mainstream business partners.

3 Developing organizations
Key issues here include: recruiting, developing and retaining talent; and balancing professionalism with entrepreneurialism and passion for the mission. Attracting talent was cited by most entrepreneurs as a priority challenge, but more specifically, social enterprises are challenged to find the right kind of talent for their ventures — a blend of entrepreneurship and professionalism, coupled with an ability to: (1) work as effectively with the communities served by the enterprise (often very poor and marginalized) as with corporate management/boards; (2) bring leading edge technical capabilities to bear; (3) have business know-how; and (4) buy into the enterprise's mission and vision. A tall order, especially without competitive salaries.

[32] www.stonyfield.com
[33] www.danone.com

‘We must find the right leaders for the next phase of growth. We need entrepreneurs who have the business skills, social dedication, and sense of humor that are essential to success.’
Education Sector

‘Otherwise, things today are pretty much the way they’ve always been, except that we now have access to a global network of resources and talents, and of course we are engaged with that network to create organic enterprises in many other countries. Parenthetically, I have proposed three investments/acquisitions since the partnership began and they have approved all three.’

Danone has stuck to the spirit — not just the letter — of the bargain. ‘Danone has not wavered at all from the original deal, even though there have been plenty of opportunities for them to do so,’ Hirshberg commented. ‘For instance, we have required far more Cap-Ex [capital expenditure] than anyone ever dreamt back in 2001, and they have fully funded our requirements without seeking any additional advantage or trade-off on my part. Reciprocally, we have grown faster than they or we expected and we have certainly delivered excellent results for them, so everybody has won something.’

‘Additionally, I expect to see many more organic/bio launches in many other countries, and each one will be adapted not only to the local market conditions, but to the various Danone organizational structures. I also expect to continue to have a big influence on Danone’s climate and organic policies around the world.’

This sounds like a virtual Nirvana, not only for non-profits but also for most for-profits needing an exit strategy to ensure a financial return on early investment. A more typical response from our survey was this: ‘We would like to be free from the rat-race of fundraising and proposal-writing, and have our own private sources of income. They are the most stable and predictable.’ Unfortunately, this is a distant dream for most of the entrepreneurs we spoke to — and likely to remain so, given the challenges they spotlight.

So what are the main financial challenges?

Business people wanting to understand and engage these entrepreneurs need to understand the world in which these people operate — and the challenges they face. ‘Attracting top management and, in particular, providing sufficient compensation is a primary challenge,’ said Linda Rottenberg, CEO of **Endeavor Global.** ‘From NYC to Bangalore, people will make the trade-off between making a difference and making money at 2x earnings disparity, but not at 5x or 10x.’ Time after time, research has shown that it is easy to start a non-profit or social enterprise, but very much harder to bring it to scale.

It was clear that raising money was the single greatest challenge that most entrepreneurs face — see Figure 2.3, where ‘access to capital’ ranks top at 72%. And there were no easy answers. ‘All sources of money come with their own challenges,’ was the way one entrepreneur put it. Four key issues surfaced in the survey and interviews:

1 **Square pegs: social entrepreneurs don’t fit the existing system**
There is a widely held sense that the unique approaches of social entrepreneurs are hard to fit into existing investor models and criteria, although the same point probably could be made about all forms of entrepreneurship. Foundations and governments are seen as siloed and conservative, with the result that they struggle to take on grantees that don’t fit their narrower sense of solution options. More, these groups typically do not lend to for-profit organizations, which leaves out a significant segment of social entrepreneurs. Traditional debt instruments are sometimes used, but can present major challenges in terms of entrepreneurs’ ability to service the debt. Current equity investments are seen as shorter term than what is needed — and are often too expensive for entrepreneurs with a social mission.

'We are a small organization that is up against the over-head wall. To get and retain qualified staff we need to pay more than we are able to. To be able to pay more we have to raise more funds, but to raise more funds we need more staff. A perfect vicious circle.'
Poverty Alleviation Sector

2 **Lack of consistent, flexible, and long-term financing**
Nearly every entrepreneur interviewed noted the importance of time horizons. In particular, the work they are engaged in tends to have long time-frames (5–10 years to results was typical) and requires partnerships and funding that match these needs, i.e. is consistent and long-term. The need for flexibility was also a consistent theme: most entrepreneurs are able to access specific project financing, but have a harder time accessing funds that will support more general infrastructure needs. Some current funding sources that appear to be meeting these needs include:

Innovation capital
This term was used to refer to unrestricted donations from high net-worth individuals that enable the entrepreneur to take risks, enter new markets, hire ahead of the curve or do pilot projects, ultimately helping to leverage additional funding, whether grants or loans. There is a sense that innovation capital only needs to be a small percentage of total funding, but offers the opportunity for incredibly high leverage.

Angel investors
For profit-making enterprises, Angels (individuals who make very early-stage investments in start-ups) were cited as particularly helpful because they are often patient investors, sharing the vision.

Funding from unusual foundations
Certain foundations, with Skoll often instanced, appear to 'get it,' providing longer term funding for entrepreneurs. Still, the maximum grant length is about three years, which falls short of longer term needs.

International aid organizations
The Asian Development Bank, World Bank and IMF were cited as potential 'patient' investors. A downside to these sources, however, is that they mainly fund non-profits, so entrepreneurs set up as for-profits may fall through the cracks.

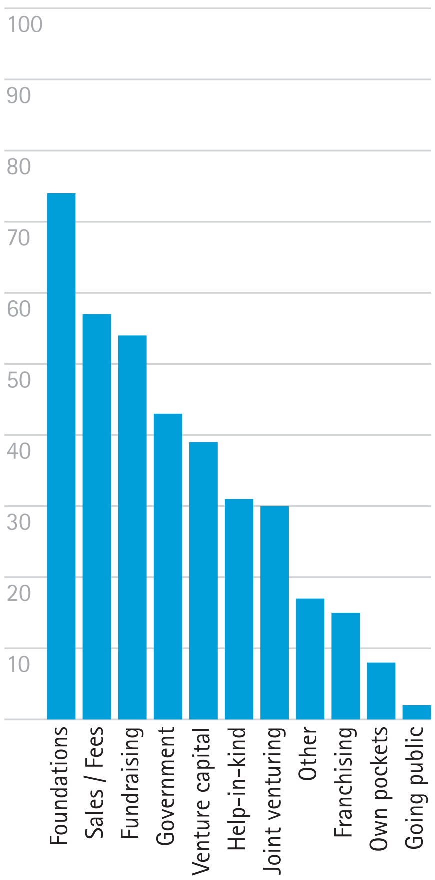
Private investment funds
The New York City Investment Fund was cited as a helpful source. Its investments typically range in size from $1 million to $3 million. The Fund provides equity or debt, structured to meet the needs of the project. It will invest at any stage of business development, but seeks to exit in about five years. The particular focus here is on ventures that provide benefits to NYC.

3 **Lack of knowledge about — and access to — capital markets**
Like their mainstream counterparts, at least early on in their careers, most of the entrepreneurs we interviewed lack in-depth knowledge of capital markets and the best ways to finance their organizations. They rely on trusted advisors, mostly on their boards of directors, for this information as well as for access to investors. There is a strong sense, however, that social entrepreneurs could benefit from increased knowledge about the best financing options, as well as better access to open-minded financiers.

4 **Sustainable sources of financing bring their own challenges**
As entrepreneurs move toward more self-financing models, whether for-profit or non-profit, they encounter challenges. Companies considering 'Robin Hood' business models — where revenues from those able to pay for services subsidize provision to those who can't, or can't pay the full cost — face challenges in ensuring that as they provide services to customers with a higher willingness to pay, they don't lose sight of their mission.

Fees and service-based approaches to financial sustainability may appear promising, but can also pose challenges for some entrepreneurs. They run the risk of stretching too far afield from their core competencies, with the result that the poorest people, whose needs were the original spur to action, cannot access the service.

Figure 2.4
Preferred sources of financing
N=109
%



For-profit social enterprises face challenges as both government and investors expect them to act like typical, for-profit companies, and so expect standard income tax payments and market rates of return. Restrictions also apply, such as an inability to access donations from the general public, apply for certain types of foundation/ government funding, and pursue more charitable elements of their businesses.

For some, the business case for support is easy to articulate, for others less so. Consider the **Partnership for Global Security**,[34] which lobbies for more effective action to control weapons of mass destruction. They noted that they are 'looking beyond foundations to joint ventures with local/state government and commercial entities that have a stake in our issues.' They also want to raise funds from the public and 'venture capitalists' who 'understand that preventing a WMD catastrophe is essential for global economic growth — and that government structures are currently insufficient for the task.'

Non-profits who have been able to clearly state the benefits of their work have, as a result of clarity of message, done spectacularly well at fund-raising. As an example, **Room to Read**, which aims to bring books and libraries to countries like Nepal and Vietnam, has gone 'from zero to $12 million of annual revenue in seven years,' according to its Founder and CEO, John Wood. Room to Read has raised money through corporate relationships, high net worth individuals and over 200 public speeches per year.

There is, however, a potential fly in this ointment. Wood expressed concern that, 'some organizations tell us that we have gotten big, "so you no longer need us".' This reaction, he noted, 'is very different from the private sector, where success attracts capital. Why should an NGO be penalized for being successful, and why should any donor want an NGO they have funded in its early years to remain small?'[35]

He went on to note, 'Getting financing for your NGO is a bit like trying to compose a mosaic that is made up of thousands of tiles. Funder A wants to fund tiles #389 and #672, whereas Funder B wants to fund other tiles, but wants different reports on different timelines than those required by Funder A. It eats up a lot of management bandwidth to keep up with it all.'

Others were more positive, among them — in the same sector, but focused on the US rather than on developing countries — **First Book**, whose mission is to provide disadvantaged children with new books.[36] 'We have already developed the necessary mechanisms and the enterprises are already successful,' said Kyle Zimmer, the organization's co-founder and President. 'It is now a matter of scaling up.' Their business model is worth a close look, as a leading edge example of a financially sophisticated social enterprise, because they have worked out how to target an unmet need at a price point that works for all — and because they have developed a business model that fits in very well with the interests of the publishing industry.

The '10 Routes to Money' (below) are sequenced in the order that a composite entrepreneur might try them out, but the actual ranking by frequency of reported use was quite different, and is shown in Figure 2.4. The question asked here was: 'Thinking about financing your initiatives, which sources of funding do you feel will be the best avenues for you to pursue?'

[34] www.ransac.org
[35] As one of our interviewees noted in response to this point, 'Here is the elephant in the room. Let's talk about the nature of foundation boards. This question reflects the thinking of foundation boards about their own personal clout and their attention levels. When [a named] foundation took a capacity building approach, the staff found the biggest challenge was managing the board's boredom level. It just wasn't very exciting to see a list of performance indicators making an incremental and upward change. The board got bored. The program officer developed a way to utilize the board members as development consultants with the grantees and this helped to stem the boredom tide. Understanding the motivation and stimulation of foundation board members is key to working on this one.'
[36] www.firstbook.org/site/ c.lwkyj8nvjvf/b.674095/k.cc09/home.htm

‘It is now beyond urgent that we create a new social financial services sector.’
Bill Drayton, Ashoka

Panel 2.4
10 routes to money

Our survey listed 10 potential routes to money and other resources typically pursued by social and environmental entrepreneurs, plus an ‘Other’ category, to ensure we did not miss anything.[37]
In any event, the 10 Routes seemed to cover pretty much all the bases. They are listed here in the order that they are likely to be addressed by the typical social entrepreneur.

Funding from own pocket
This is where many mainstream entrepreneurs start out, tapping the resources of their families and friends — although only 8% ticked this box. Not surprisingly, given that few people have the money or inclination to finance a venture using their savings or credit card, this was the second least preferred for the future. It was clear that those who had considered tapping friends and family sources had concluded that it comes with intense personal pressure, so tends to be avoided.

That said, we spoke to several entrepreneurs who are developing hybrid enterprises (part for-profit, part non-profit) during the survey, and it was clear that this can be a pretty taxing route to funding. One entrepreneur noted that their latest round of funders was asking for such demanding personal guarantees that the family would ‘probably end up selling our grandmothers’ wedding rings — if not our kidneys!’ More positively, the handful of people who had taken this route, for whatever reason, saw at least one key advantage: those using their own money tended to practice intense financial discipline.

Public fundraising
This (just) came in second, at 54%, with entrepreneurs underscoring the independence of action potentially derived from funding raised in this fashion. Fundraising events are more common in some countries than others, with US groups particularly likely to go this route, among them **Acumen**,[38] **Endeavor Global**,[39] and **WITNESS**[40] — with celebrities often being used to draw in potential givers or investors. The general point about the desire for unrestricted funding was underscored by **Phulki**,[41] based in Bangladesh, which noted that, ‘donor priorities change almost every year, so our goals and objectives will not always match with those of the donors. To maintain our own individuality, it is necessary to have unrestricted sources of income.’

In-kind help
Perhaps surprisingly, this came in seventh, at 31%. That said, volunteering was a key resource for many. And some social enterprises — among them **CDI**[42] in Brazil and the **Furniture Resource Centre**[43] in the UK — create revenues by taking in goods or equipment that others no longer have a use for, reconditioning them, and then making them available, or selling them on. But volunteer labor and the donation of in-kind resources are not an automatic guarantee of successful outcomes. Consider the problems **Habitat for Humanity**[44] has faced in trying to rebuild homes in the wake of Hurricane Katrina, among them government regulations and insurance costs.[45]

Foundations and high net worth donors
Foundations came in first place in terms of preferred funding sources (74%). Despite some frustrations, those relying on foundations — in whole or in part — see them as a dependable funding source. One advantage in countries like the US was articulated by Jim Fruchterman, President of **Benetech**:[46] ‘There are the advantages of size in the case of foundations and very rich people. An amount of effort is likely to land $250,000.’ A typical answer here was, ‘Foundations will likely remain our mainstay.’ Where market failures are being addressed, this obviously makes a good deal of sense. As **Summer Search**[47] put it, ‘This is the landscape we know.’ Moreover, they noted, ‘We feel that it is highly sustainable.’ Others felt a growing need to learn more about this sector. ‘We need to deepen and expand our understanding of philanthropy,’ said the **Global Fund for Women.**[48]

A small number of respondents mentioned that they were trying to expand their focus from foundations to high-net-worth individuals, partly because they felt this was an untapped source, partly because their expectation was that any funding might come with fewer conditions.
It may take a good deal of effort, but successful cultivation of such relationships is seen as the bedrock on which other fundraising can proceed. ‘Over 16 years, we have built up a donor base of foundation and individual funders who are very loyal to our organization, and give year after year,’ said the **Nepalese Youth Opportunity Foundation.**[49]

[37] The 10 routes are derived from John Elkington and Pamela Hartigan, *The Power of Unreasonable People: How Entrepreneurs Create Markets to Change the World*, due out in January 2008 from Harvard Business School Press.
[38] www.acumenfund.org
[39] www.endeavor.org
[40] www.witness.org
[41] www.phulki.org
[42] www.cdi.org.br/portalcdi/indexeng.htm
[43] www.frcgroup.co.uk
[44] www.habitat.org
[45] www.nytimes.com/2007/02/22/us/22habitat.html?ex=1172811600&en=5be31f901a3b80e6&ei=5070&emc=eta1
[46] www.benetech.org
[47] www.summersearch.org
[48] www.globalfundforwomen.org/cms
[49] www.nyof.org

'Earned income is a mark of the value of your product — and provides feedback from your customers.'
Jim Fruchterman, Benetech

[50] www.ethicalperformance.net alcan_barefootcollege.html
[51] www.shellfoundation.org
[52] www.fascinating.tv
[53] www.earthlink.net

Some social entrepreneurs have been successful in winning one or more of the growing number of corporate foundation awards. **Barefoot College**, for example, won the 2006 $1 million **Alcan Prize for Sustainability.**[50] In addition to the annual Prize, nine shortlisted organizations for the 2007 prize will be awarded a $15,000 Alcan grant to invest in capacity building training for the organization. Developed in partnership with IBLF, the Prize is awarded to 'any not-for-profit, civil society or non-governmental organization based anywhere in the world that is demonstrating a comprehensive approach to addressing, achieving and further advancing economic, environmental and/or social sustainability.'

Not all corporate foundations are heading into the social enterprise space, however. As Kurt Hoffman, Director of **The Shell Foundation**,[51] told us, 'Our main focus, as you know, is "enterprise solutions to poverty" in poor countries, where the lack of sufficient numbers of enterprises of all kinds is the major constraint on self-sustaining development emerging in those countries. Rich countries — and rich donors like **The Skoll Foundation** — are best able to afford to focus on promoting "social" entrepreneurs. Poor countries mainly need entrepreneurs. So we tend to avoid hooking up or into the social enterpreneuring sector, as worthwhile as it is.'

Governments and public sector

This route was favored by a significant proportion of entrepreneurs, coming in fourth place at 43%. Even for-profits saw public sector agencies as a key funding source. 'They represent the shortest paths to the level of funding we require,' said one solar photovoltaics company, perhaps surprisingly. While some accessing government funding noted upsides, such as collaboration with leading scientists at government laboratories, public relations benefits, and access to government procurement avenues, others felt frustrated by the significant constraints associated with government funding and by its prescriptive nature. Not surprisingly given its accountability to citizens, government is often much less able to offer flexible funding guidelines that would match the needs of most social or environmental entrepreneurs.

Sales and/or fees

Over half (57%) of the respondents prefer to draw at least some of their revenues from this source, which came in third place. Jim Fruchterman of **Benetech** noted that, 'Earned income is a mark of the value of your product — and provides feedback from your customers.' Easier to do, clearly, where markets are working to some degree, than where there are clear market failures. Some saw their sector as less suited to this model. 'Education is an area where there is a lower expectation of profitability,' as the **Fascinating Learning Factory**[52] put it.

A fair few respondents mentioned a tension at the heart of social entrepreneurship: on the one hand, there is a desire to give away information for free, while on the other there is a need to earn revenue to be sustainable. 'We've not yet worked out a way to earn income from selling our knowledge,' said **EarthLink.**[53] 'In the recent book, *The Spider and the Starfish*, the role of an intermediary, or catalyst, was described. Such people have a difficult time earning income from ideas they give away to anyone who will listen. Our aim is to create a hybrid, where we draw people from around the world to our website because the causes we address are important to individuals, foundations and people in industry, and we earn income by the types of services and tools we use to support the learning and interaction of these people.'

Franchising

Both in the qualitative, in-depth interviews and in the quantitative survey, this option seemed to be somewhat outside the mainstream, coming in eighth place (15%). A rare example of a social enterprise that is considering some degree of franchising is **Child Savings International**, which has at least thought of franchising its Aflatoun brand to banks and other financial institutions. Founder and Chair, Jeroo Billimoria, is pursuing a dual franchise model: one level addressing non-profits and one for-profits. On the for-profit side, where the target is to partner with banks, she is setting up **Aflatoun, Inc.**, which will own the brand and also, longer term, open up the option of raising money through capital markets.

On the non-profit side, Jean Horstman (CEO, **InnerCity Entrepreneurs**) reports that, 'We are in the process of testing out licensing as the way to scale our impact quickly while growing our organization at a reasonable pace. We are exploring creating branches in the state of Massachusetts to learn to scale at the state level, while licensing our curriculum and support services nationally.'

'We have had a significant increase in companies wanting to sponsor us. The challenge is to remain selective and not to sell out.' Anonymous respondent

On the for-profit side, **Orb Energy** is also using the franchising model to scale its operations in India, preferring this route rather than raising additional capital. The franchise model, based on setting up branches, enables them to get closer to customers, while establishing a common 'look and feel' and affording greater economies of scale. A key challenge in this approach, CEO Damian Miller notes, is to ensure that franchisees do not sacrifice quality for revenues.

Joint ventures
Around a third (30%) of respondents mentioned joint ventures as a form of resourcing — and it was clear that a fair few entrepreneurs plan to develop such partnerships, though a surprising number expressed anxiety about their ability to identify suitable partners and strike a balanced deal. That said, they all felt they had significant value to add. And those taking this route saw many non-financial benefits. Such partnerships, said **Landmines Blow!**,[54] help both parties 'leverage their assets, such as their expertise and client base, with other advantages including sharing knowledge, the cultivation of new relationships, developing a continuum of care, working successfully in different cultural settings, and [gaining] approval from the United States Federal Government and the United Nations.'

Optimistically, perhaps, the vision is that, 'In a new world of virtual integration, the walls between enterprises crumble.' It is clear that those thinking about this option are concerned about the implications. 'We have had a significant increase in companies wanting to sponsor us,' said one, who asked to remain anonymous. 'The challenge is to remain selective and not to sell out. To maintain the purity of our program.' The need to find out how to do such due diligence was an issue often raised.

Venture capital
One respondent described his challenge as, 'raising money for ideas that others have not accepted as workable.' One way the mainstream economy deals with this challenge is via venture capital. Surprisingly, this came in fifth place, with more than a third (39%) of respondents saying they plan to draw to some extent on venture funding. If true, this is a striking result, though it may reflect the inclusion of a number of cleantech entrepreneurs in our sample and, possibly also, a mis-understanding on the part of at least some social entrepreneurs of what venture capital funding entails.

One respondent even spoke of 'venture capital gifts.'

More typically, **Drishtee**[55] — which aims to empower entrepreneurs in India, village-by-village — spoke for many social entrepreneurs in saying that they look, in all areas of funding, for 'sources of funds that look for a commercial and social return on investment (ROI), simultaneously.' The problem with the venture capital field, as normally understood, is that considerations about social ROI are likely to be even more squeezed than in the financial mainstream.

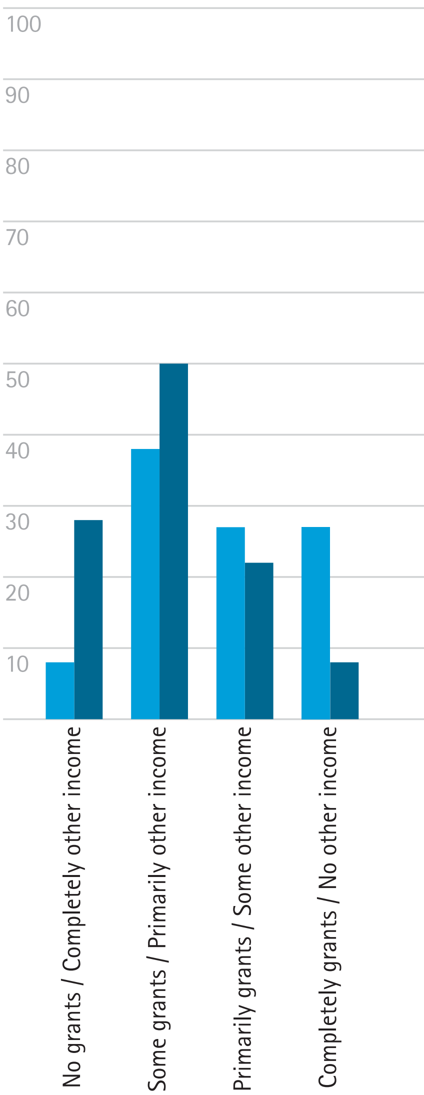
IPOs and market listings
This was very much bottom of the heap, coming in tenth place (2%) — and with a degree of unease about the implications and constraints expressed by a couple of the entrepreneurs we interviewed in depth. The relatively slow progress of initiatives like the **Global Exchange for Social Investment** (GEXSI)[56] hasn't helped.

As John Wood, Founder and CEO of **Room to Read** put it, 'The capital markets for NGOs are blatantly inefficient. There is no mechanism that has the efficiency of the private sector (e.g. NYSE, NASDAQ, private placements, venture capital) when it comes to raising large amounts of capital — especially unrestricted funding. This, of course, is one reason why SASE (Skoll Awards for Social Entrepreneurship) recipients are so grateful for the large, unrestricted, multi-year funding. The NGO world needs to have every large foundation seriously study — and hopefully emulate — this model.' And what is true for NGOs is also true for most social enterprises.

'Other' sources
This category was selected by 17% of respondents. The main additional source of funding identified was corporate partnerships or sponsorship, although that could potentially wrap in under 'Sales and Fees' or 'Joint Ventures'. Most suited to this option are enterprises that address issues of interest to high-brand companies. Take **Sports4Kids**,[57] which argued that, 'because of our emphasis on youth and sports, we are uniquely well-positioned to establish significant corporate partnerships with a range of industries, including footwear/apparel, food, and professional sports.' Another enterprise, **ITN*America***,[58] which focuses on dignified transportation for seniors,' noted that corporate sponsorship 'is our riskiest revenue stream — but we feel it has great promise, as we represent a large and growing market.'

[54] www.landminesblow.com
[55] www.drishtee.com
[56] www.gexsi.org
[57] www.sports4kids.org
[58] www.itnamerica.org

Figure 2.5
Manner of funding
Current N=92
Expected in five years N=99
%



[59] www.acumenfund.org

How will funding patterns change over the next 5 years?

One of most striking findings was the remarkable collapse in the number of entrepreneurs expecting to be relying completely on grants in five years — from 27% to 8%. On the other side of the equation, there is an equivalent jump in those expecting to be funding their own operations, with no reliance on grants — up from 8% to 28%. In the middle ground, we see a somewhat less dramatic fall in the proportion of respondents saying that they expect to be still relying on grants, but with some income — 27% to 22% — and a more striking growth in the proportion expecting a significant rebalancing in favor of earned income — from 38% to 50%.

What are the main organizational development challenges?

'Social entrepreneurship is still seen by some as a "niche market"', said Jacqueline Novogratz, CEO of **Acumen Fund**,[59] 'comprised of a rather unique sort of individual who feels comfortable straddling business and social incentives. There are thus three main challenges around whether and how it will move along the adoption curve and be accepted by a much larger client base (translated into funders and foundations). First, the circle of visible social entrepreneurs needs to be expanded significantly so that experts are not always pointing to the same examples of success. Second, there need to be more social enterprises demonstrating scale in terms both of the number of people they reach as well as the number they impact indirectly — and this means better measures to communicate quantitative as well as qualitative impact. Finally, there need to be more enterprises moving toward financial sustainability — or at least having plans that demonstrate they will be around in the long-term. Associated with this is whether funders will be able to "exit" successfully, but this is more derivative of the last point.'

For our sample as a whole, the overwhelming challenge flagged up in relation to developing their organizations had to do with people and talent. Specific points raised included the following:

Attracting talent when they can't offer competitive salaries was cited by many organizations as a key development challenge. But, while the dominant sentiment, it wasn't universal. Some organizations cited high retention rates even though they offered lower than market salaries. They believe that this is due to their ability to offer a work environment that is challenging (including professional growth, learning opportunities), enabling their staff to focus on using their highest and best value skill sets (bringing in lower skilled labor to do less fulfilling work), and providing a culture that is mission-driven. A key advantage of the ability to retain and develop staff is that an organization keeps the tacit knowledge they have built up of the field and players.

Balancing entrepreneurialism with professionalism and maintaining a focus on the mission and culture of the organization. As social enterprises mature, they require more professional and business-oriented talent. But this poses challenges in at least two ways. First, existing staff may find it difficult to adapt to the changing environment, when their generalist skills are no longer sufficient. Second, new staff that bring more professional capabilities may not have the highest degree of sensitivity around the mission. Also, not everyone in an organization can or should be entrepreneurial; social enterprises struggle to find the right balance between those who should be creative and entrepreneurial and those (think lawyers and accountants) who need to support the entrepreneurial culture with more professional and structured approaches. Those entrepreneurs who appear to be getting it right are very focused on these elements during the recruiting process, foster a culture of entrepreneurship through storytelling in the organization, and make quick decisions about letting people go who don't fit the desired culture.

Succession planning/leadership development. Many entrepreneurs cited challenges around grooming their successors, in particular around finding talent that shared their vision for growth/success of the organization. At the extreme, there were two fascinating responses from Afghanistan that touched on this issue of drawing talent from a pool of people that have been beaten down by war for nearly 30 years.

[60] See *Buried Treasure: Uncovering the Business Case for Corporate Sustainability*, SustainAbility and UNEP, 2001; and *Developing Value: The Business Case for Sustainability in Emerging Markets*, SustainAbility, the International Finance Corporation (IFC) and Instituto Ethos, 2002. A 'Developing Value 2' project is now under way.

[61] For more, see the work of scenario planners Pierre Wack and Peter Schwartz.

To have any chance of changing the world, entrepreneurial solutions must offer relatively high leverage, be able to replicate and scale, and — fundamentally — become part of the market mainstream. Pretty much without exception, the social entrepreneurs we interviewed were supportive of the idea of partnerships with corporations. They were also interested to further develop those partnerships they already had, and to develop more.

But, why should business care? SustainAbility has covered the business case for corporate responsibility and sustainability elsewhere,[60] so what follows is a headlines-only brief.

It's time to think different

The first reason that business needs to engage is that the world is changing — and with it markets. Social and environmental entrepreneurs do not have all the answers, but they do see the world and markets differently, and the more innovative are experimenting with new business models that could potentially break out of their niches and help transform key elements of the global economy.

There is a real risk that many business people will chalk this up as another fluffy, feel-good fad. There is every reason to be skeptical of any new movement or agenda, clearly, but our industry analyses (summarized in Chapters 4 and 5) uncovered a variety of ways that social entrepreneurs are doing things differently, realizing exciting sustainability outcomes and offering innovative opportunities for business.

Just as software morphs through successive generations, 1.0, 2.0 and so on, we conclude that the time has come for what we call 3.0 thinking in relation to sustainability challenges. If 1.0 was driven by regulators and promoted a compliance mindset in business, 2.0 has been more about corporate citizenship, based on transparency, accountability and a growing array of voluntary initiatives (Figure 3.1). By contrast, 3.0 thinking, strategy and ventures is different in that it seeks transformative market and sustainability outcomes. It is about creative destruction, as Joseph Schumpeter called it, and about creative reconstruction.

In essence, Mindset 3.0 is about seeing — 'reperceiving'[61] — immense challenges, such as the growing risk of abrupt climate change, as potential opportunities to leverage the power of markets and business to reboot entire economic and political systems. This is exactly what is beginning to happen in the energy field. In some cases the time-scales involved may be generational, but the transformation is under way. While the cleantech landscape is now largely populated with pure-play profit seekers, the industry was pioneered by individuals who saw the opportunity to leverage market drivers — such as energy security, stability, and cost — to realize significant environmental outcomes.

The situation is different in the developing country healthcare field, where pulling on market levers does not work in the same way, largely due to weak end-markets. But the overwhelming unmet need for good, well-funded, state-provided healthcare systems has not prevented social entrepreneurs from experimenting with cross-subsidized business models (rich patients' fees covering the costs of the poor, large companies' assets and talents being loaned for health outcomes). Though their efforts often expose the limits of current market-based social enterprise approaches in areas like poverty, they are spotlighting potential new markets, experimenting with new business models and modeling new leadership approaches.

Significantly, social entre-preneurs are experimenting not only with business models but also with how value is defined and created.

Five building blocks

If you stand back, Mindset 3.0 thinking and practice seems to have five main components:

1 **Systems thinking and design**
Leading social and environmental entrepreneurs are fabled for taking a systems approach to major challenges and related design issues. Like Michael Braungart and Bill McDonough of **MBDC**,[62] they pursue 'cradle-to-cradle' solutions. Such systems thinkers ask deep questions with the customer in mind, e.g. how do I provide transportation services to my customer rather than how do I sell more oil?

2 **Consumer engagement**
Market solutions depend on consumers – but social entrepreneurs have a rather different take on customers. They work with potential customers and consumers to co-create new markets and new product or service categories. In the health field, they champion the rights of consumers to hold service providers to account, even if they are not paying for the service. **Villagereach**, for example, makes explicit its aim to mobilize communities to take greater ownership of health systems to promote a social atmosphere of higher expectations and greater accountability. They understand that most people, most of the time, want to do the right thing. But things need to be made easier for them. Take a look at what **Easy Being Green**[63] is doing in Australia. It was founded to help people actively tackle climate change. A crucial key to success here is understanding the power of a million small actions to add up to truly significant outcomes.

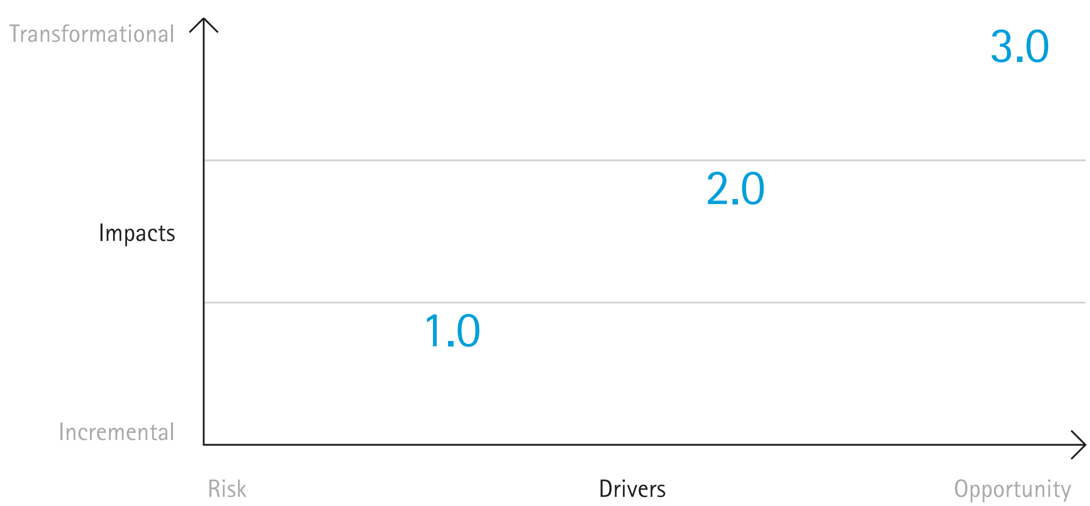
3 **Business models**
Much talked about during the New Economy era, an understanding of business models is now central to the debate about how to create tomorrow's value. Significantly, social entrepreneurs are experimenting not only with business models but also with how value is defined and created. Many are pioneers in the social return on investment (SROI) space.[64] They are also maximizing reach with 'Robin Hood' business models that enable services and products for poor citizens to be subsidized by those with a greater ability to pay. Examples here include the **Aravind Eye Hospitals**,[65] **Narayana Hrudayalaya Hospitals**,[66] and **Freeplay Energy**.[67]

4 **360° accountability**
Any business – mainstream, SME, or social enterprise – increasingly needs to work out how to be transparent and accountable to a growing range of real and self-elected stakeholders. Think of the work of such entrepreneurial organ-izations as **Transparency International**[68] and the **Global Reporting Initiative**[69] to increase corporate accountability and transparency.

5 **Emerging economies**
At a time when there is growing mainstream interest in base-of-the pyramid markets, these people are in the thick of the BoP action. They aim to evolve new strategies to harness a wider range of resources to the task, while simultaneously experimenting with new ways of meeting the myriad needs of poor people. Their hands-on knowledge of such markets and of the political and regulatory environments potentially offers hugely valuable market intelli-gence to mainstream business. Consider the strategic alliance between **Danone** and the **Grameen Bank**[70] to bring valuable products and services to poor communities.

[62] www.mbdc.com
[63] shop.easybeinggreen.com.au/categories.asp?cid=71&fromhome=true
[64] www.redf.org/results-sroi.htm and www.svtconsulting.com/pdfs/sroi_analysis_1%5b1%5d.0.pdf and http://sroi.london.edu/
[65] www.aravind.org
[66] www.narayanahospitals.com
[67] www.freeplayenergy.com
[68] www.transparency.org
[69] www.globalreporting.org
[70] www.danone.com/wps/portal/jump/danonecorporateintl.press.commun2004pressreleases?ref=cms.danonecorporateintl.press.2006pressreleases.trimestre1.cp_160306

Figure 3.1
Towards Mindset 3.0
Sustainability impacts against market drivers



'We already are seeing a changing zeitgeist among many employees of big corporations.'
Jacqueline Novogratz, Acumen Fund

[71] www.ksg.harvard.edu/m-rcbg/CSRI/publications/workingpaper_20_nelson_jenkins.pdf

Paths to partnership

When we asked **Acumen Fund** CEO Jacqueline Novogratz how she saw the interface developing between business and social entrepreneurs, she replied, 'In many ways. First, we will see more corporations reaching out to social enterprises and traditional NGOs to facilitate the strengthening, expansion, and deepening of their own supply chains. Corporations are designing and developing affordable, useful products for the poor but they lack the real understanding of how poor communities work and, in some cases, lack the flexible distribution systems (and trust) to reach those communities effectively. NGOs and many social entrepreneurs, on the other hand, can have a deep knowledge around markets serving the poor but may lack the infrastructure, resources, or management depth to bring needed products to them. A marriage — or at least negotiated relationship between business and social enterprises can bring significant synergies with benefits to both parties' objectives. Second, we already are seeing a changing zeitgeist among many employees of big corporations, so we will likely see more activity from employees at all levels of a MNC that are focused on serving social enterprises and the poor directly. NGOs also see that their funding is increasingly dependent on concrete — reliable — results, and so we will see increasing activity on that front as well.'

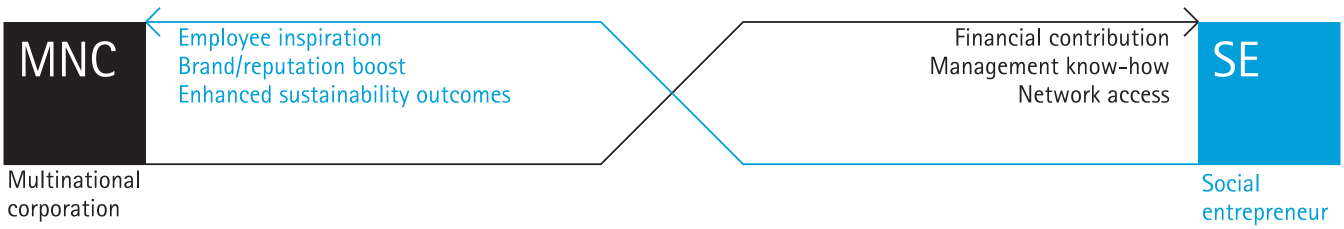
Still, the paths to meaningful engagement and partnership are far from clear. The best work we have found to date on partnerships in this area comes out of **Harvard University**, and was produced by Jane Nelson and Beth Jenkins.[71] Below, we briefly look at two different types of partnership currently being tested: (1) 'Enhanced Corporate Responsibility' and (2) an approach that Ashoka calls 'Hybrid Value Chains.'

The first, sketched in Figure 3.2, is where the company makes investments in social entrepreneurs who are focused on sustainability areas of interest to the company, such as climate change, poverty, or health care. The company provides financial resources to the social entrepreneur, as well as talent and access to the company's networks. In turn, the company potentially achieves enhanced sustainability outcomes and has the opportunity to boost its brand through the promotion of its support for the social entrepreneur. Employees of the company who work with the social enterprise are often inspired by the experience and bring this morale boost and creative thinking back to the company.

Given the lack of capital and other critical business resources available to social entrepreneurs, this enhanced philanthropy role is an important one for companies to consider. As an example, the **John Deere Foundation** recently provided $3 million to **KickStart**, an innovative social enterprise that creates and markets tools to help end poverty in developing countries.

Despite the undoubted attractions of the Enhanced Corporate Responsibility approach, however, a second partnership approach — the Hybrid Value Chain™ (Figures 3.3 and 3.4) — is emerging as potentially even more promising. Anecdotal evidence suggests that greater strategic engagement with social entrepreneurs offers the potential for greater returns to both parties.

Figure 3.2
Benefits of enhanced corporate responsibility



Unexpected lessons from emerging markets can be applied in more traditional markets.

With continuing globalization, the potential for social and environmental entrepreneurs to help multinational and more local companies is growing all the time. **Ashoka**'s program aims 'to develop a framework for sustainable commercial partnerships where business and social organizations join forces to make critical products and services available to low-income citizens around the world without being limited by the artificial divide between both sectors. Each partner creates economic and social value by leveraging each other's core competencies. Differing from traditional corporate social responsibility relationships, Hybrid Value Chains™ are commercial in nature with each partner receiving economic benefit according to their role and transaction in the partnership.' Ashoka's goal for the approach is to 'tip the system' and to 'create a mind-shift among business leaders and social entrepreneurs.'[72]

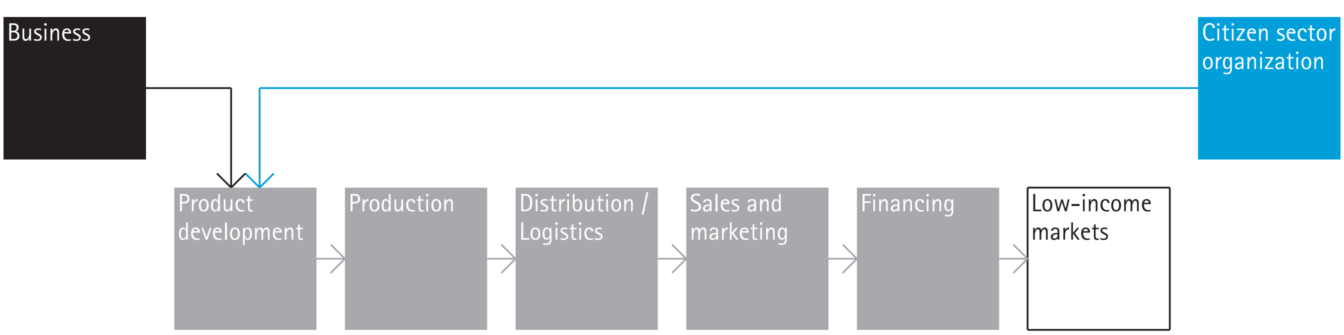
As sketched in Figure 3.4, potential benefits to the company partner include:

- **Outsourcing risk:** By outsourcing research into sensitive or unfamiliar areas, such as pharmaceuticals for emerging markets, new energy alternatives, or enhanced foods, companies can minimize potential brand risks, yet ensure that they stay close to emerging trends. They also may be able to bypass strict internal controls around return on investment criteria that would prevent the company investing internally in high risk, entrepreneurial ventures. **PATH** and **GSK Bio** and their joint development of a malarial vaccine is just one example of how a corporation can benefit from collaboration on research and development.
- **Access to information, markets, and networks:** Many social entrepreneurs are working with populations and in communities unfamiliar to large corporations. Collaboration offers companies access to information about potential consumers and partners and in many cases, lends additional credibility. In addition, many entrepreneurs have an interest in helping build markets for affordable and accessible mainstream products. They can provide marketing support for the company. The partnership between **CEMEX**, a cement manufacturer, and **SISEX**, a sexual education organization, to create affordable housing solutions for low-income Mexican women is indicative of the unique approaches being devised between entrepreneurs and corporations.

  Interestingly, unexpected lessons from emerging markets can be applied in more traditional markets. Pre-pay mobile phone payment structures applied first in developing countries due to the lack of bank accounts proved imminently transferable to the youth market in the industrialized world. A knowledge and understanding of developing country markets has the potential to yield lessons for the development of new business models, based on the interconnected world, such as health tourism or the use of technologies in healthcare compliance or market data for internet sales.
- **Inspiration:** Collaboration with social entrepreneurs can help companies to tap — or recharge — their entrepreneurial and creative spirits, resulting in innovative new product development (e.g. microinsurance, 'green' products). Consumer goods companies, such as **Nike** and **Marks & Spencer**, are looking to social entrepreneurs as a source of innovation and competitive advantage in developing new products.

[72] www.ashoka.org/hvc

Figure 3.3
Ashoka's Hybrid Value Chain™



> 'The potential for cross-fertilization between social enterprise and mainstream corporations is huge — it's utterly revolutionary.'
> Sara Olsen, Social Venture Technology Group

Employees can also be remotivated when working on inspiring projects. Many people within companies (in particular the technical experts, engineers, doctors, scientists, etc.) want to feel they are contributing to wider social needs, and support for or engagement with social entrepreneurs can be a way of permitting them time to do so. Through partnerships, employees at big companies get 'infected' with a mindset and energy. Some companies are already aware of this — witness **GSK**'s commitment of staff to a number of developing country initiatives, or **Shell** lending engineers to work on hydrogen-powered mobility with pioneers at **Formula Zero.**[73]

Those who have worked in this field for some time are excited by the pace of developments at the interface between business and social enterprise. 'The sleeping giant is awakening,' says Sara Olsen of **Social Venture Technology Group.** 'The potential for cross fertilization between social enterprise and mainstream corporations is huge — it's utterly revolutionary.'[74]

Rules of engagement

While our survey revealed willingness on the part of social entrepreneurs to engage corporations, it also highlighted concerns about the potential for mission creep, brand erosion and power imbalances. Feedback from more seasoned entrepreneurs in our sample offered insights into what would make corporate partnerships most likely to work.

— A number echoed the advice of more traditional NGOs,[75] noting that partnerships work best when there is a **clear set of principles and expectations** guiding the partnership (e.g. we only work on projects related to our mission, we respect commercial confidentiality, we understand our business partner's need to pursue ventures that allow them to make a profit).

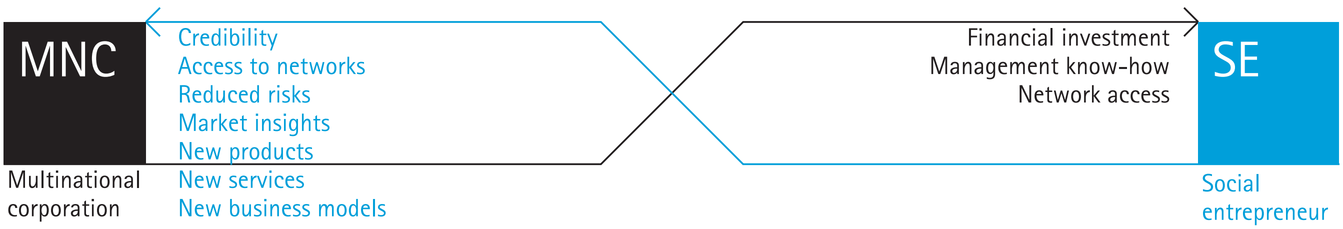
— They also stressed that the entrepreneur and partner must have **comparable levels of interest in the partnership.** Where there is an imbalance of power or interest in the partnership, all-too-likely given the relative scales of the partners, the partnership is very unlikely to achieve intended outcomes.

— **Longer term partnerships** are typically preferred, with social entrepreneurs seeing their organizations — and the environments in which they operate — as complex, requiring time for an outsider to learn. Cleantech companies, in particular, want to bring in corporate partners early to ensure later options for potential acquisition, what they describe as a 'locked-in exit strategy.'

— The role of **internal champions** in partner companies is cited as essential to building good partnerships. For Gary Hirshberg of **Stonyfield Farm**, this has been Danone CEO Franck Riboud. Clearly, however, this approach poses real dangers when the individual moves or leaves. Even with engagements that occur at the senior management / corporate level, there are concerns about partners pulling out, indicating a need for entrepreneurs to be adaptable, have a Plan B, and avoid relying too heavily on any one individual or department for support.

73 www.formulazero.nl
74 The results of a study by Sara Olsen and Paul Herman on the environmental and social performance of 21 mainstream corporations are due to be published in *Fast Company*, April 2007.
75 See, for example, *The 21st Century NGO: In the Market for Change*, SustainAbility, The UN Global Compact and United Nations Environment Programme, 2003.

Figure 3.4
Benefits of the Hybrid Value Chain



'New faces, new energy ventures, are beginning to dominate the debate — and leaving the incumbent big energy companies in their wake on the issue of innovation around sustainable energy.'
Colin Le Duc, Generation Investment Management

[76] www.generationim.com

Next, deeper dives

Whatever the sector, global challenges mean that it's time to s-t-r-e-t-c-h (see coverage of **X Prize Foundation**, Panel 3.1). To get a better sense of how all this is playing out, Chapters 4 and 5 take a closer look at two key sectors: healthcare and energy. Our twin aim is to deepen the dives in these sectors in the future — and to expand the approach to look at more sectors.

There are striking contrasts between the two sectors. As **Acumen Fund** CEO, Jacqueline Novogratz, put it, 'Health tends to be a more distorted market when speaking of the poor. It is highly subsidized and largely government-driven. There are huge opportunities to create social enterprises in this sector given the significant resources available, but it takes harnessing large government contracts, measuring output effectively and navigating often tricky political terrain. Energy, on the other hand, often overlooks the poor entirely and so markets for the poor are often not distorted, but instead are simply out of reach for poor people. Look at solar energy as an example where many effective technologies exist but very few, if any, are truly viable at household level. At the same time, there seems to be a tremendous surge of resources into alternative energy, including for the poor. These resources still seem to be coming more from private sources and so this differentiating characteristic — where funds come from — is still the critical differentiator.'

Most social enterprises tackling health-care continue to operate as charities (i.e. foundation-funded non-profits). While highly outcome-oriented, these organizations — with a few notable exceptions — struggle to secure more sustainable modes of financing. Energy start-ups, at least in the developed world, tend to have the benefit of robust capital and consumer markets for their products and services. That said, exceptions remain, in large part among entrepreneurs focused on bringing energy to the world's poorest. Here, too, however, promising examples are emerging, such as **Orb Energy**, a venture-capital-backed enterprise selling inexpensive solar systems to Indian customers, ranging from farmers to technology companies. Interestingly, much of the business was previously part of Shell India's renewables business, but was spun out.

As background to our analysis of the worlds of social and environmental entrepreneur-ship, we talked to Colin Le Duc, Head of Research at **Generation Investment Management**,[76] and itself a form of social enterprise, about the differences between the energy and healthcare sectors. He noted that they 'see a huge amount of innovation in both sectors, from the full range of companies — large public to small cap to private. And globally, too.'

On healthcare, he stressed that, 'biotech is where all the innovation is. We see a huge amount of interest in DNA and genomics generally. Plus, we see a major trend around the cross-over between health, food, and energy. The trade offs in biofuels — i.e. land for food or land for energy — are well documented, but we also see innovation around nutraceuticals and new genetic materials. In addition, we track companies like **CIPLA** in India, who are innovating around new HIV drug delivery systems. And **Novo Nordisk**'s work around diabetes continues to be stunning, too.' This view from the emerging mainstream illustrates the difficulty faced by social entrepreneurs in the field, because their ventures and predicted returns (where they exist) fall far below the radar of even the most progressive of investors.

On the energy front, he noted that, 'The cleantech boom of recent years is manifesting in various ways: large corporates are buying an unprecedented number of private cleantech companies. For example, in 2005 alone **Danaher** bought 78 cleantech companies. I believe the same dynamic that has happened in the Big Pharma sector - where all the innovation is coming from biotech companies and Big Pharma gets ever less return on its R&D spending — is also now happening in Energy. New faces, new energy ventures, are beginning to dominate the debate — and leaving the incumbent big energy companies in their wake on the issue of innovation around sustainable energy.'

'Revolution Through Competition'
X Prize Foundation

[77] www.xprize.org

Panel 3.1
Time to s-t-r-e-t-c-h

A significant proportion of those we spoke to outside the fields of social and environmental entrepreneurship see a key impact of all this effort as being a useful spotlighting of the need for all parts of business to be more innovative and entrepreneurial in meeting social, environmental and governance challenges. But for a real stretch, try the **X Prize Foundation**, which really encourages innovators and entrepreneurs to think outside the box.[77] They create and manage prizes that encourage innovators to solve some of the greatest challenges facing the world today. Their motto: 'Revolution Through Competition.' Now the Foundation is moving beyond aerospace (its original area of focus) to tackle some of the challenges that social and environmental entrepreneurs are concerned about.

We asked Tom Vander Ark, the Foundation's President, what lay behind this shift. First, how did the decision to move beyond aerospace happen? 'Larry Page, Google co-founder, believes in the power of prizes and joined after we awarded the Ansari X Prize for space,' Vander Ark recalled. 'He then encouraged the board to consider a broader mission.' And how are the next generation priorities being selected? 'We're attempting to identify the world's biggest problems, particularly those susceptible to innovation through competition, where it's possible to set a difficult but achievable objective, and where it's likely that we can secure a prize purse.'

Evolving at the moment is the Automotive X Prize, which will encourage car designers worldwide to design, build and sell super-efficient cars that — crucially — people want to buy. Why?

There are at least five reasons, they say. First, 'because 40% of world oil output fuels the automotive industry — and, in the US, 65% of oil consumption is in the transportation sector.' Second, because 'automotive emissions contribute significantly to global climate change.' Third, because 'there are no mainstream consumer choices for clean, super-efficient vehicles that meet market needs for price, size, capability, image, safety, and performance.' Fourth, because the automotive industry is stalled — legislation, regulation, labor issues, manufacturing costs, legacy costs, franchise laws, obsolete technology, consumer attitudes, and many other factors have combined to block breakthroughs. Fifth, because 'increases in engine efficiency have been "spent" on increased vehicle power, acceleration, and weight, rather than on increased fuel economy.' And sixth, and fundamentally, 'because we believe there is great opportunity for technological change.'

The obvious next question: is it any harder to pick suitable targets for social and environmental challenges? 'Setting goals and writing rules is hard in all cases — it's the secret to a great prize,' Vander Ark answered. 'The difference between innovation and revolution is large scale adoption. We attempt to create goals, rules, competitions, and public campaigns that result in revolutionary change, not just awards for good ideas.'

Any guesses as to where all this is going to take the Foundation? 'By next year,' he said, 'we will have launched prizes in four areas (space, genomics/medicine, transportation/energy, and education/poverty reduction), will have full prize teams, and well-developed shared services. By 2009, we will have developed several revenue engines that will make it a sustainable world class prize platform.' Watch this space.

4 Deeper Dive: Health

Good health is an important goal in itself — a key human right.

Few things are as important as our health and the health of our families. A hundred and fifty years ago life expectancy at birth in the rapidly industrializing and urbanizing countries of Europe was just 40 years. Since then, income growth, better nutrition and housing, medical advances, and — overwhelmingly — access to clean water and effective sanitation, have revolutionized public health so that life expectancy has risen to between 75 and 80 years in the industrialized world. In contrast, for an unacceptably long list of developing countries, including Afghanistan, Angola, Botswana, Lesotho, Liberia, Malawi, Somalia, and Zambia, the needle still wavers stubbornly around the 40-year mark.

Three diseases, HIV/AIDS, TB, and Malaria, disproportionately impact mortality and morbidity rates, though many developing countries have seen a rapid rise in the incidence of so-called western diseases, including diabetes, cardiovascular disease, cancer, and hypertension. Figure 4.1 illustrates the incredible gap that remains between critical health needs and the current offering.

Good health is an important goal in itself — a key human right — and, equally important, a pre-requisite to allowing individuals, families, communities, and nations to achieve the economic development that permits access to better nutrition, housing, sanitation, and healthcare.

That said the provision and delivery of healthcare services in all their many guises is immensely complex. Critically important are preventive measures such as health education, good nutrition, and access to clean water and sanitation services; research and development into medicines, diagnostics, vaccines, and other healthcare products designed to diagnose, prevent, and treat illness and other conditions; healthcare delivery — the complex interplay between community and hospital care, patients and medics, supply and demand, governments and markets, expectations and realities. It generates strongly held and hotly defended views about the role of public bodies in setting standards, a strong regulatory environment, safety, and above all equitable access to healthcare.

Figure 4.1
The treatment gap
Total current
Total needed

	Total current	Total needed
HIV/AIDS Antiretroviral treatments	384,000	40,000,000
Tuberculosis DOTs treatments	1,000,000	2,000,000,000
Malaria Pesticide-treated bednets	7,700,000	500,000,000

Source: Global Health Fund and WHO

For good or ill, there is a widespread and deeply held public unease at the role of private enterprise at the heart of healthcare delivery.

The kaleidoscopic nature of these tasks and the immediacy and importance of the end goal has attracted hundreds of social entrepreneurs into the health space where they have applied ingenuity, determination, and creativity to the huge challenges of meeting healthcare needs of the some of the poorest people in the world. Figure 4.2 highlights some of the challenges facing the healthcare sector.

Relevance to business

Even to frame the relevance to mainstream business of what social entrepreneurs are doing in the health arena in terms of a business case can be fraught with difficulties. For good or ill, there is a widespread and deeply held public unease at the role of private enterprise at the heart of healthcare delivery, and any high profile reminder of commercial drivers can lead to an outpouring of moral outrage about distorted priorities. One key reason: since the Greek philosopher and 'Father of Medicine', Hippocrates, launched his Hippocratic Oath in around 350 BC, medical ethics have sought to put the best interests of the patient above all other considerations.

The result is an enduring belief in medicine as an entitlement, coupled with a resistance to arguments about commercial realities such as profit maximization. However real such considerations are for companies delivering healthcare in poor markets, they are all too readily interpreted by critics as 'profiteering' from sick, poor people in the case of drug companies or, in the case of water utilities, putting profits ahead of a basic human right.

Although this attitude may provide a mighty disincentive for companies to engage in these markets, paradoxically — and here's the rub — demand for their active engagement as a partner in solving some of the more intractable health-related problems in the developing world continues unabated and is likely to grow.

In a globalized economy, emerging markets are increasingly critical to mainstream firms — as a source of growth opportunities, cost efficiencies and political risks. Forecasts for drug and overall health expenditure increases in China and India between 2007 and 2009, for example, are predicted to rise from $30 to 40 billion and $132 to 163 billion, respectively.

Figure 4.2
Challenges

Prevention

Low levels of health education
Lack of clean water
Low vaccination rates

R&D

High cost of medicine
Drug development focused on 'profitable' markets

Delivery

Poor transportation infrastructure
Insufficient numbers of health workers
Inadequate government infrastructure

In Africa, men, women, and children are dying of easily preventable diseases, simply because they cannot be reached.

How healthcare firms respond to the need to balance market realities with access issues is likely to have an impact on their license to operate in all markets; to have a bearing on the attraction and retention of talented staff; to offer opportunities to develop the critical skill of partnering; and may even come to be seen as a proxy for competencies relating to the management of that core value driver of many industries: innovation.

Health sector milestones and entrepreneurial solutions

Below, we highlight just a few of the remarkable examples of how Mindset 3.0 entrepreneurs are breaking log-jams and advancing healthcare provision. While none of the models — unsurprisingly — delivers direct returns to shareholders comparable with operating in mainstream markets, they do provide examples of how out-of-the-box thinking can turn at least some challenges into opportunities.

Systems thinking and design: PATH to global health

As already noted, healthcare delivery is a highly complex system of prevention, research and development and delivery. When one element of this system breaks down, it can have devastating consequences.

Take vaccination for example. In developed countries where vaccinations are inexpensive and accessible, diseases such as polio and measles have been all but eradicated. Not so in poor countries. Roughly one child in four does not receive the vaccines s/he needs despite the fact that it only costs $30 to immunize a child against the greatest childhood threats. The value of vaccination — preventing disease before it takes root and protecting children at their most vulnerable — and the advances in technologies has led to the development of large scale immunization programs such as **GAVI** and **IAVI**, and has made possible national immunization programs which the **World Health Organization** (WHO) estimates averts around 2 million deaths a year. Yet, despite these advances, issues such as poor transportation infrastructure, inadequate delivery vehicles, and lack of funding still keep vaccines out of reach for most poor children.

PATH, a not-for-profit organization specializing in global health, is taking a systems approach to addressing these challenges. Identifying critical gaps in healthcare systems, PATH establishes unique partnerships and leverages technology to develop 'resilient and enduring' solutions. Examples include the adaptation of food industry technologies to develop a means of telling health workers whether the polio vaccine they plan to use has gone bad on its long journey from Europe to Africa. The vaccine vial monitors (HEATmarker™), developed with **TEMPTIME Corporation** and the WHO, are printed directly on vaccine vial labels and darken with exposure to heat over time. This simple technology means no more uncertainty, no more waste.

The organization's vaccines work also involves partnership based initiatives dedicated to helping vaccines from the laboratory into clinical development efficiently and quickly, both to combat malaria and the deadly *Streptococcus pneumoniae*, or 'pneumococcus,' which causes the deaths of up to one million children under age five each year.

Elsewhere systems thinkers are considering a key missing link in relation to healthcare delivery: transportation. In Africa, men, women, and children are dying of easily preventable diseases, simply because they cannot be reached. **Riders for Health** — born out of the world of motorcycle racing — tackles the problem by putting in place reliable, preventative maintenance systems for two and four wheeled vehicles used in healthcare delivery. This innovative work is managed by wholly African teams, and means that healthcare in these areas is very much less likely to be undermined by vehicles failing, no matter how harsh the conditions.

Villagereach is another social enterprise attempting to 'go the last mile' in healthcare delivery, according to founder Blaise Judja-Sato. Its business is focused on the logistical challenges and infrastructure gaps facing those who want to take affordable, safe, and effective healthcare delivery into very poor environments — be they transportation, issues of cold storage, quality control, or staffing.

'Sadly, the health field still seems dreadfully stuck. Structurally, it has incentives for innovation in a few limited areas (certain pharmaceuticals and medical appliances) but virtually nowhere else in the system. In fact, the human delivery dimension of health care is an appalling mess. The current high-tech-led focus on the technical elements of health delivery for a few diseases in a few places continues this unhelpful imbalance.'
Bill Drayton, Ashoka

Like many of the social entrepreneurs featured here, Villagereach dedicates considerable time and effort to developing strategic partnerships and mobilizing communities to take greater ownership of health systems to promote a social atmosphere of higher expectations and greater accountability. Critical to its work is a desire to promote local economic development as a means of developing sustainable healthcare delivery and the support of weak government health systems.

Empowering consumers: teaming up

Despite its ethical tradition, the health care sector struggles with the concept of consumer (patient) focus. As one US-based social entrepreneur put it 'health care companies don't develop products and services with consumer needs in mind and often financial incentives run counter to the notion that patient health is paramount.' Health education is one way that social entrepreneurs are helping to empower consumers to demand decent healthcare. From Afghanistan to America, entrepreneurs are emerging in this space with myriad creative and cost-effective solutions.

EduSport, which runs programs like 'Go Sisters' and 'Kicking AIDS out!,' is a community-driven NGO based in Lusaka, Zambia. It uses sport to tackle issues like HIV/AIDS, poverty alleviation and child rights in underprivileged communities in Zambia. Sport is becoming a powerful tool for change as entrepreneurial thinkers have realized activities like soccer are also vehicles for communication and youth empowerment. More interestingly, this unique approach is recruiting highly influential players onto the field.
In particular, **Nike** is teaming up with **GlobalGiving.com** — an internet donation site — to raise awareness and money for, social entrepreneurs who take a sport for social change approach.

Business models: an Indian Robin Hood

Creating a market-based solution to bring essential services such as water and healthcare to poor citizens is a sensitive proposition. How does a company balance the rights to basic services with the need to make money to sustain the enterprise? And, how do they ensure that they provide sufficient quality given customers' inability to pay premium prices. The most successful entrepreneurs in the field are those who have developed a hybrid model appropriate to the market in which they are operating.

Mainstream firms have found it impossible to meet these needs and meet required margins. Those same firms, however, in partnership with social entrepreneurs and with some financial support from government, have developed means to bring services to people, at profit margins, appropriate to the market environment. Critically, this means that the service expands to meet the needs of more people, at prices they can afford. The initiatives highlighted here are illustrative of how entrepreneurial thinkers are taking on this challenge:

— **Challenges around secondary care**
India is a market that offers impressive opportunities, alongside considerable challenges. With annual growth rates of 8%, the growing middle class is now made up of 150 million Indians. A further 300 million people live on less than a dollar a day and 50% of all Indian children are malnourished. The majority of healthcare services are provided by the private sector. Government coverage — despite the abject poverty of so many people — only accounted for 25% of total health spend in 2003. Out-of-pocket health expenditure — as opposed to social security or private insurance — accounted for 97% of total expenditure in the same year. The net result is that secondary care — treatment in hospitals — is way beyond the reach of millions of Indians.

In response to this exceptionally grim picture, Dr. G. Venkataswamy (Dr. V) created **Aravind.** What started in 1976 as an 11-bed eye clinic in an old temple-city has grown into the largest and most productive eye care facility in the world. Unlike many social enterprises, it is completely self-sustaining and now treats over 1.7 million patients each year, two-thirds of them, for free. From its beginning it developed a 'Robin Hood' business model of 'borrowing' from richer eye patients to fund operations of the poor. The business model is stated up front and built into discussions about fees. It has proved entirely socially acceptable to those who pay.

A company's license to operate may come to depend on managing such expectations by supplementing its business model with creative, non-market or partial market-driven responses.

Likewise, **Narayana Hrudayalaya Hospitals** are using a similar model to provide cardiac surgery and other health care services to patients in India. The company has also worked with the government to adapt this model for health insurance provision.

— **Clean water and sanitation services**
The strong link between improved human health and access to clean water and effective sanitation is now incontrovertible and explains why halving the proportion of the world population without access to safe drinking water and basic sanitation is a target of the Millennium Development Goals (Goal 7, target 10). Despite this, 1.1 billion people still lack adequate access to clean water, 2.6 billion have no basic sanitation and government action to meet these needs falls far short of what is needed to get even close to the 2015 target.

The privatization of many public utilities in the 1990s, followed by the enthusiastic expansion of western-based water utilities into developing countries, did not deliver promised results either to the companies themselves or to water consumers. The complexities of increasing poor people's access to water in highly fragmented markets (where they face a bewildering array of service providers including public utilities, private stand-pipe operators, water trucks, vendors in kiosks and agents) proved insurmountable to some. Profit margin predictions, based on increased use following expansion of the service to more consumers, proved wrong as the price meant people consumed less water.

Faced with political opposition to privatization — irrespective of the poor standard of much public service provision — and the difficulties of establishing a license to operate, many companies concluded that the provision of water to poor people under the existing business model was not going to work. Some firms have withdrawn altogether. Others, have absorbed the somewhat bruising lessons from the experience and, drawing on the complementary skills of a range of partners to deliver water and sanitation services, have tried to shift to a model that focuses on delivering returns at the same time as fulfilling a social contract and sustainability.

In an innovative attempt to address these lessons, **WSUP** (Water and Sanitation for the Urban Poor) brings together companies (RWE, Thames Water, Halcrow Group, & Unilever) with NGOs (CARE, WaterAid, WWF) and government to develop commercial projects that: deliver a return (at around 7% to 10% designed to guarantee sustainability, not maximize profits) to commercial participants; promote community health; have a positive environmental impact; and are sustainable over the long-term.

360-degree accountability: open kimono

For any company with global aspirations — wherever it may be domiciled — the challenges of doing business in markets of great wealth disparity and weak state regulation are considerable. In many sectors, countries at the upper end of the development scale offer important prospects for future growth. At the same time, the needs of poor people for products and services — especially those with a strong social component, such as water or health, and where state provision is inadequate — will likely translate into direct demands of companies. A company's license to operate may come to depend on managing such expectations by supplementing its business model with creative, non-market or partial market-driven responses.

Even in developed markets, the sky-rocketing costs of healthcare are challenging companies' traditional blockbuster approach to profits. **One World Health** (OWH) and its 'open kimono' approach to drug development is one to watch in this space. Pharmaceutical chemist, Victoria Hale — now an icon of the social entrepreneur movement — used her skills and expertise to create the world's first not-for-profit pharmaceutical company. OWH is dedicated to the development of safe, effective, and affordable medicines for people with infectious diseases in the developing world.

As companies consider these markets, they have much to learn from social entrepreneurs who have developed successful cross-subsidized business models that serve those who can and cannot pay simultaneously.

[78] www.ssireview.org/site/printer/victoria_hale

OWH takes dormant intellectual property, owned by academia or companies in the pharmaceutical and biotechnology industries, and develops it into medicines to treat infectious disease in developing countries. Its flagship project has successfully taken paromomycin through clinical trials as a treatment for Visceral Leishmaniasis. Partnering with the Indian government has secured OWH a distribution agreement to guarantee the treatment's availability for those who need it most — India's rural poor. The company's transparent and collaborative approach to drug development provides an intriguing model for traditional pharmaceutical companies and their stakeholders to consider. Interestingly, following interest from investors, the company is considering the potential of a for-profit approach.[78]

Emerging economies: smart solutions

Until now, the priorities for the global health community have been infectious diseases, and in particular, HIV/AIDS, malaria, and TB. Public-private partnerships, and much of the work of social entrepreneurs, have focused on these infectious diseases. However, disease profiles in developing countries are changing as a result of urbanization, a more sedentary lifestyle, less physically demanding work, changing diets and an increase in smoking. Even among poorer communities, so-called 'diseases of the affluent' — diabetes, cardiovascular disease, cancer, and hypertension — are increasing at alarming rates.

Many pharmaceutical and healthcare companies see the emerging markets as important sources of future growth. For example, in 2006 cardiovascular drugs already sold more than any other therapeutic category in the Asia-Pacific market. But the complex interplay of medical need and capacity to pay pose significant challenges. As companies consider these markets, they have much to learn from social entrepreneurs who have developed successful cross-subsidized business models that serve those who can and cannot pay simultaneously. In addition, they can gain significant insight into cultural and socio-economic factors that contribute to successful operations in these markets.

Consider the work of Vera Cordeiro in Brazil, who understands that the success of patient care is undermined by the severe poverty in her country. Children often leave the hospital and return to inadequate housing, poor nutrition, and other conditions that prevent them from healing. Her organization, **Association Saúde Criança Renascer**, is addressing this problem by providing post-hospitalization assistance to the families of poor children recently discharged from the hospital. The work of its network of volunteers means that at Hospital da Lagoa — a large public hospital in Rio de Janeiro, where the flagship Renascer is based — paediatric re-admissions have dropped by 60%. The Renascer model has proved easily transferable and ideal for locations in which disease is exacerbated by socio-economic factors. It has spread to an additional 17 hospitals in Brazil and served more than 26,000 people to date.

Or take Laura Peterson, Executive Director of **Hands to Hearts International** (HHI), a nascent operation in India that promotes early childhood development. HHI combines economic development/empowerment for disadvantaged women with desperately needed health services for orphaned children. Their simple model is yielding impressive results. Further, HHI is learning important lessons about how to work effectively in India. HHI goes beyond simply improving the conditions for the children in orphanages — HHI takes aim at the root causes, forwarding women's access to education and economic empowerment. 'The world has come to recognize that the health of our world's children is inextricably tied to the empowerment of our world's women,' says Peterson. 'Smart solutions need to address societal factors to reach core causes. By looking at issues in a holistic context, entire communities reap long-term benefits and unpredictable and profound health outcomes follow.'

[79] www.un.org/millenniumgoals

5 Deeper Dive: Energy

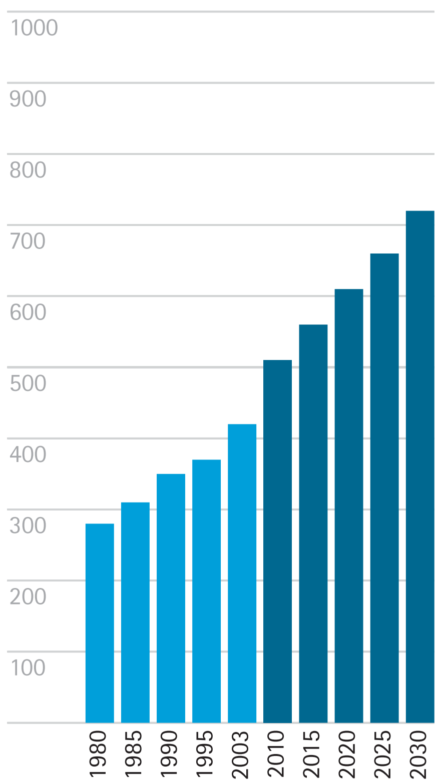
Surprisingly, and unlike health, energy is not mentioned explicitly in the top level of the UN Millennium Development Goals.[79] Yet its availability, its pricing and the environmental sustainability of its production, supply and use are absolutely intrinsic to meeting all the other Goals. Meanwhile, even if activists see access to clean, affordable energy as increasingly akin to a basic human right, the prospects for providing a predicted global population of 9–10 billion people by mid-century with adequate, sustainable energy to meet their needs — let alone their wants and desires — seems remote.

That said, there are some grounds for hope in the recent coincidence and convergence of three megatrends: oil price rises, growing concerns about energy security in the context of a political uncertainties around several major oil production regions, and the profound longer-term threat of climate destabilization.

Taken together, these three factors could well aggravate the energy picture, driving many forms of fuel out of the reach of the world's disadvantaged communities and populations.

As with the previous Deeper Dive into health, the purpose here is to investigate the potential contribution of social and environmental entrepreneurs in relation to a critical area of need, from several different angles. The first thing to say about the potential of such entrepreneurship is that this is still very much a micro-David and macro-Goliath situation, with any one of the major energy groups — among them the world's great petrochemical companies — doing more in a single day to meet human energy needs than all social and environmental entrepreneurs do in a year, although the vast majority of these energy flows are based on carbon-intensive gas and oil that is consumed in rich markets. But the key point is that much of the potential of social entrepreneurship flows from a new mindset that these people model.

Figure 5.1
World marketed energy: consumption 1980–2030
Quadrillion BTUs
History Projection



Sources for figures 5.1–5.5
History: Energy Information Administration (EIA) *International Energy Annual 2003* May–July 2005.
Projection: EIA System for the Analysis of Global Energy Markets, 2006.
www.eia.doe.gov/iea

'The biggest challenge? Educating potential customers regarding the need for, and advantages of, sustainable solutions. Essentially, making the business case for our services.'
Environment Sector

[80] The Global Reporters 2006 was an early stepping stone in SustainAbility's evolving Skoll Program.

As suggested in Figure 3.1, the way mainstream business frames sustainability issues is moving from an early focus on compliance (involving a largely defensive business positioning), through a period of corporate citizenship (with a growing degree of engagement and beyond-compliance, voluntary effort) to a now-emerging phase, involving a fundamental shift to competitive strategies built around innovative technologies, entrepreneurial solutions and potentially disruptive business models.

Interestingly, energy is under-represented in current memberships of leading social entrepreneurship networks. By our analysis, only eight **Ashoka** Fellows (out of over 1,800) are operating in this sector, with two **Schwab Foundation** network members and no **Skoll Foundation** entrepreneurs, to date. By contrast, the **Cleantech Venture Network** has a major focus on clean energy and 1,300 affiliate investor members. One venture capital fund told us it now has over 2,000 cleantech firms on its database.

The business case

So what is the mainstream business case for looking at social entrepreneurship in the energy sector? Clearly it has varied as the agenda for the energy sector has moved beyond the basic compliance stage through various forms of citizenship to a new generation of sustainability-focused competitive strategies.

But the critical mass of the energy sector is still mired in unsustainability. Even the best energy sector companies are largely operating versions 1.0 and 2.0 (see Figure 3.1) of the business case. In SustainAbility's 2006 *Global Reporters* survey of international best practice in sustainability report, a number of energy companies made it into our Top 50, including **BP**, **Enel**, **Shell**, **Statoil**, and **Suez.**[80] The sort of issues such companies are currently focusing on include: environmental and social footprints (BP); provision of micro-loans to help businesses develop cleaner indoor cooking stoves (Shell) and microfinance (BP); access to new forms of energy (Statoil); and the pursuit of sustainable development through better integration of different service offerings, including energy, waste management, and water (Suez).

Figure 5.2
World marketed energy: OECD and non-OECD consumption 1980–2030
Quadrillion BTUs
History Projection

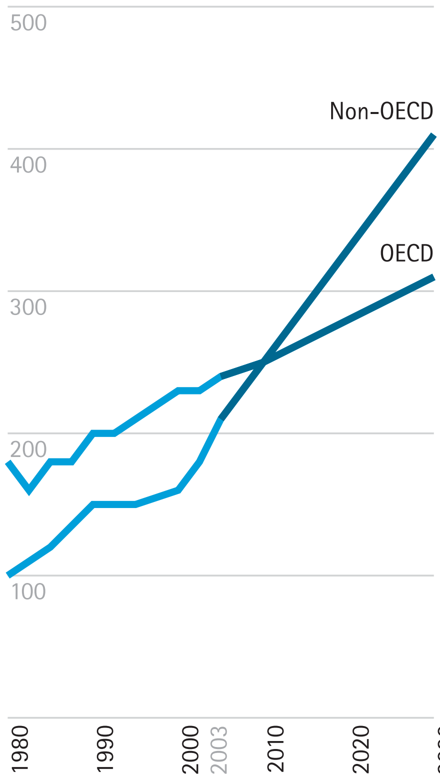
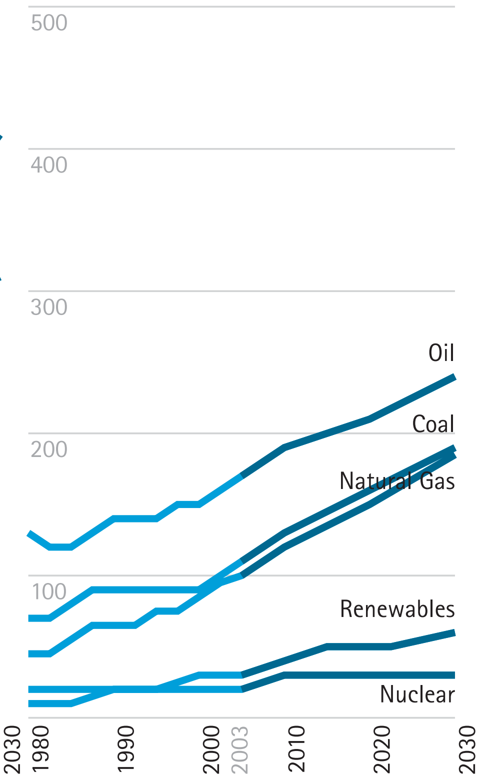


Figure 5.3
World marketed energy: consumption by fuel type 1980–2030
Quadrillion BTUs
History Projection



'Our biggest challenges? First, managing the quality of our programs while scaling them. Second, hiring private sector talent on a not-for-profit budget.'
Environment Sector

[81] These figures are taken from the *International Energy Outlook 2006*, prepared by the US Energy Information Administration. www.eia.doe.gov/oiaf/ieo/world.html

Overall, it is clear that even leading companies — and BP is a leader despite its recent catastrophic slip-ups — still have a long way to go in addressing the sort of issues that are second nature for most leading social and environmental entrepreneurs. To achieve anything like the 3.0 version of the business case for sustainable development in the energy sector, such companies would need to address three key areas that are central to the work of such entrepreneurs:

– **Access**
For many social entrepreneurs, the issue of access to energy is crucial. Billions of people still lack access to reliable supplies of affordable, clean, and sustainable energy. And this is also an issue for mainstream businesses. To grow, markets need energy: no energy, no growth. Figure 5.1 underscores the predicted significant continued growth in energy demand worldwide,[81] with non-OECD demand overtaking OECD demand within the next decade (Figure 5.2), even given the uncoupling of energy demand from GNP growth (Figure 5.4).

The current consensus is that markets for products designed with energy efficiency, renewable energy and/or clean energy in mind are set to explode, but the projections in Figure 5.3 suggest that renewables will still meet a relatively small proportion of world marketed energy demand in 2030. In the meantime, while renewable businesses and other cleantech ventures scale up, there will be a continuing, growing demand for affordable, clean fossil fuels.

– **Security**
With continuing uncertainty around the future of a number of key oil producing regions, energy security considerations are very much in the ascendant. Among other things, this has been a critical factor driving the growing interest in biofuels and other forms of cleantech. The access-to-energy agenda is closely linked. At the extreme, picture an oil company operating in West Africa, the complex's lights blazing in the night while all around there is a world in which reliable, affordable electricity remains a distant dream. This could be a metaphor for the developed world sailing on in an 'ocean' of energy-poverty, a reality that raises many longer term security issues.

Figure 5.4
World marketed energy: consumption in three economic scenarios 1980–2030
Quadrillion BTUs
History Projection

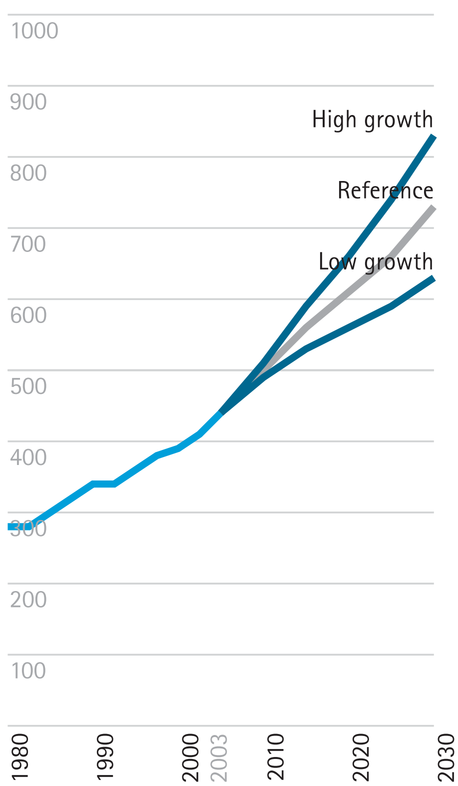
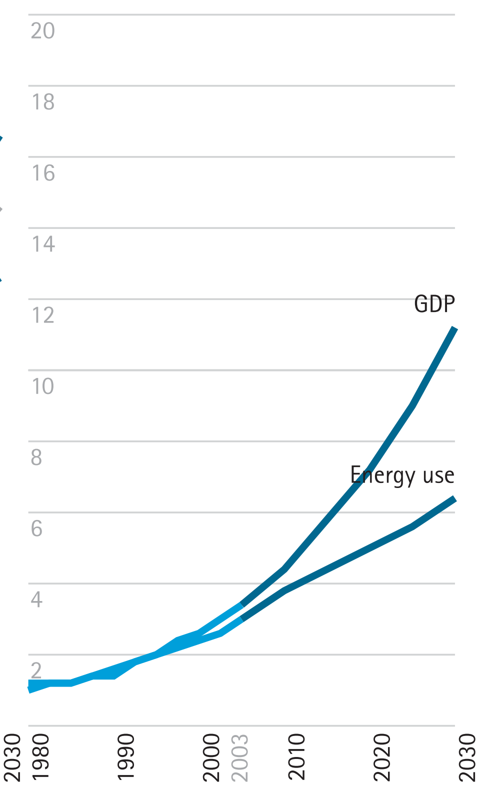


Figure 5.5
Growth in energy use and GDP in non-OECD countries 1980–2030
Index: 1980 = 1
History Projection



'We have tracked more than $10.6 billion invested in cleantech ventures since 1999 in North America and $2.6 billion invested in Europe since 2003.'
Cleantech Venture Network

– **Climate and environment**
The skies over China have darkened in the past five decades, thanks to a nine-fold increase in fossil-fuel emissions.[82] Around 80% of China's electricity comes from coal, and there are plans for well over 500 new coal-fired power stations to meet an apparently insatiable demand for energy. The country is expected to overtake the US in terms of greenhouse gas emissions in 2009, yet the surge of investment in heavy industry is under-mining China's ability to achieve its energy efficiency targets.[83] Even without growing concerns about the implications of energy consumption trends for the stability of our climate, the likely increase in many forms of pollution linked to energy in the emerging economies can only increase the squeeze on energy producers worldwide.
Once seen as a softer set of drivers, environmental factors are now seen to be of crucial importance.

The cleantech surge

Given the sheer scale of the challenges we face in the energy realm, it is important to maintain a sense of relative scale when thinking about the potential contributions of social and environmental entrepreneurs. The sort of social and environmental entrepreneurs who are pioneering new approaches include Fabio Rosa of **IDEAAS**,[84] Brazil, Nic Frances of **Easy Being Green**,[85] Australia, and Maqsood Sinha and Iftekhar Enayetullah of **Waste Concern**,[86] Bangladesh. But however successful such people may be in scaling up what they do, and however much they may now deserve to be properly funded, we should note that they have a very long way to go in order to make a significant impression on tomorrow's energy challenges. Still, as IDEAAS and Waste Concern demonstrate, the best among them are having major impacts at the national or regional level, and there are ambitions to go international in some cases, as with Easy Being Green.

[82] earthobservatory.nasa.gov/naturalhazards/shownh.php3?img_id=13333
[83] Richard McGregor, 'China set to miss target for energy efficiency', *Financial Times*, 17 February, 2007.
[84] www.ideaas.org.br/id_equipe_eng.htm
[85] http://shop.easybeinggreen.com.au/categories.asp?cID=71&fromhome=true
[86] www.wasteconcern.org

Figure 5.6
Challenges

Access

Rising prices
Limited infrastructure
Ineffective government regulation

Security

Geopolitical considerations
Growing divide between rich and poor
'Resource curse'

Environment

Climate change
Unbanization
Population growth

'The energy sector shows signs of real systemic breakout. A host of new technologies are marching their way up their learning and down their cost curves – responding to a dramatic social risk and pretty clear price signals.'
Bill Drayton, Ashoka

The truth is that most of the significant developments to date have been happening elsewhere, for example in the cleantech space. Indeed, this is where definitions begin to blur. If social entrepreneurship covers environmental entrepreneurs, for example, does that mean it also covers cleantech enterprises? And given that most cleantech entrepreneurs are for-profit, very much in it for the money, does this rule them out in terms of social entrepreneurship status? In the end, it probably doesn't matter much – though we see them all as part of a broad entrepreneurial landscape (see Figure 1.1). The really important question is where the truly breakthrough technologies and business models are now evolving. For the moment that would largely appear to be in what, since 2002, has been dubbed the 'cleantech' space.

It is clear that, as energy analysts **CERA** put it, 'The race is on to invest in renewables and clean energy technologies, yet the outcome is far from clear. Considerable uncertainties exist over the policy context, the technologies themselves, and the broader energy competitive landscape. Who will be the winners and losers, and what will the implications be for company strategies and the competitive landscape?' CERA is running a multiclient study focusing on the role of clean technologies in the future. The process will involve building scenarios out to 2030, the date already mentioned in relation to *International Energy Outlook*.

Meanwhile, however, many mainstream energy groups remain relatively cool on renewables. Some, like **Exxon**, pretty much ignore the field altogether. Others are investing significant sums – such as **BP**'s half-billion-dollar investment in a new biofuel research center that will link the University of California at Berkeley with the University of Illinois and the Lawrence Berkeley National Laboratory.[88] BP says that, in addition to the new Energy Biosciences Institute at Berkeley, it plans to spend $8 billion over 10 years on its own alternative energy efforts, which include building solar cells and wind farms. The company also has a major biofuels partnership with **DuPont**.[89] But for the big oil companies that have been reaping record profits from high oil prices, such research typically remains a small component of their overall R&D portfolios. Donald Paul, who oversees alternative energy programs at **Chevron**, explains that the infrastructure needed to mass produce and distribute any type of fuel takes years to develop, and millions, if not billions, of dollars to build. And, longer term, it is inevitable that such biofuel investment will generate second-order social and environmental impacts.[90]

When we asked Samer Salty of London-based venture capitalists **zouk ventures**, whether he expected the clean energy sector to follow the trajectory of the New Economy, he agreed that there were similarities – but stressed that, whereas Internet companies typically took relatively little capital to establish and could be sold for high multiples at the peak of the boom, energy technologies and infrastructures typically require massive investments. That doesn't remove the risk of a bubble developing, he argued, but it does lessen the likelihood somewhat.

87 *Crossing the Divide? The Future of Renewables and Clean Energy*, see www.cera.com/aspx/cda/client/knowledgearea/servicedescription.aspx?kid=199#39251
88 David R. Baker, 'Big Oil cautious about clean-energy spending', *San Francisco Chronicle*, February 9, 2007.
89 www2.dupont.com/Biofuels/en_US
90 www.opendemocracy.net/globalizationclimate_change_debate/fixes_4311.jsp

Not only are billions of people denied reasonable energy services, but the planet is running a fever simply by meeting the needs of those who are currently served.

[91] www.innovalight.com/index.html
[92] www.rmi.org
[93] www.mbdc.com
[94] www.mcdonoughpartners.com
[95] www.hypercar.com

Mindset 3.0

In carrying out this Deeper Dive, we spoke to a range of companies and organizations, from big petrochemical companies through to early stage start-ups like **Innovalight.**[91] This is a fascinating Silicon Valley start up which is using nanotechnology and silicon inks to create ultra-low-cost solar photovoltaic modules. It has developed a silicon nanocrystalline ink that could cut the cost of flexible solar panels to a tenth of current solar cell solutions — using a solvent-based silicon process that lends itself to low-cost production and high-throughput manufacturing. Just one more example of the cleantech surge now building. But in what follows, we will draw on the experience of the full spectrum of non-profit to for-profit organizations, from foundation-funded social enterprises to market-driven cleantech ventures.

Standing back, what these entrepreneurs have to teach the wider world has less to do with how to develop a given technology or how to put together a particular product, than with how they think, act and lead. So, for anyone wondering where the Mindset 3.0 agenda (Figure 3.1, page 24) might take us, here are five points which struck us in looking over the shoulders of different types of entrepreneur working in the energy field.

1 Systems thinking and design: inefficiency is the enemy

One striking thing about leading social and environmental entrepreneurs is that they are dedicated to changing the system, not just to making marginal improvements. Whether or not they succeed in such ambitious aims is quite another matter, but there is no question that the global energy system is dysfunctional: not only are billions of people denied reasonable energy services, but the planet is running a fever simply by meeting the needs of those who are currently served.

Take a taxi example. Jim Harris, Managing Partner with the evolving **Cleantech Innovation Institute**, is working out how to get those who influence choices on what sort of vehicles qualify as taxis — the auto-makers, taxi companies, leasing companies, regulatory agencies, insurers and others — to focus on changing Toronto's (and then Canada's and then North America's) taxis to hybrid propulsion systems.

'Converting North America's 200,000 taxis to hybrids,' he explains, 'would have tremendous financial, economic, health, and environmental benefits. Hybrid cars reduce smog emissions by more than 70%. Taxis drive 10 times the distance of average vehicles every year. Changing 200,000 taxis to hybrids would have the same impact as converting 2,000,000 cars!'

The uncoupling of GDP from energy consumption — shown in Figure 5.5 — is by no means a foregone conclusion: it has to be fought for every step of the way. That's what makes the work of people like Amory Lovins (of the **Rocky Mountain Institute**[92]) and Bill McDonough (of **MBDC**[93] and **William McDonough + Partners**[94]) so important. Whether or not particular designs like Lovins' hypercar[95] (designed to achieve a three- to five-fold improvement in fuel efficiency) actually get built any time soon, the spotlight has been placed squarely on the need to drive out energy from our economies, value chains and businesses.

2 Emerging economies: use bigger BRICs

Given the scale of the energy demand of the BRIC economies (Brazil, Russia, India, China) and other emerging markets, the world needs to focus its attention here — and as soon as possible. Bill McDonough has already been working on a number of planned eco-cities there, an opportunity space that has also attracted **EcoCities.**[96] Ask the organization's Chairman, Lawrence Bloom, why he is focusing on China, and he is very clear on the point. 'Fundamentally, the first EcoCities project is under way in China (in Dongtan, near Shanghai) because the first opportunity was created there.'

He explains, 'China has both the "stick" and "carrot" in large measure to drive her from her present polluting paradigm to cleaner and more secure solutions. Currently, one dirty coal power station comes on stream every eight days to fuel China's continuing economic growth. When I was last in Beijing, we took off from Beijing Capital International airport on a cloudless day, but could not see the sun until the plane was at 12,500 feet. The pollution is nearly two-and-a-half miles high and is currently considered to be costing the country 8% of GDP in asthmatic and bronchial conditions and lost working days. With 400 million people expected to migrate from the countryside to the cities in the next 30 years, that is a very big stick.'

While it is easy to over-estimate the readiness of consumers to take big steps to save the planet or help other people, it can also be precariously easy to underestimate their willingness to take smaller steps.

[96] www.ecocities.com
[97] www.wasteconcern.org
[98] www.barefootcollege.org
[99] www.devalt.org
[100] www.kickstart.org
[101] www.transparency.org
[102] www.publishwhatyoupay.org/english
[103] www.globalreporting.org
[104] www.ceres.org
[105] www.accountability21.net
[106] www.sustainability.com/insight/research-article.asp?id=865
[107] www.cdproject.net
[108] www.solarcentury.com
[109] www.newenergies.ch/index_ei.html

But, he notes, 'the carrots are also profound – China could be a future world-leader and major global player in "green" industries and services – so from solar-panel manufacture and consequent intellectual property streams to carbon trading markets, her opportunities are awesome.' Part of the EcoCities plan is to 'create the EcoCities Foundation, sharing all the information we obtain on feedback loops from our developments, and we anticipate that it will become the centre of a major resource offering sustainability-advice to individuals, corporations and NGOs.'

Not everyone is building cities and other infrastructure on the scale – or in the semi-orchestrated way – that China is. Elsewhere in the emerging economy and developing country worlds, social and environmental entrepreneurs are having to wrestle with multiple forms of chaos brought on by over-rapid, ill-planned urbanization. Among them are organizations like **Waste Concern**[97] in Dhaka, Bangladesh. In rural regions, meanwhile, energy needs are being developed by pioneers operating in India's Gandhian tradition like Bunker Roy of **Barefoot College**,[98] who train barefoot solar engineers, and his countryman Ashok Khosla with his **Development Alternatives.**[99] Similarly, in Kenya, Martin Fisher and Nick Moon of **KickStart** now – remarkably, directly or indirectly – account for 0.6% of the country's GDP, with their appropriate technology solutions.[100]

3 360° accountability: let the sun shine in

Given the extent to which bribery and corruption distort energy production and supply systems, against the backdrop of the so-called 'Curse of Oil' that so often turns a natural resource treasure into a socio-economic tragedy, the role of transparency and accountability cannot be exaggerated. That's what makes the related work of organizations like **Transparency International**,[101] **Publish What You Pay**,[102] the **Global Reporting Initiative**,[103] **Ceres**,[104] **AccountAbility**,[105] and, yes, **SustainAbility**[106] so important.

A parallel initiative in the climate change field is the **Carbon Disclosure Project** (CDP),[107] which provides a secretariat for the world's largest institutional investor collaboration on the business implications of climate change. CDP represents an efficient process whereby many institutional investors collectively sign a single global request for disclosure of information on Greenhouse Gas Emissions. More than 1,000 large corporations report on their emissions through this website. The CDP 5 information request was signed by more than 280 institutional investors with assets of more than $41 trillion and sent out on February 1, 2007 to 2,400 companies. The responses will be made available in September 2007.

4 Consumer engagement: lower the entry ramps

While it is easy to over-estimate the readiness of consumers to take big steps to save the planet or help other people, it can also be precariously easy to underestimate their willingness to take smaller steps – that collectively can add up to some form of revolution. One man who has taken the step of moving out from the campaigning world to engage consumers head-on is Jeremy Leggett, once a Greenpeace campaigner, and more recently CEO of **Solar Century.**[108] He is also a director of the world's first private equity renewable energy fund, Bank Sarasin's **New Energies Invest AG.**[109]

Solar Century's vision is immodest: 'Our aim,' they say, 'is to revolutionize the global energy market. The sun bathes the earth in an incredible amount of energy – in a day, enough arrives to power the whole world for several years. Humanity can now effectively harness the power of the sun. The 21st century must be the solar century. We envisage solar systems on the roof of every building, backed up by a family of other micro renewables, supplying clean power and achieving deep cuts in emissions. As the global market for renewable energy grows, thousands of jobs will be created in research, installation, and manufacturing.'

'It was difficult for us to negotiate with large corporations to begin with. They have more lawyers and a different style. I would like access to training to "speak their language" and access to board-level contacts.' Energy Sector

Another venture that aims to make sustainable energy choices more accessible to ordinary people is **Easy Being Green**, founded in Australia by Nic Frances and Paul Gilding, but with plans to go international.[110] In 2004, they set a goal for 70% of Australian homes to be 30% more energy and water efficient within 10 years. Since then they have implemented programs that have provided almost half a million homes with 'Climate Saver Packs'; reduced 620,000 tonnes of CO_2 pollution per year, equivalent to taking 150,000 cars off the road; saved 5.8 gigaliters of water, equivalent to 2,500 Olympic-sized swimming pools; and saved households A$32.3 million on their energy bills.

5 Business models: take climate into account

Disclosing greenhouse emissions is one thing, putting a price — and a value — on them is quite another. Two organizations have been working in this area: Richard Sandor's **Chicago Climate Exchange** (CCX)[111] is the world's first, and North America's only voluntary, legally binding rules-based greenhouse gas emission reduction and trading system; and James Cameron's **Climate Change Capital** (CCC)[112] is a leading investment banking group that specializes in the commercial opportunities created by a low carbon economy. CCC advises and invests in companies that recognize combating global warming is both a necessity and an economic opportunity. Its activities include investment management and financing emission reductions, and its aim is to make the world's environment cleaner while delivering attractive financial returns. Longer term, it will be interesting to see what happens to such players when the Chinese get serious about greenhouse emission trading.

Then there are the 'Robin Hood' models. Whether or not such a figure ever stole from the rich to give to the poor, different people certainly place a different value — and are prepared to pay very different prices — for anything from their health to clean fuels. In the energy sector, the most outstanding example of this is probably **Freeplay Energy**,[113] which started out offering wind-up radios and expanded to a wide range of other human-powered products.

Whether from the basic needs angle or because of systemic challenges like climate change, energy is central to the sustainable development agenda. The UK Stern Review, which described climate change as effectively the biggest market failure of all time, calculated that the dangers of unabated climate change would be equivalent to at least 5% of GDP each year.[114] Overall, it estimated that the dangers could be equivalent to 20% of GDP or more. In contrast, it argued that the costs of action to reduce greenhouse gas emissions to avoid the worst impacts of climate change could be limited to around 1% of global GDP each year. People would pay a little more for carbon-intensive goods, but our economies would continue to grow strongly. According to one measure, the benefits over time of actions to shift the world onto a low-carbon path could be in the order of $2.5 trillion each year. Markets for low-carbon technologies will be worth at least $500 billion, and perhaps much more, by 2050 if the world acts on the scale required.

The potential impact of social and environmental entrepreneurs in this area was dramatically illustrated by the success of **Ceres**,[115] led by its President Mindy Lubber, in helping stall plans by **TXU** to build 11 coal-fired power stations in the USA. Even though 150 coal-fired power plants are currently proposed in the country, TXU's $10 billion coal expansion plan drew intense criticism in terms of the likely climate impacts. When the plans were announced, Ceres convened some of TXU's largest shareholders, including **CalPERS**, **CalSTRS**, and the **New York City Comptroller's Office**, to bring pressure to bear. Some time later, it was announced that two private equity firms — **Kohlberg Kravis Roberts & Co** and the **Texas Pacific** — would buy TXU for $45 billion, and would drop eight of the proposed power stations. Strikingly, the private equity firms consulted Ceres and other critics ahead of the deal being signed. We expect a lot more of this sort of power politics.

[110] http://shop.easybeinggreen.com.au/categories.asp?cID=71&fromhome=true
[111] www.chicagoclimatex.com
[112] www.climatechangecapital.com
[113] www.freeplayenergy.com
[114] www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm
[115] www.ceres.org

[116] www.calvertfoundation.org/
[117] www.goodcap.net

6 Conclusions & Next Steps

We are entering a new era in which today's apparently insoluble problems spawn tomorrow's transformative solutions. The new breed of social and environmental entrepreneur is part of a new global order that is dedicated to new levels of equity, quality of life and sustainability. Far from accidentally, there is a buzz around innovation — for example, it was chosen as the theme of the 2007 Skoll World Forum in Oxford. Indeed, the growing appeal of social entrepreneurship was illustrated by the turn-out in 2006: nearly 700 delegates from more than 40 countries. And the 2007 event 'sold out' well in advance.

But, in the midst of all of this excitement, we should ask: Is there a danger that the social entrepreneurship industry will end up intoxicated by virtue, to use a colorful Americanism, of 'breathing its own exhaust'? Overall, our conclusion is that the optimism about these entrepreneurs is well placed, but that that they are experiencing a range of growing pains — and there is an urgent need to steer more capital and business resources into this area.

If this can be achieved, we very much agree with Tim Freundlich (Director, Strategic Initiatives, **Calvert Social Investment Foundation**[116] and Founding Principal, **Good Capital**[117]) that the outlook is bright. 'I see the social enterprise landscape rapidly prototyping strategies that corporations will incorporate, replicate — or just plain steal. These entrepreneurs act as fearless and fast actualizers, taking the uncertainty and lack of imagination out of the equation for mainstream business. Global warming and poverty especially are conspiring in an accelerating way to sensitize society towards considering and experimenting with the integration of new models of doing business, focusing on a different and more nuanced sense of value — call it double bottom line, triple bottom line or blended value.'

So here are our conclusions and a summary of some of the next steps we propose.

Conclusions

Social entrepreneurship is on a roll

— Social entrepreneurs are part of a much wider spectrum, or continuum, of entrepreneurial effort dedicated, directly or indirectly, to addressing key sustainability challenges.

— Social entrepreneurship is emerging as a potential catalyst and powerful lever of the sort of change that governments and business are increasingly committed to — but rarely know how to deliver.

— While there may be elements of a boom in interest in social entrepreneurship, the risk of an entrepreneurial bubble bursting appears low — and the opportunity space can only grow.

The potential for breakthrough solutions is considerable — and growing

— The timing is more or less perfect, given that systemic change is increasingly needed. 'Sure, entrepreneurs need to be mavericks working outside the box,' said **SustainAbility Faculty** member Sir Geoffrey Chandler, 'but they have an important voice which — if it can be properly channeled — could help break open the box.'

— The fundamental challenge, said 'blended value' champion Jed Emerson who works closely with **Generation Investment Management**, is not so much to scale the enterprise as to 'scale the solution.'

— Among the routes to scale discussed by our respondents, the following surfaced repeatedly: (1) grow individual social enterprises; (2) establish multiple enterprises; (3) get big organizations — whether companies, public agencies or NGOs — to adopt the relevant models and approaches; and (4) spur public policy legislation designed to fix market failures.

Nothing changes without individuals, but nothing remains without institutions.

The field is growing, but is still relatively small

— As in any area of entrepreneurial activity, the risks of actual or perceived over-promising are real. The wider community needs to find ways to monitor, measure, evaluate, and report on progress in ways that build understanding and support.

— Our analysis of the funding flows into social entrepreneurship suggest that, while the overall levels have increased significantly in recent years, the current funding total is a small fraction of that currently devoted to cleantech investments — let alone wider philanthropy.

— To put rough numbers on these three areas, to give a sense of orders of magnitude, we estimate that less than $200 million is going into social enterprise worldwide from dedicated foundations each year, compared with over $2 billion a year into cleantech in the USA and EU and well over $200 billion into philanthropy in the USA alone.

Money is the main headache

— Accessing capital is the No.1 challenge for the entrepreneurs we surveyed, with almost three-quarters (72%) putting this at the top of their priority list. While this is also true of mainstream entrepreneurs, the pressures on social and environmental entrepreneurs to grow are resulting in significant growing pains.

— 'There is a lot of seed capital available, angel-equivalent, for social entre-preneurs,' said Linda Rottenberg of **Endeavor Global.** 'But there is not a lot of later-stage funding available — series B and C equivalent — to take social entrepreneurs to scale. There's a huge gap in the social capital market that's preventing many of the best models from replicating and fulfilling their potential.'

— Foundations are still the favorite source of funding for social entrepreneurs (mentioned by 74% of respondents), but there is a wide recognition of the need to diversify funding sources.

— At least among our sample, there was a striking trend in their projections about where their funding would come from in the future. The proportion expecting to be relying wholly on grants in five years was down to 8%, compared with 27% today.

Panel 6.1
Paradigm shifts don't come easy

Various entrepreneurs talked in terms of the need for a paradigm shift in their field. But such shifts rarely come easy. So what needs to be done? Some answers began to surface during the 2007 Schwab Foundation Summit in Zurich, where the focus was on the business case for social entrepreneurship — and for strategic business involvement with social entrepreneurs. One business leader told the social entrepreneurs present that within a decade 'everyone is going to fall over themselves in a race to get your business.' But at least three things need to change if we are to see a paradigm shift.

The first, according to Pamela Hartigan of **The Schwab Foundation**, is that 'the infrastructure to support these ventures has to be put in place much more quickly than is occurring if they are to scale — and live up to their potential to achieve systemic economic and social change. The creation of social ventures is ramping up at breakneck speed as more and more talented, innovative, passionate, and caring individuals come together to address widening and ubiquitous inequities, but the financial, legal, and political support is still crawling along by comparison, stuck in antiquated institutional frameworks.'

The second is that we need to expand the spotlight to illuminate not just heroic individuals but also the organizations behind them. 'Too much rides on the founder of the venture,' Hartigan argues. 'Much more has to be done to support the founder and the leadership team's transition through their growth phases. In the words of John Monet, "Nothing changes without individuals, but nothing remains without institutions."' We need to focus on their No. 2, 3 and 4 colleagues.

Third, a need constantly flagged up by our respondents, there need to be better ways of linking the worlds of social enterprise and mainstream business. 'The degree of interface will depend on a host of factors,' says Hartigan, 'namely: the power of the business case argument for working together; the extent to which people on both sides are committed to making the relationship work and the nature of the social enterprise itself — so, for example, leveraged non-profits might work best with the philanthropic arm of a corporation, whereas hybrids could be more in sync with the core business of the corporation.'

'We need to be brokering relationships now in the social enterprise/business interface. Currently much of this is done around cause marketing, but we need more guides who can identify possible partners and take entrepreneurs through the courtship needed to create real partnerships of broad value.'
Anonymous respondent

[118] www.acciona.es
[119] www.vestas.com

— On the other side of the coin, the proportion of those expecting to be funding their own operations, with little or no dependence on grants jumped from 8% to 28%. Many still expect to rely on a mix of funding types, but a significant proportion (up from 38% today to 50% in five years) expect a substantial rebalancing in the coming years.

Other growing pains

— Linked to the funding challenges, many entrepreneurs noted the problems they face in offering competitive salaries to staff — with professional staff, in turn, often a key to attracting sufficient funding.

— As these social enterprises grow, they increasingly face a tension between the need for professionalism and efficiency on the one hand and, on the other, the need to maintain a focus on the mission, values and culture of the organization.

— Succession planning is another area of difficulty. The entrepreneurs themselves are very aware that for their organizations to succeed, they themselves need to change. This is true even of the most successful entrepreneurs. Bill Strickland of the **Bidwell Training Center Inc.** (BTC), a Pittsburgh-based organization for urban change, once said that the biggest barrier to his organization growing was him.

— Novelty is an enormous strength, but like so many traits could also become a weakness. Many others have been tackling the challenges social entrepreneurs are dealing with, at other times, in other places, in different ways. There is a danger that in their enthusiasm to embrace — and be rewarded for developing — radical new solutions that a number of new wheels are unnecessarily invented.

Partnering with business

— Social and cleantech entrepreneurs turn out to be equally interested in developing partnerships with business, but with different expectations. Social entrepreneurs, in particular, are acutely aware that they often lack the experience and skills needed.

— A constant refrain in the interviews was the growing need for brokering between the entrepreneurs and those they need to persuade or recruit.

— 'We need to be brokering relationships now in the social enterprise/business interface,' said one interviewee. 'Currently much of this is done around cause marketing, but we need more guides who can identify possible partners and take entrepreneurs through the courtship needed to create real partnerships of broad value. So many industries have matchmakers — where are they in this sector, beyond what has been called the in-club of white male social entrepreneurs?'

— There is a risk in all of this that we become overly focused on narrow definitions of social entrepreneurship. For example, it's easy to get excited about small start-ups in the renewable energy field, but we should remember the huge contributions already being made by much larger companies like **Acciona** [118] in Spain, **Vestas** [119] based in Denmark, or **GE** based in the USA.

— Listen to José Manuel Entrecanales, Acciona's Chairman and a Spanish businessman with big ambitions in sustainable energy. We asked whether this ambition would require trade-offs? 'No,' he replied. 'Mainstream businesses must deliver shareholder value. But Acciona has significantly increased its sustainability profile and investment in areas like renewable energy in recent years, while recording substantial growth and exceptional shareholder value. For example, in 2005 our use of renewable energy sources avoided the emission of 4.5 million tonnes of CO_2. I believe that there may be opportunities for a forward-thinking energy player to create small-scale village-based renewable energy provision which truly breaks the mould.'

'Indeed I see interesting parallels between the provision of energy to these areas and the situation in commercial credit two decades ago which led Nobel Prize winner Professor Yunus to set up the Grameen micro-credit system. The application of a decentralised, bottom-up approach to providing electricity to remote or impoverished areas is one we have been long interested in at Acciona. It is one our team is currently exploring, knowing well that there are situations and locations where the provision of clean and sustainable energy will not be commercially viable. That is why we are currently fundraising for projects which may not prove profitable in the immediate future. We welcome dialogue with NGOs and others who share our vision.'

'Over the last 25 years, the citizen sector has become as entrepreneurial structurally as business in most of the world – and, as a result, it has been closing the productivity gap with business very rapidly. We now have the opportunity to end the accidental divorce of the last three centuries. Doing so represents a gigantic productivity opportunity for business, for the citizen sector, and for the ultimate customer and citizen.'
Bill Drayton, Ashoka

[120] www.iese.edu/research/pdfs/op-04-16-e.pdf
[121] www.accenture.com/global/about_accenture/company_overview/corporate_citizenship/philanthropy/accenturepartnerships.htm
[122] www.schwabfound.org/docs/web/linklaters_schwab_report.pdf
[123] www.wikipedia.org

Don't forget the social intrapreneur

– Several interviewees also noted that we need to recall the potential of social intrapreneurship,[120] with change agents working inside big organizations to drive similar agendas. One example of a social intrapreneur we interviewed was Gib Bulloch, Programme Lead at **Accenture Development Partnerships.**[121] He has been part of a team for nearly five years that has been working to switch this major consulting firm on to the potential to help NGOs, social entrepreneurs, and major businesses to understand and manage the world's great social, environmental, and governance challenges.

– Many people still see such efforts as part of corporate citizenship. This, as Bulloch puts it, means that they think 'in terms of grooming donkeys, sponsoring the opera or, at best, painting schools. Rather than, say, helping **Oxfam** to become a high performance organization.' In the context of Accenture's 145,000 employees worldwide, ADP's 70-going-on-100 may seem small beer, but the potential to catalyze change – both inside Accenture and among its clients – is considerable.

– The key point, however, is that one way of achieving scale with entrepreneurial solutions is to switch large organizations onto the new challenges and exploit their much greater leverage to further evolve and deploy the solutions.

A growing need to focus on government responsibilities and roles

– Governments need to do more to shape public policy, public sector targets and wider incentives – for example, in relation to tax breaks for the funding of social enterprise – if the sort of ventures covered above are to reach their full potential. This is an area that has been covered by people like **Linklaters**,[122] but where considerable further thinking – and action – is needed.

Panel 6.2
Next steps

Among the next steps planned for SustainAbility's Skoll program are the following:

– **Skoll World Forum 2007**
We will present the results of this first survey, and also test some of our conclusions for the health sector in a dedicated session.

– **Feedback**
We will send the final report to all those who took part, inviting their comment. This will be used to shape further projects.

– **Roundtables and workshops**
During 2007–08, we will organize roundtables and workshops to debate, evolve, and communicate the conclusions.

– **Further deep/deeper dives**
We aim to conduct at least two further explorations into our target sectors during the coming 12 months.

– **Explore potential for developing 'Wiki-Manual'**
Given the interest in understanding how to develop partnerships with mainstream business and other partners, we will consider developing either a published Manual or even an online manual along the lines of Wikipedia[123] on related themes.

– **Brokering**
Further develop our thinking, and over 12–18 months, our offerings in this area.

– **Capital flows**
Investigate ways to increase the capital flows into the social enterprise space.

– **2008 survey**
Test themes for the next survey.

Annex 1
Survey Instrument

1 **As a principal responsible for the future direction of your organization, please select two areas that present the greatest challenge:**
- Recruiting & retaining talent.
- Accessing capital.
- Developing a more mature/ professional organization.
- Adapting to a changing external market/landscape.
- Promoting or marketing your organization.
- Something else (please specify).
- Nothing else.
- These issues are not my responsibility.

2 **Please briefly explain your biggest challenge.**

3 **Please briefly explain your second most important challenge.**

4 **Which of the following statements best describes your organization?** (Please select one)
- We completely rely on grants, donations or other sponsorship.
- We primarily rely on donor funding, but have other sources of income.
- We have sources of earned-income/customer revenue, but also rely on grants and other funding.
- We fund ourselves through customer revenue and mainstream capital markets and do not rely on grants or donations.
- Something else (please explain).
- Unsure.

5 **Five years from now, which of the following statements best describes how your organization expects to fund itself?** (Please select one)
- We will completely rely on grants, donations or other sponsorship.
- We will primarily rely on donor funding, but will have other sources of income.
- We will have sources of earned-income / fees, but also will rely on grants and other funding.
- We will fund ourselves through customer revenue and mainstream capital markets and will not rely on grants or donations.
- Something else (please explain).
- Unsure.

6a **Are you attempting to track non-financial performance for your organization?**
- Yes.
- No.
- Unsure.

6b **How are you tracking this performance? What metrics have you developed or what other approaches are you taking?**

6c **How are you finding this process?** (On as scale of 1 to 5)
This is not working at all

This is working very well
Unsure

7 **Thinking about financing your initiatives, which sources of funding do you feel will be the best avenues for you to pursue?** (Please select all that apply)
- Dipping into your own pockets.
- Raising funds from the public (fundraising).
- Attracting help-in-kind (donated time/products).
- Foundations (grants or program-related investment).
- Tapping government (grants, loans).
- Making sales/charging fees.
- Franchising.
- Joint venturing.
- Venture capital (including angel investments).
- Going public.
- Something else (please specify).
- Unsure.

8 **Why do you think these sources are the best avenues for you?**

9 **In what ways do you think large corporations could be better partners for you?** (Please tell us about experiences that have worked well or poorly in this arena).

10a **Will you allow SustainAbility to associate your name with your comments?**
- No, I would like to keep my comments confidential.
- Yes, you may associate my responses with my name and organization.

10b **Please tell us the region of the world where you primarily operate.**
- Africa
- Antarctica
- Asia
- Europe
- Middle East
- North America
- South America
- South Pacific

10c **Please select your organization's primary area of focus.**
- Economic and social equity (development and poverty alleviation).
- Education.
- Environment (including energy and water).
- Health.
- Housing.
- Institutional responsibility and transparency.
- Peace and security.
- Tolerance and human rights.
- Something else (please specify).

Annex 2
Participants

Below are the names of individuals who took part in our research. A number of survey participants requested that their responses be kept confidential and, as such, have not been included in this list.

John Daniels	ABT Insulpanel Limited
Sakena Yacoobi	Afghan Institute of Learning
Trevor Cree	Agmachine.com Ltd
Cyndi Rhoades	AntiApathy
Keerti Pradhan	Aravind
Lisa Fitzhugh	Arts Corps
Kamal Bawa	Ashoka Trust for Research in Ecology and The Environment
Barbara Hofmann	Association for the Children of Mozambique
Chris Underhill	Basic Needs
Jim Fruchterman	Benetech
Karl Mundorff	BioReaction Industries
Daniel F Bassill	Cabrini Connections
Sylvia Aruffo	Careguide Systems
Jim Rough	Center for Wise Democratic Processes
Thankiah Selva Ramkumar	Centre for Social Reconstruction
Jeroo Billimoria	Child Savings International
Greg Ruebusch	ColdBlast
Art Lilley	Community Power Corporation
Satyan Mishra	Drishtee Dot Com Ltd.
Christopher London	Educate the Children
Bunnie Strassner	Fascinating Learning Factory
Kyle Zimmer	First Book
Marv Baldwin	Foods Resource Bank
Marcus Colchester	Forest Peoples Programme
Nick Salafsky	Foundations of Success
Rory Stear	Freeplay Energy
Martin Burt	Fundación Paraguaya de Cooperación y Desarrollo
Daniel Taylor-Ide	Future Generations
Richard Wong	Gifts In Kind International
Kavita Ramdas	Global Fund for Women
Shashi Tyagi	Gramin Vikas Vigyan Samiti
George Wagner	Harvest Wind
Nevzer Stacey	HasNa Inc.
Gary Cohen	Health Care Without Harm
Josh Tosteson	Hydrogen LLC
Rick Surpin	ICS
Leland Stewart	Independent Energy Corporation
Karen Tse	International Bridges to Justice
Randall Hayes	International Forum on Globalization
Garry Neil	International Network for Cultural Diversity
Katherine Freund	ITNAmerica
John Tarvin	Jumpstart
Elana Rosen	Just Think Foundation
Sharron Rush	Knowbility, Inc.
Alison Bock	Landmines Blow
Deborah Meehan	Leadership Learning Community
Linda Hahner	Literacy Center Education Network
Talia Aharoni	MAALA (Business for Social Responsibility in Israel)
Paul Holthus	Marine Aquarium Council
Dave Pearce	Miasolé
Dr Devi Shetty	Narayana Hrudayalaya Hospitals
Mia Hanak	Natural World Museum of Environmental Art
Anil Pansari	Naveen Gram Agrotechnologies
David Nuttle	Needful Provision, Inc.
Olga Murray	Nepalese Youth Opportunity Foundation
Damian Miller	Orb Energy
Dr Davida Coady	OPTIONS Recovery Services, Inc.
David Gordon	Pacific Environment and Resources Center
Faisal Islam	Padma
Becky Crowe Hill	Partners in Schools
Kenneth Luongo	Partnership for Global Security
Dr Chris Elias	PATH
Daniel Salcedo	PEOPLink, Inc.
Suraiya Haque	Phulki
Lynne Patterson	Pro Mujer Inc.
Scott Pearson	Protonex
Peter McFarren	Quipus Cultural Foundation
Brett Jenks	Rare
Andrea Coleman	Riders for Health
John Wood	Room to Read
Heidi Kühn	Roots of Peace
Dennis Sizemore	Round River Conservation Studies
Dr Antonia Neubauer	Rural Education and Development, Inc.
Vera Cordeira	Saúde Criança Renascer
Graham Macmillan	Scojo Foundation
John Marks	Search for Common Ground
Cyril R Raphael	Shri Bhuvneshwari Mahila Ashram
Russell de Lucia	Small-Scale Sustainable Infrastructure Development Fund, Inc.
Ibrahim Natil	Society Voice Foundation
William H Conklin	SolarAMP, LLC
Jill Vialet	Sports4Kids
Sharon Walden	Stop Abusive Family Environments, Inc.
Mark Borchers	Sustainable Energy Africa
Jay Jacobs	Summer Search
Ron Smith	Verdant Power
Charles Knowles	Wildlife Conservation Network
Gerald Chertavian	Year Up
Ali Raza	YES Network Pakistan

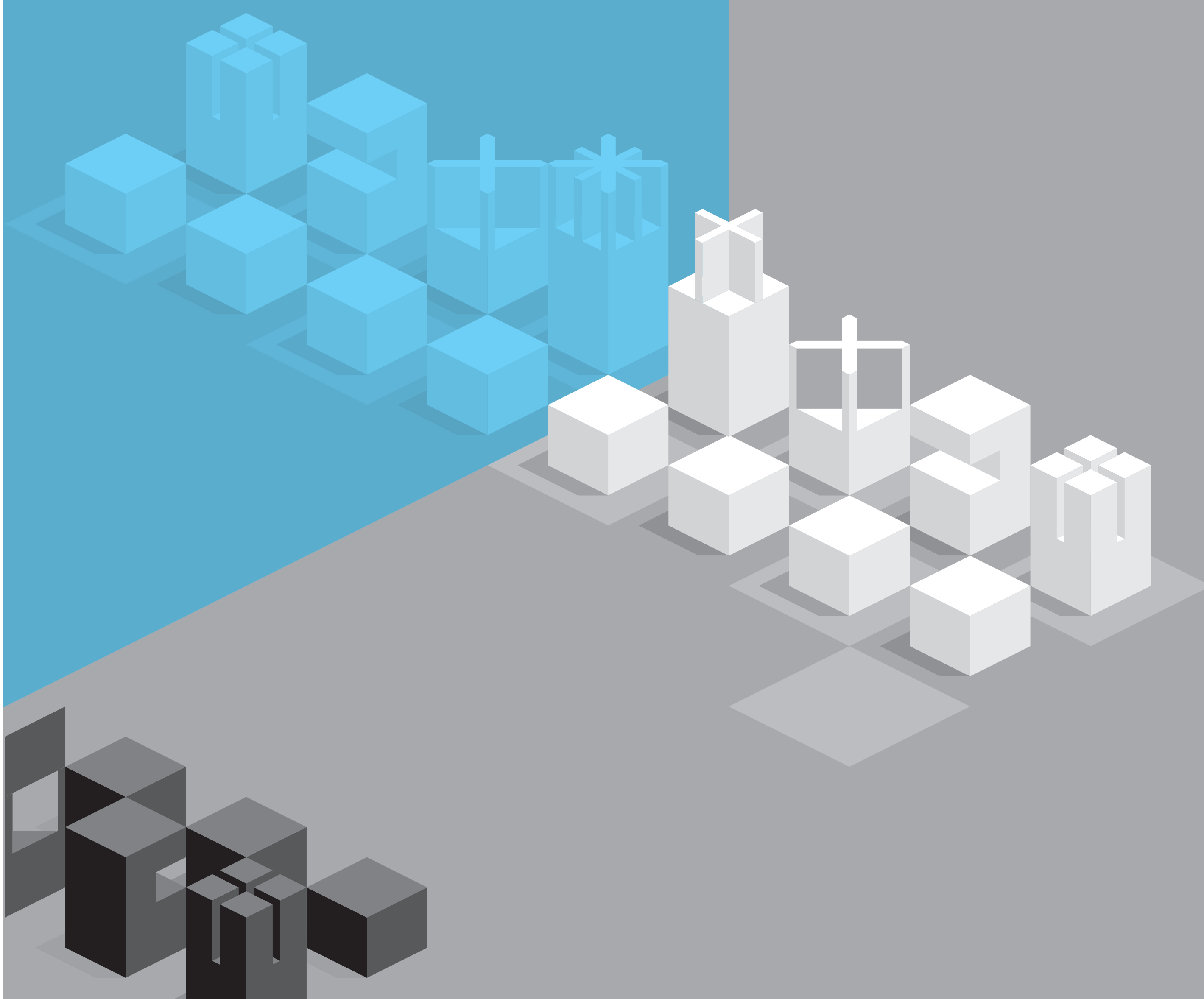
Allianz
Founded in 1890 in Berlin, Allianz is now present in more than 70 countries with over 177,000 employees. Allianz Group provides its more than 60 million customers worldwide with a comprehensive range of services in property and casualty insurance, life and health insurance, and asset management and banking.
www.allianz.com

DuPont
Founded in 1802, DuPont puts science to work by creating sustainable solutions essential to a better, safer, healthier life for people everywhere. Operating in more than 70 countries, DuPont offers a wide range of innovative products and services for markets including agriculture, nutrition, electronics, communications, safety and protection, home and construction, transportation, and apparel.
www2.dupont.com

The Skoll Foundation
The Skoll Foundation was created by Jeff Skoll in 1999 to pursue his vision of a world where all people, regardless of geography, background or economic status, enjoy and employ the full range of their talents and abilities. Skoll, who was the first employee and first President of eBay, believes that strategic investments in the right people can lead to lasting social change. The Foundation's mission is to advance systemic change to benefit communities around the world by investing in, connecting and celebrating social entrepreneurs.
www.skollfoundation.org

SustainAbility
Established in 1987, and based in London, Washington DC, and Zurich, SustainAbility combines consulting, research and public interest activities.
www.sustainability.com

Coming in from the cold
Public affairs and corporate responsibility



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Foreword

It is our experience that for too many companies, corporate responsibility and corporate public affairs exist in two separate universes with little effort to establish common approaches or understanding between them. We believe that this represents a huge wasted opportunity to deliver greater value to individual companies and to society by developing more effective and strategic approaches to these two disciplines.

This briefing represents the principal output from a joint initiative undertaken by Blueprint Partners, SustainAbility and WWF-UK. Our purpose in carrying out the work has been to better understand the relationship between the corporate responsibility and public affairs agendas within companies, and in particular to explore the views of one important external stakeholder in business — the investment community.

For WWF, this work is important as it believes progress towards environmentally sustainable business necessitates a strong relationship between a corporation's responsibility statements and its public affairs agendas.

Our findings suggest that the relationship between public affairs and corporate responsibility is indeed of interest to investors — and that this is likely to grow. In contrast, the evidence suggests that very few companies are thinking strategically about how to align their work in these two areas.

While we acknowledge that these issues and the views of important stakeholders requires further study, we hope that this briefing proves useful in helping to mark out the emerging agenda. We also invite readers to join us in further work on this important subject.

Seb Beloe
Julia Harrison
Oliver Greenfield

Seb Beloe

Julia Harrison

Oliver Greenfield

Executive summary

The aim of this briefing is to explore the relationship between corporate responsibility activities and corporate public affairs, and in particular to consider the current interest and future role investors may play in driving a more coherent and strategic approach between these two corporate functions. We review current practices in reporting on public affairs activities from the corporate sector (section 2), summarise the perspectives of investors on the importance of public affairs activities (section 3) and set out a series of conclusions and 'hot topics' emerging from this debate (section 4).

The primary audience for the briefing is corporate executives including specifically board level directors with responsibility for governmental and public affairs and senior officials with responsibility for corporate affairs, sustainability and corporate responsibility. We also expect the briefing to be of interest to governments and politicians, trade associations, public affairs agencies, investors and non-governmental organisations (NGOs).

Key conclusions

The principal conclusions from the work are as follows:

1 **Technology** is driving greater visibility of issues and moving them into view for large parts of civil society, creating wider networked groups of involved — and often very vocal — stakeholders.

2 Engaging effectively in this more complex and transparent policy environment further emphasises the importance of corporate reputation, openness and **transparency** of action.

3 Society is exercising greater scrutiny and concern about corporate practices related to sustainable development. It is shifting from focusing on direct impacts to addressing the wider **influence** businesses have on the public policy environment and the way businesses behave in this environment.

4 To date leading businesses have responded by demonstrating increased transparency around specific policy positions on key issues, but appear still to be responding from a position of **risk management.**

5 In turn this means that other stakeholders — namely the mainstream investment community — are showing more **involvement** in assessing the public affairs activities of companies as part of a full view of business performance and in some cases are now driving measurement of business activity in this area.

6 Furthermore, market failure and the need for **systemic change** are also emerging as key areas of concern for some leading investors. This in turn is underlining investor interest in corporate public affairs activity. These investors single out businesses that are protecting future value through active shaping of policy frameworks to address key social and environmental issues, as exhibiting smart management.

The implications of these shifts are profound. Critically, the interest of some mainstream investors in corporate public affairs activities requires a re-think of the role and nature of this work.

7 In particular, investor interest is helping to drive a shift in the role of public affairs from a somewhat specialist, behind-the-scenes activity, to a critical **business function** to be managed, aligned and measured alongside other business-critical activities.

8 A growing, and as yet largely unmet, need for more information on public affairs activities and governance represents a significant **opportunity** for business to communicate more openly and more strategically about the overall objectives and value of public affairs activities.

Introduction

1

The power of networks

One of the defining features of the late 20th and early 21st centuries has been the extraordinary impact that new technologies have had on the way companies, individuals and governments organise themselves. Technologies such as the internet and mobile telephony have helped to restructure the workplace and in the process have had a profound impact on the way businesses are managed and run. Instead of being predominantly hierarchical organisations, businesses have chosen to outsource activities to a network of independent enterprises. Whether this involves software development, research and development facilities, accounting or customer services, most large enterprises now resemble networks more than they do rigid hierarchies.[1]

In some cases businesses are even turning to their customers as a source of radical innovations for their products. **LEGO** has set up a website to enable its customers to create and share new product designs and Michael **Dell** announced in early 2007 that he sees customer-driven innovation as the linchpin of his strategy for 'Dell 2.0'. 'We need to think differently about the market and engage our customers in almost everything we do,' he says. More radically, internet sites such as **MySpace**, **SecondLife** and **YouTube** depend almost entirely on consumers to create the content that generate traffic to their sites.

This shift to networked business models is also being reflected in other parts of society. In particular, the processes in which public policy is developed are shifting significantly. Online consultations, petitions, blogs and chat-rooms allow a wide variety of participants including NGOs, businesses and even individual citizens to engage directly in shaping public policy. Critically, these technologies also allow groups to connect to parallel processes of interactive dialogue outside the strict confines of any formal legislative process. While governments are still required to mediate the legislative process, the range of tools available to stakeholders to contribute to policy development is powerfully changing the dynamics of whose voices are heard and when.

Policy development — from hierarchical to networked

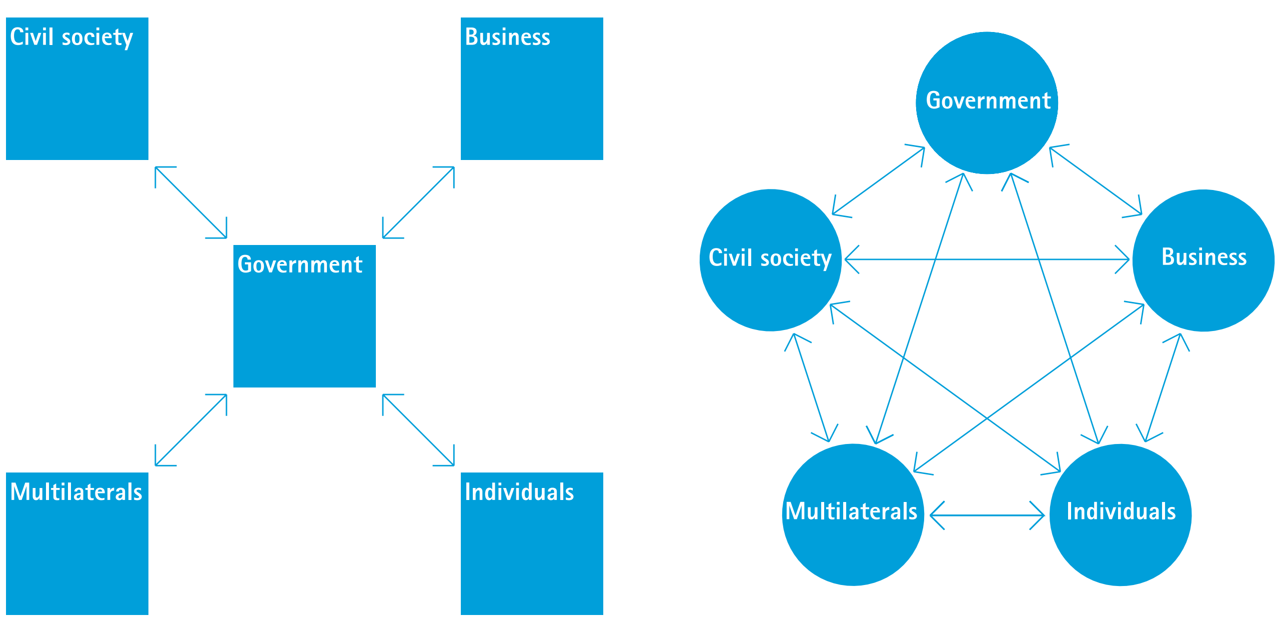

Figure 1

From impact to influence

In a separate but related trend, the emerging corporate responsibility agenda is also shifting to focus as much on the *influence* companies wield over different stakeholders as it does on their actual direct *impacts*. In part this has been driven by improvements in the environmental performance of manufacturing businesses, where in many sectors the major impacts now occur during the 'use' phase of products rather than in their manufacture.

As a result, stakeholder interest is now often focused on the role that companies are playing in influencing different value-chain partners. Leading businesses such as **HP**, **Nike** and **Volvo** focus significant efforts on influencing the social and environmental performance of their supply-chains. Financial institutions have developed criteria to ensure that their lending policies support emerging norms on social and environmental performance. Companies in the food and beverage sector are reviewing their marketing strategies and product formulations driven by concerns that their *influence* on young consumers is contributing to a global epidemic in obesity and type 2 diabetes.

In short, companies are now being held accountable for the *influence* that they have over a whole range of stakeholders — including governments and regulators. Governments and regulators too are under greater pressure to be transparent about their links to business and other lobby groups.[2]

The case for transparency

The importance of networks outlined above combined with the shift in focus to the influence that companies wield, has significant implications for the way in which companies manage their public affairs activities. Companies that wish to exercise influence in the formation of public policy are increasingly dependent on the need to establish broad cross-sector networks and coalitions at the same time as they are held individually more accountable. They are operating through processes that are themselves more integral to society at large and therefore more open to public scrutiny.[3]

In addition, companies wishing to stake a claim to leadership on corporate responsibility issues are being asked to demonstrate that their public affairs activities are transparent and consistent with wider sustainability claims and objectives. These trends are driving an alignment between those public affairs activities that are more effective on the one hand, and those that are transparent and accountable on the other.

Companies that are well placed to respond to this agenda are likely to find themselves able to influence emerging policy standards more effectively. Companies that are not will find access and influence rapidly eroding.

The rest of this briefing further explores this agenda by:

— reviewing the extent to which current approaches to corporate reporting address public affairs activities (section 2);

— exploring the perspectives of investors on the importance of public affairs activities (section 3);

— setting out a series of conclusions and 'hot topics' emerging from this debate for further study (section 4).

'Business leaders must become involved in socio-political debate not only because their companies have much to add but also because they have a strategic interest in doing so . . . Few companies get involved in a socio-political debate at the stage when they might be at risk for being ahead of the curve. The prevalent risk is not getting involved early enough.'
McKinsey Quarterly

Summary of the methodology

The following chapters draw on two sets of data compiled for this briefing. The first, summarised in section 2, is a review of best practices in corporate reporting of public affairs activities. The 50 leader reporters reviewed were selected through the Global Reporters 2006 research programme alongside the United Nations Environment Programme (UNEP) and the financial ratings agency Standard & Poor's (S&P).

The benchmark methodology used to assess reports has also been developed alongside UNEP and S&P and provides a comprehensive framework for reviewing the quality of sustainability reporting. For this briefing we focus specifically on criteria linked to corporate public affairs activities. These include:

— **public policy and regulatory affairs**, which covers interactions with politics and public policy on sustainable development issues, including advocacy techniques (lobbying, membership in trade associations, political contri-butions, etc.), the content of advocacy (e.g. policy positions) and the level of transparency about these involvements

— **industry influence**, which covers efforts to influence sustainable development performance across an industry sector or across the business community as a whole including through participation in industry task forces, through industry associations, research or publications, and through the promotion of voluntary standards.

The quality of information provided by a company's report or website was rated using the scoring methodology outlined in the table below. A full copy of the methodology is available from SustainAbility's website.

In addition, section 3 summarises the results from a questionnaire sent to members of the financial community including pension fund managers, asset managers and research and rating organisations. Responses were received from 24 organisations representing over $500 billion under management (responding organisations are listed on page 13).

Definition of corporate public affairs activities

This report considers a range of corporate activities or decisions which are intended to influence public policy. These include efforts to:
— influence the outcome or direction of proposed or existing legislation;
— influence how regulators apply or enforce existing laws;
— influence the broad direction of public policy, whether at the local, national or international (e.g. through the UN or World Trade Organisation) level;
— support (either directly or indirectly) external organisations including industry associations, chambers of commerce, think-tanks, NGOs etc. in their public policy advocacy;
— develop or improve the company's relationships with government officials, civil servants or the judiciary;
— support political candidates or incumbents through, for example, monetary donations or other forms of support.

Scoring criteria

Score	0	1	2	3	4
Rating	**Absent**	**Sketchy**	**Systematic**	**Extensive**	**Integrated**
The quality of the information and approach adopted by each company was given one of the following ratings.	No information provided on lobbying. Or the company makes general references, such as a simple statement of compliance with the law on political contributions, but provides no insight into activities or impacts.	Coverage recognises the relevance of lobbying to corporate responsibility issues.	As above but information also includes signs that robust systems and processes are being developed to manage and disclose lobbying and public policy activities. The company probably discusses at least one 'material' issue in some depth.	Coverage of lobbying indicates that systems exist to manage and disclose lobbying and public policy activities. The company probably discusses policy positions on several material issues in some depth. However, the approach to lobbying is still not fully integrated with company values, business principles and core business decision-making.	As above and in addition there is an explicit link made between corporate values and principles, core business decision-making (including corporate govern-ance) processes and a company's approach to public policy. There is likely, for example, to be evidence of a decision-making process leading from basic values and principles to specific business objectives and lobbying that supports these objectives.

Figure 2

The public life of public affairs

2

Public reporting of corporate responsibility performance has become established as a key route to building greater trust among stakeholder groups. Building trust in corporate public affairs activity is increasingly seen as critical to public affairs and wider corporate success as outlined above, so how well do leading companies currently report on their public affairs (PA) activities? This section provides some detailed insight into the extent to which 50 leading reporters from around the world address PA activities in their published corporate responsibility (CR) or sustainability reports and on their websites.

Public reporting of public affairs activity is still a minority pursuit

The most striking finding from the review of corporate responsibility reporting is that, as a relatively new topic in published reports, PA activities are among the areas of business management and performance that are least reported by companies.

The Global Reporters 2006 analysis, carried out in partnership by SustainAbility, Standard & Poor's and UNEP, found that public affairs attracted the second lowest score out of the 29 criteria that are considered, with an average score of 1.7 out of 4.

Overall poor performance masks some excellent reporting by a handful of companies

However, this low overall score does mask some outstanding reporting from a small group of leader companies including **British American Tobacco** (BAT), **British Telecom** (BT), **Co-operative Financial Services** and the Swiss retailer **Migros.** The full table of scores is given below.

The quality of reporting appears to be slowly improving

The overall score from the 2006 analysis, while weak in comparison with other criteria does, however, compare favourably with a similar analysis conducted in 2005 on the S&P 100 companies.[6]

Leader company ranking on quality of public affairs reporting

Score	0	1	2	3	4
Rating	**Absent**	**Sketchy**	**Systematic**	**Extensive**	**Integrated**
Companies	ABN AMRO Real BBVA Daiwa Securities Group Fuji Photo Film KarstadtQuelle Nedbank Group Nissan Motor Seven and I Holdings Sony VanCity Veolia Environnement	Anglo American Platinum Enel SpA Henkel Kesko Natura Philips Rabobank Statoil Suez Watercare Services Westpac Banking	Adidas Group BAA BHP Billiton DSM Ford Gap Inc General Electric Mecu MTR PotashCorp SAS Shell Group Telus Vodafone	ABN AMRO Anglo American BP GSK HP Lafarge Nike Novo Nordisk Rio Tinto Unilever	British American Tobacco BT Co-operative Financial Services Migros

Figure 3

This larger group achieved a score of just 0.8 out of 4. The difference in score is not perhaps surprising given that the S&P 100 represents the world's largest companies, while the Leader 50 has been selected specifically as representing best practice in corporate sustainability reporting. Nonetheless there is evidence that the quality of reporting has improved, with the companies that were assessed in both rankings improving their scores by an average of 20%.

Leader companies exhibit a particular focus on issues that are deemed to be material for their business

In common with other aspects of corporate reporting, leader companies are becoming much more adept at identifying key material issues for their sector and business. This focus is clearly apparent in reporting on PA activities, with companies focusing on specific material issues for their businesses. For example, the **British Airports Authority** (BAA) explains the company's position on public policy relating to infrastructure development. The mining giant **BHP Billiton** provides specific detail on their public affairs activities concerning uranium development, and **BAT** highlights their position on legislation around the minimum age for smoking.

A significant number of companies report that they are actively supportive of specific regulations

In a departure from previous reports, a significant number of companies cite their active support for specific regulations on key social or environmental issues. The European 'REACH' regulation for example is explicitly supported by a wide range of companies such as **Adidas**, **BP**, **Co-operative Financial Services**, **DSM**, **Henkel** and **Unilever**. Climate change, however, emerges as the most popular topic in corporate reports with public policy frameworks on the topic explicitly endorsed by companies including **BHP Billiton**, **BP**, **Co-operative Financial Services**, **Lafarge**, **Migros**, **Rabobank** and **Shell**.

More infrequently, companies report and explain their opposition to regulatory frameworks with just **Ford** and **Volkswagen** willing to provide some detail on the PA work aimed at stopping, or at least significantly altering, policy proposals on vehicle emissions controls.

Other notable highlights from the research included:

— the provision of detailed links and summaries of activities undertaken by companies (e.g. **BT**, **HP**) working with trade associations on key social and environmental issues and — very occasionally — funding levels associated with these memberships (e.g. **Migros**);

— marked differences between companies from different regions. For example, none of the five Japanese companies in the Leader 50 provide any information on public policy activities. In contrast, of the ten companies from the UK, the average score is 3.

Coverage of overall 'philosophy' and approach to public affairs not widely reported

As highlighted, a growing number of companies provide detailed summaries of specific policy positions, but few step back to provide the wider story. This approach may reflect the more tactical profile of public affairs activities that many companies adopt — focusing on short-term policy and financial objectives rather than long-term strategic positions.

The auto industry in the US has for example been singled out for excessive focus on short-term lobbying objectives that have undermined the sector's longer-term competitive position.[7]

Of the leader companies few report on the broader 'philosophy' that they bring to their public affairs activities, and the extent to which this supports their longer-term business strategy positioning. **GE** is a notable exception, providing some insights into the company's objectives with regard to public affairs activities, and setting itself a goal to become more actively involved in energy and health policy issues. The Brazilian cosmetics company **Natura** has also set itself a target to fully integrate its public policy work and corporate responsibility strategy.

Best practices: BT

BT is one of a handful of companies that achieves a score of 'integrated' in the 2006 analysis. Among other things, **BT** provides detailed information on:

— the trade and business associations of which the company is a part;

— specific policy positions on key issues for the organisation (such as universal service obligations, mis-selling of telecoms services and digital inclusion);

— the wider influence that the company has on the ICT sector including through joint industry initiatives and supply-chain activities.

Investing in public affairs

3

For some time, the main driver for corporate reporting on public affairs has come from academics, NGOs and wider civil society.[8] Typically, other stakeholders such as investors and customers have been less vocal on this aspect of the CR agenda. This now appears to be changing. As noted above, companies themselves are becoming more vocal in setting out their own positions with regard to key aspects of legislation. The survey carried out for this briefing suggests that investors are also becoming more actively engaged in considering the public affairs activities of companies.

In fact, in many cases investors already consider the public affairs activities of companies they invest in; furthermore, a significant proportion expects these activities to become more important in the next few years

While current levels of corporate reporting are quite limited, just less than two-thirds (65%) of survey respondents currently consider the public affairs activities of the companies in which they choose to invest. This represents over $320 billion of funds under management. Furthermore, nearly half of these investors consider that corporate public affairs activities will become more important for investors in the next 2–3 years, with only one respondent suggesting that interest in the issue will decrease over this time.

Reputational risks associated with public affairs activities seen as critical by many investors

The principal driver for the importance of corporate public affairs activities stems from interest in social and environmental issues more generally – and the growing potential for reputational risks from public affairs activity that is seen to be at odds with wider societal concerns. Climate change is seen as particularly important in this regard, with several organisations focusing specific research on company positions on public policy related to climate change. Some investors go further, however, and believe that the issue represents a test case for future sustainability issues that cross over to become controversial mainstream issues. For these investors, corporate PA activities and the specific policy positions that companies adopt are already significant considerations.

Some investors see the issue as a strong indicator of quality of management

For a significant number of investors, reputational risk emerges as the central driver of interest in PA activity. However, for a small but influential band of respondents, links between PA activity and corporate responsibility are seen as more strategic. Initiatives such as the US Climate Action Partnership,[9] the Institutional Investors Group on Climate Change[10] and WWF's One Planet Business Programme[11] all aim to reshape the systems that govern the behaviour of the private sector. These investors see such efforts as central to the protection of future value by helping to create enabling conditions and frameworks that address key social and environmental issues (see case study below).

Are public affairs criteria considered in company assessments?

65% Yes
13% N/A
22% No

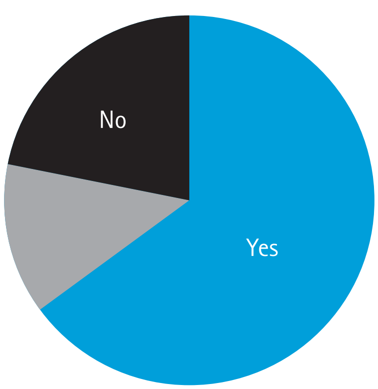

Figure 4

Strategic public affairs and corporate responsibility — the case of the US Climate Action Partnership (USCAP)

The USCAP is one of several corporate initiatives aimed at encouraging governments to develop regulatory frameworks to tackle climate change.

While the participating companies undoubtedly recognise the reputational benefits of participation in this joint corporate/NGO initiative, they lay particular emphasis on the strategic value of their involvement in helping to shape policy frameworks that support business performance. Among the principal objectives of the USCAP is to encourage regulators to recognise both the importance of technology, and the need to create economic opportunity and advantage through regulatory frameworks.

This approach of proactive engagement with policy frameworks — combined with the greater coherence between corporate responsibility and public affairs that such positions demand — is seen as an important indicator of smart management. As one investor put it, 'We look at company lobbying activity in order to see if there is consistency between what management is saying externally and what they are pushing via their lobbying presence. It is an input for how we assess the quality of a management team.'

NGOs and institutional investors are considered the most important drivers for information on corporate public affairs activities . . .

Survey respondents identified NGOs and activist groups along with institutional investors as being the most important drivers for information on corporate public affairs activities. NGOs have traditionally played a key role in advocating for greater openness of corporate public affairs activities, but the interest of institutional investors is also seen as a key driver for greater openness, with two-thirds of respondents citing institutional investors as demanding information on corporate public affairs activities.

. . . with institutional investors particularly concerned with market failures as a source of substantial risk

A number of respondents suggested that they believed investors would continue to play an important role. Institutional investors in particular are seen as having a specific interest in ensuring that individual company lobbying is not at odds with the wider interests of the market, and that it does not unduly slow policy development for short term gain. Separate research focusing specifically on climate change has identified at least three types of risk to investors from this style of lobbying:

— reduced participation and access to policy-making and policy design processes and the loss of opportunities to steer policy in directions that financially benefit shareholders;

— lower anticipated returns to capital investments as science and policy move;

— reputational impacts, and in some cases litigation risk, stemming from public affairs activities that are perceived to have delayed policy actions.[12]

Several investors highlighted the distinct role that investors have to play in this area. As one respondent put it, 'Investors have a collective long term financial interest in seeing market failures corrected in an effective and efficient way, and therefore they have a role to play in promoting sensible, flexible and appropriate government intervention.'

'We look at company lobbying activity in order to see if there is consistency between what management is saying externally and what they are pushing via their lobbying presence. It is an input for how we assess the quality of a management team.'
Survey respondent

'Companies will always lobby for what is in their interests. What we have to be careful of is where lobbying is not in the interest of the market as a whole.'
Survey respondent

Information provision from companies is widely seen as inadequate

While our analysis suggests that information provision is slowly improving, investors from our survey who expressed an interest in public affairs activity almost unanimously say that companies do a poor job in meeting their information needs. 83% of our survey group stated that their information needs were not being met, with a further 74% saying that they were in dialogue with companies and had requested better disclosure from them.

Disclosure should include both the overall approach to public affairs activities as well as policy positions on material issues

Investors emphasised the need to understand a company's approach to public policy overall, and then to put this in the context of specific issues, particularly where these are deemed to be material. Some also expressed scepticism at the ability of companies to collect such information systematically. As one asset manager put it, 'Companies must become much more sophisticated and adept at gathering information on all types of corporate public policy activities across the company and in different regions of the world.'

Others sounded a note of caution. While overall there was great appetite for increased transparency on corporate public affairs activities, some respondents suggested that companies would be unlikely to volunteer this information. Instead research agencies and investors would have to rely on alternative sources coming from NGOs, the media and elsewhere. As one respondent noted, 'The most important information is the information that is least likely to come from companies themselves.'

Relationships with trade associations are seen as requiring additional transparency

Several respondents focused in particular on the need to disclose the expenditures that companies make to trade associations, political parties, lobbying groups and even charity contributions in general. For many investors this information needs to include a list of organisations active in public policy advocacy that receive corporate support — and the extent of funding or other in-kind support. 'Less hiding behind trade associations', as one respondent put it, and 'more visibility for what companies stand for and how they are promoting these positions.'

Investors are also actively engaged in public affairs activity, but few have transparent policies themselves

Investors themselves are frequently engaged in public affairs activities of their own — either through representative groups or through direct engagement with governments. Nearly two-thirds of respondents have engaged with policy makers themselves, on issues such as climate change, corporate transparency, human rights, environmental standards and executive pay. However, only 36% have their own policy that governs these activities and even fewer publicly report on these activities.

Are your information needs on public affairs activities met?

13% Yes
04% N/A
83% No

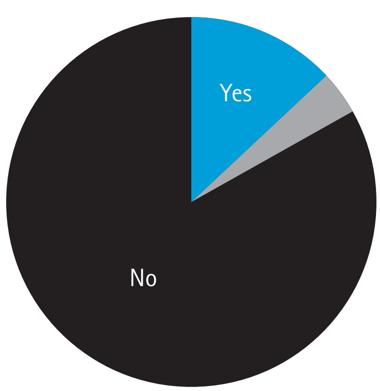

Figure 5

'Companies must become much more sophisticated and adept at gathering information on all types of corporate public policy activities across the company and in different regions of the world.'
Survey respondent

Conclusions

Public policy coming in from the cold

This latest effort to review the quality of corporate reporting on public affairs activities suggests that leading companies are making modest progress towards greater transparency. However, we believe focusing on greater transparency solely as a response to a perceived threat from NGOs and other stakeholders risks missing a far more profound shift in the public affairs agenda. We believe this shift is driven by rapid developments in technology, interest in corporate public affairs activities among mainstream investors and a recognition of the strategic role public affairs can play on corporate responsibility issues.

We have set out our conclusions below and outline some 'hot topics' for further investigation in the following section.

Changes
Complexity
Scrutiny
Business need

The principal conclusions from the work are as follows:

1 Technology is driving greater visibility of issues and moving them into view for large parts of civil society, creating wider networked groups of involved — and often very vocal — stakeholders.

2 Engaging effectively in a more complex and transparent policy environment further emphasises the importance of corporate reputation and perception, openness and transparency of action.

3 Society is exercising greater scrutiny and concern about corporate practices related to sustainable development and is shifting from focusing on direct impacts to addressing the wider influence businesses have on the public policy environment and the way businesses behave in this environment.

4 To date leading businesses have responded by demonstrating increased transparency around specific policy positions on key issues, but appear still to be responding from a position of risk management.

5 In turn this means that other stake-holders — namely the mainstream investment community — are becoming more involved in assessing the public affairs activities of companies as part of a full view of business performance and in some cases are now driving measurement of business activity in this area.

6 Furthermore, market failure and the need for systemic change are also emerging as key areas of concern for some leading investors. This in turn is underlining investor interest in corporate public affairs activity. These investors single out businesses that are protecting future value through active shaping of policy frameworks to address key social and environmental issues, as exhibiting smart management.

Implications
Coherence
Consistency
Business performance

The implications of these shifts are we believe profound. Critically, the interest of some mainstream investors in corporate public affairs activities requires a re-think of the role and nature of this work:

'[Investors] fulfilling their fiduciary duty to their beneficiaries requires that [company management] come to understand that the sharp line . . . between stockholders and stakeholders may be breaking down.'[13]

7 In particular, investor interest is helping to drive a shift in the role of public affairs from a somewhat specialist, behind the scenes activity to a critical business function to be managed, aligned and measured alongside other business critical activities.

8 A growing, and as yet largely unmet need for more information on public affairs activities and governance represents a significant opportunity for business to communicate more openly and more strategically about the overall objectives and value of public affairs activities to investors and other stakeholders.

Hot topics for further study

Drawing on some of the emerging trends from the research, what factors might business need to take into account to respond to some of these public affairs challenges? Below we set out some questions which we hope to pursue in more depth during further dialogue and research.

Transparency and public affairs

There is an inherent tension between the demands of stakeholders for greater transparency and the reasonable needs of the business to maintain confidentiality. The specific questions this tension engenders include:

1 As a critical business activity, will transparent, open public affairs activity emerge as an area of competitive advantage?

2 If so how will efforts at greater transparency sit with commercial confidentiality?

3 How can companies balance disclosure on public affairs activities on specific issues which are likely to attract criticism from some stakeholders, while also outlining a framework approach and philosophy that builds stakeholder trust and business reputation?

4 As public affairs becomes more central as a business tool and as a measure of management quality for the financial and investment community, will this in turn create a push for more formalised reporting measures?

Public affairs and future value

As investors come to see greater value from a more strategic perspective on public affairs, how will this shape company approaches? For example, specific questions might include:

5 Can best practice around policy development and reporting lead to new business opportunities and wider product innovation?

6 What sort of criteria are investors specifically, and other stakeholders more generally, applying when they look at public affairs as a measure of business and management performance?

7 Where do individual sectors have future value at stake, and how can individual companies engage with policy frameworks to protect and enhance this value?

Coalitions and networks

A more networked approach to public policy development is driving a need for greater engagement between businesses and external stakeholders in articulating compelling positions. However:

8 Such policy formulation processes are likely to prove more unwieldy, in turn driving a greater need for coalitions that articulate shared perspectives. What are the characteristics and skills that companies need in order to do this effectively?

9 Can groups like trade associations be held to the same levels of accountability as individual businesses? Can lowest common denominator positions be seen to be consistent with company best practice?

Internal coherence

Finally, a more strategic approach to public affairs demands a greater level of coherence with other business processes and functions:

10 How should a more strategic PA approach be made more coherent with other corporate responsibility activities? Should public affairs be subject to governance oversight?

11 How can a single framework embrace different geographies, political cultures and differing public policy traditions?

Public affairs and corporate responsibility	Today	Tomorrow
Key stakeholders	NGOs and CR activist-driven	Investor-driven
Business case for linking PA and CR	Reputational risks	Future value protection
Governance	Tactical – distributed to businesses	Strategic – subject to board oversight
Reporting	Focus on detail of key policy positions	Focus on overall PA governance and objectives and key policy positions

Figure 6

Next steps

5

This briefing is intended to shed further light on the rapidly evolving relationship between public affairs and corporate responsibility. Our research has demonstrated that while corporate reporting of public affairs activity is still modest, a series of strong drivers is emerging to push public affairs into greater focus for investors and for company management.

We believe we are at an early stage in a new chapter that sees public affairs play a much greater role both in positioning companies on the corporate responsibility agenda and in enabling the protection and development of future forms of value. In order to help inform and develop best practice in this area, we plan to convene a series of workshops for companies. Our objectives will be to:

- provide a forum for the exploration of the risks and opportunities offered by a changing public policy environment;

- share best practices and insights from different sectors and regions;

- generate practical advice to companies and other stakeholders on how to address some of the questions highlighted in the previous section.

References

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Listed below are some of the organisations that took part in our research:

Bank Sarasin
CCLA Investment Management Ltd
Centre Info SA
CM-CIC Asset Management
Co-operative Insurance Society
Crédit Agricole Asset Management (CAAM)
EIRiS
Ethix SRI Advisors
Ethos Foundation
F&C Asset Management
Fidelity International
Frater Asset Management
Fundación Ecología y Desarrollo
Generation Investment Management
Henderson Global Investors
Innovest
KLD Research & Analytics, Inc.
Morley Fund Management
NorthStar Asset Management, Inc
SAM Research
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United Methodist Church
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  Health Benefits
USS
Vigeo

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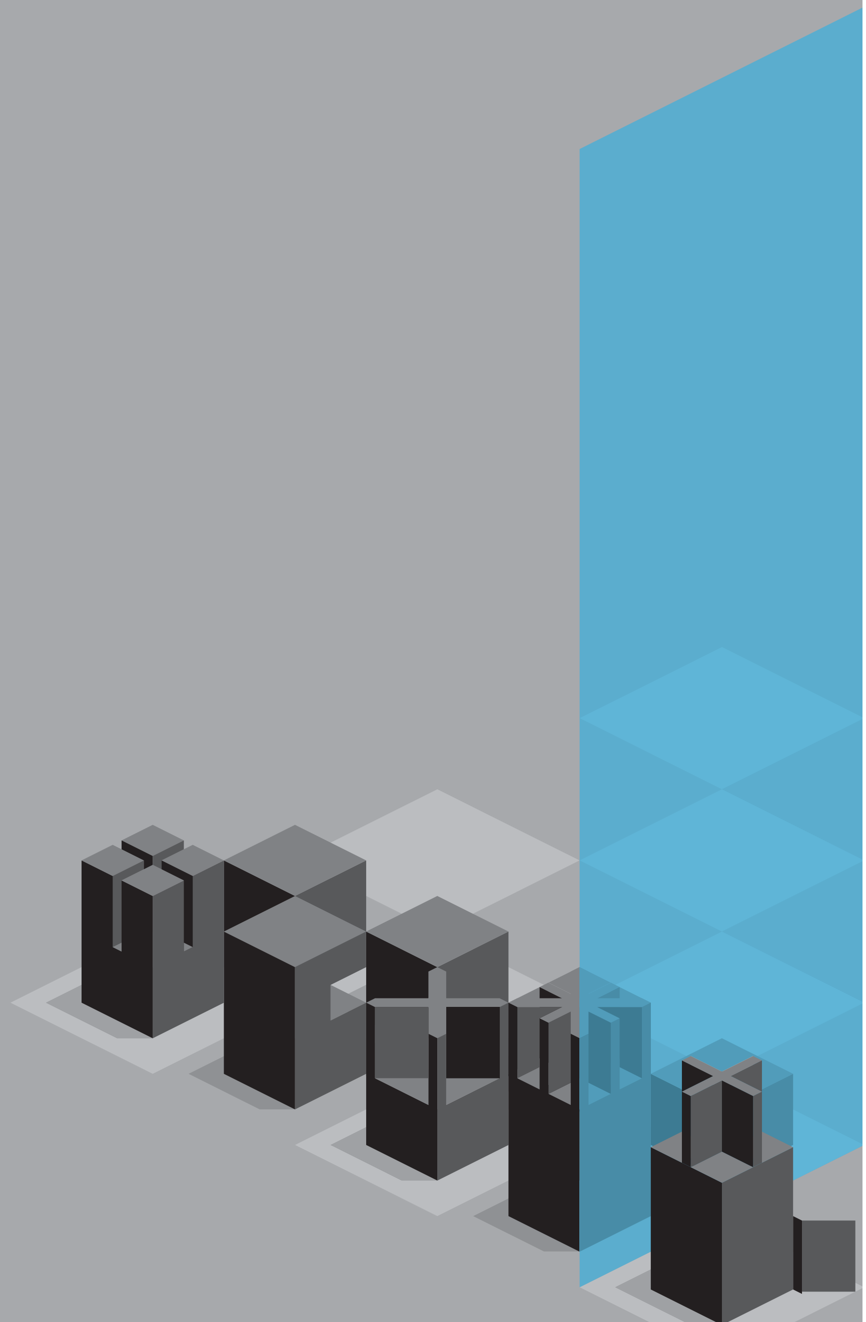

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The Economist

Doing good

Business and the sustainability challenge

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Preface

Doing good: Business and the sustainability challenge is an Economist Intelligence Unit report that investigates the impact of sustainability on business today. Lead sponsors of the programme include A. T. Kearney, Bank of America, Orange, Jones Lang LaSalle, PricewaterhouseCoopers and SAP, along with supporting sponsors ExxonMobil and SunGard.

The Economist Intelligence Unit bears sole responsibility for the content of this report. Our editorial team executed the online survey, conducted the interviews and wrote the report. The findings and views expressed within do not necessarily reflect the views of the sponsors.

Our research draws on three main initiatives:

- we conducted a wide-ranging global survey of senior executives from around the world in September and October 2007. In total, more than 1,200 executives, half of them from the C-suite and 26% of them CEOs, took part. They represented a cross-section of industries and a range of company sizes;
- to supplement the survey results, we also conducted in-depth interviews with 28 executives, including CEOs and sustainability chiefs, as well as other leading experts from international organisations, consultancies, non-governmental organisations and academia. A full list of interviewees is detailed on the next page;
- finally, an extensive programme of desk research was conducted, including a wide-ranging literature review.

Dr Paul Kielstra was the author of the report and Gareth Lofthouse and James Watson were the editors. Sarah Murray also contributed. We would like to thank all the executives who participated in the survey and interviews for their time and insights.

February 2008

Interviewees

(*Listed alphabetically by organisation name*)

Dr Hameed Bhombal, CTO, President of Corporate Technology Strategy and Services, Aditya Birla

Roland Waardenburg, Director of Corporate Social Responsibility, Ahold

Edward Bickham, Executive Vice President, External Affairs, Anglo American

Michael Prideaux, Director, Corporate and Regulatory Affairs, BAT

Professor Pan Jiahua, Executive Director, Research Centre for Sustainable Development, Chinese Academy of Social Sciences

Dr Gail Kendall, Director, Group Environmental Affairs, CLP Group

Carl Kitchen, Public Affairs Manager, CLP Group

Ed Potter, Director of Global Workplace Rights, Coca-Cola

Dr James Suzman, Director of Corporate Citizenship, De Beers

Tod Arbogast, Director of Sustainable Business, Dell

Doug Cahn, Chairman, Fair Factories Clearinghouse

Tony Juniper, Executive Director, Friends of the Earth UK

Mark Kramer, Founder, FSG Social Impact Advisors, and Senior Fellow, Harvard's Kennedy School of Government

Julian Garrido, CFO, GE Latin America

Jane Nelson, Director of the CSR Initiative, Harvard's Kennedy School of Government

Adrian Hodges, Managing Director, International Business Leaders Forum

Francesca DeBiase, VP, Worldwide Supply Chain Management, McDonald's

Bob Langert, VP, Corporate Social Responsibility, McDonald's

Bart Alexander, Global VP, Alcohol Policy and Corporate Responsibility, MolsonCoors

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Pierre Poret, Head, Investment Division, OECD

Ivo Menzinger, Group Head of Sustainability and Emerging Risk Management, Swiss Re

John Elkington, Founder and Chief Entrepreneur, SustainAbility

Alan Rosling, Executive Director and Board Member, Tata Group

Georg Kell, Executive Director, United Nations Global Compact

Bjorn Stigson, President, World Business Council for Sustainable Development

Jill Brady, General Counsel, Virgin Atlantic

Doing good: Business and the sustainability challenge is an Economist Intelligence Unit research programme that investigates the impact of sustainability on business today. A total of 1,254 executives around the world participated in the survey. Half of all respondents were from the C-suite. Roughly 27% of respondents were based in Asia, 33% in western and eastern Europe, 33% in North and Latin America, and 7% in the Middle East and Africa. Participants represented a range of company sizes, with 53% from firms with at least US$500m in revenue; 22% were from firms with revenue of at least US$5bn. The full breakdown of survey respondents can be found in the appendix, starting on page 46.

Please note that not all figures quoted correlate precisely with the charts provided, typically because of rounding.

Contents

Executive summary

Being a good corporate citizen has never been so challenging. Companies have long been under public scrutiny for practices ranging from recruitment to workplace safety, from attitudes to overseas investment to environmental pollution. The emergence of climate change as a mainstream political issue, however, has served to drive home the breadth of ethical issues with which firms must now grapple. The business—and societal—implications of how companies address these are so far reaching that a new area of management practice has come into being to manage them, known by many as "corporate sustainability".

Accordingly, grasping the nature and scope of the sustainability challenge—as well as best practice in addressing the attendant opportunities and risks—is of immense importance to the corporate community. However, this report suggests that companies are at an early stage in developing such an understanding. While 53% of firms worldwide surveyed by the Economist Intelligence Unit claim to have a coherent sustainability policy, only half of these extend this beyond internal operations to encompass their supply chains. In all, less than one in three executives (29%) say their company has a coherent strategy that covers the whole business and its supply chain. Uncertainty also lingers as to whether sustainability can be seen as an opportunity, or if it is merely another drag on the bottom line.

To investigate this, and to assess the impact of sustainability on business today, the Economist Intelligence Unit drew on a wide-ranging survey of over 1,200 executives worldwide, along with numerous in-depth interviews with leaders of businesses and non-governmental organisations (NGOs) as well as other sustainability experts. Other key findings from the study include the following:

Business knows that it needs to raise its game... Out of a list of 16 sustainability policies, encompassing issues ranging from energy consumption and carbon emissions to diversity and governance, companies surveyed for this report had implemented an average of just 4.8 globally. Quantity

Defining sustainability

According to Timothy O'Riordan, Emeritus Professor at the School of Environmental Sciences, University of East Anglia, defining sustainability is like "exploration into a tangled conceptual jungle where watchful eyes lurk at every bend". The number of definitions available, however, gives each publication the freedom to advance its own, as a courtesy to readers if nothing else. This study has called sustainable those policies and processes which enhance the financial, environmental, societal, human, and other resources on which the company involved depends for its long-term health. Sustainability is the result of having such sustainable policies and processes, and aligning them so that goals in one area are not compromised in favour of those in another. This is really just an elaboration of the Bruntland Commission definition, which posits that sustainable development is that which "meets the needs of the present without compromising the ability of future generations to meet their own needs". Obviously, the practical implementation of the definition will vary across industries, geographies and job functions, because at the core sustainability is an underlying approach rather than a definitive list of activities.

aside, many executives also rated the quality of their company's efforts poorly. More respondents say that their organisation's performance has been poor in individual areas of sustainability, than those who believe their firms are doing well. Just 6% rate their companies as outstanding when it comes to the reduction of greenhouse gases, waste and pollution, compared with 15% who describe themselves as poor. One exception is communication: talking about whatever programmes they have in place is something most companies feel they do well.

...but is often confused by such new and poorly defined demands. Companies are still figuring out what sustainability means for their business and how to implement it. The research shows that companies have difficulty devising useful targets, and aligning social and environmental objectives with financial ones. Moreover, management frequently lacks an understanding of what sustainable development means for the organisation. No small factor here is a lack of consensus on what sustainability entails. "Sustainability, at different times, can mean all things to all men," says Dr James Suzman, Director of Corporate Citizenship at De Beers.

The supply chain is the weakest link. Extending sustainability policy to suppliers is the area where companies gave themselves the worst marks: about one-fifth say their companies have performed poorly in setting stronger supplier standards on both environmental and human rights issues. About the same proportion have only implemented supplier controls in the last five years. The problem is not new, and examples of disastrous consequences from socially or environmentally damaging supply chains abound. "Every CEO should be asking, after a decade of work in implementing codes of conduct, 'Why haven't we fixed the problem?'" argues Doug Cahn, Chairman of the Fair Factories Clearinghouse. Besides, firms can gain from improving their supply chains. "This is not charity: it is pure business. We create a better long-term relationship with suppliers, have better products, and better control over volume and price," says Roland Waardenburg, Director of Corporate Social Responsibility at Ahold.

Many companies lack clear leadership on sustainability. Tony Juniper, an Executive Director at Friends of the Earth, who has seen numerous corporate sustainability programmes, says "senior management or chief executive buy-in to the agenda is absolutely crucial" for real change to occur. Most firms understand that senior leadership is critical here: one-third of surveyed companies place responsibility for their sustainability performance directly with the CEO—and a further 26% place it with the board. But at many other firms sustainability responsibilities are dispersed throughout the organisation, and 11% of companies admit to having nobody in charge. "Sustainability needs a strong seat at the table like procurement and finance," argues Francesca DeBiase, VP for Worldwide Supply Chain Management at McDonald's. "It is the way everyone should be thinking."

Sustainability reporting needs more work. Although companies rate their performance on communication highly, efforts regarding formal reporting are less advanced. Only 22% of executives say their firms have formal Triple Bottom Line reporting, although a further 40% say they will adopt it within five years. There is, in Mr Juniper's words, "a huge level of disengagement" from sustainability reporting.

Sustainability does pay. Most executives (57%) say that the benefits of pursuing sustainable practices outweigh the costs, although well over eight out of ten expect any change to profits to be small. Specifically, sustainable practices can help reduce costs (particularly energy expenditure), open up new markets and improve the company's reputation. Part

of this involves a shift away from defensive behaviour towards more active exploration of the opportunities sustainability can present. Some of these gains can be dramatic. GE's line of Ecomagination products added US$12bn to its bottom line in 2006. The costs of implementation, however, are not to be ignored: respondents view this as the most formidable barrier to expanding sustainability practices.

There is a link between corporate sustainability and strong share price performance. In our survey, companies with the highest share price growth over the past three years paid more attention to sustainability issues, while those with the worst performance tended to do less. Causality is difficult to establish, but the link appears clear: the companies that rated their efforts most highly over this time period saw annual profit increases of 16% and share price growth of 45%, whereas those that ranked themselves worst reported growth of 7% and 12% respectively. In general, these high-performing companies put a much greater emphasis on social and environmental considerations at board level, while the poorly performing firms are far more likely to have nobody in charge of sustainability issues.

Business leaders are open to more regulation on social and environmental issues. Executives in our surveys are often opposed to increased regulation. Not here. Forty percent of those in our survey believe additional regulation is necessary to tackle social and environmental challenges. Another 50% say that voluntary action is generally more effective, but that additional regulation may be required in some areas. However, this openness to new rules is combined with the desire for clearer guidance about what government expects from business. Nearly two-thirds (62%) of respondents agree that "uncertainty over government policy is making it difficult to plan strategies for corporate sustainability". The irony is that politicians appear to be looking to business to deliver the goods. "Governments are proponents of market solutions, and business is saying we want some regulation," notes Bjorn Stigson, President of the World Business Council for Sustainable Development. "From the outside, it can look pretty confusing."

The social and environmental issues facing companies today are not going away—and are likely to involve a redefining of relations between business and society. This often involves fundamental political and even moral questions. A good sustainability policy needs to know when, and why, to say "no" as well as "yes" to stakeholders' innumerable demands. "If you don't know your magnetic north, then the compass is useless," says Mr Stigson.

Companies need to adjust by integrating best practices in these fields into their operations and by joining the broader debate on the responsibilities of business, government and individuals in addressing these challenges. If firms do not get involved in the latter, it will hurt their own finances, as well as the environment and social conditions worldwide.

Doing good: Ten lessons for corporate leaders

The experience of companies in the sustainability field yields some important insights.

1. Work smart, not hard. Sustainability does not involve a simple checklist of activities, but an alignment of social, environmental and financial goals. However, in our survey, the companies pursuing the largest number of sustainability-related policies were not necessarily those who ranked their performance in this area highest. Quality counts.

2. Know thyself. Successful sustainability programmes are based on companies figuring out what they think is right and acting accordingly, rather than running after (often shifting) public demands. Distilling corporate values is an essential first step. As Bjorn Stigson, President of the World Business Council for Sustainable Development, says, “If you don’t know your magnetic north, then the compass is useless.” A good sustainability policy needs to know when to say “no” to campaigners.

3. Know thy impact. A good assessment of what sustainability issues a company should be addressing requires an accurate idea of how company activities are affecting those around it. These need not be negative. Moreover, such analysis should include all aspects of the Triple Bottom Line—environmental, social and financial. Too often companies forget the last, but as Jane Nelson, Director of the CSR Initiative at Harvard’s Kennedy School of Government, points out, “the greatest business contribution to society is creating wealth”.

4. Focus on your core strengths. Just as with the financial side of company operations, good performance comes from concentrating on what an organisation does best. Immediate demands might inevitably draw you into areas a business does not know thoroughly, but it is wise for firms to consider where they can make the greatest impact. A consultant, rather than planting trees, would probably do better to help an organisation already doing that to run more efficiently.

5. Ask not just what your company can do for sustainability; ask what sustainability can do for your company. Sustainability need not be a burdensome imposition from outside. Taking account of social and environmental issues can lead to extensive innovation that cuts costs in the long run. At its best, it can open the way to new market opportunities and prepare the company for the growing risks in these areas. Ivo Menzinger, Group Head of Sustainability and Emerging Risk Management at Swiss Re, stresses that firms “need to approach sustainability from a business angle ... there are environmental and social trends that will be relevant”.

6. Have clear leadership and board-level support. Sustainability will not just happen. Success in these areas requires that somebody be responsible for sustainability issues. Moreover, wherever that responsibility is placed in the corporate structure, environmental and social priorities must have unequivocal support from the board, CEO and other senior management. Roland Waardenburg, Director of Corporate Social Responsibility at Ahold, notes that without such back-up from his CEO, “I wouldn’t do my job, because it wouldn’t make sense any more.”

7. Remember your supply chain. Too few companies are integrating their supply chains into their sustainability policies. Just as with the financial side of operations, poor performance by suppliers here can harm a company’s sustainability record—and very quickly its public reputation—while a sustainable supply chain can greatly enhance an organisation’s ability to deliver its own high social and environmental performance.

8. Monitor and report. “When you say you will do something and you communicate it, you ought to measure it,” says Daniel Vasella of Novartis. Finding information and metrics is not easy, but too few companies are even trying. Existing reporting guidelines are not definitive solutions, but they do provide a place to start.

9. Integrate. Sustainability will not work as an add-on. It needs to be integrated into corporate structures and processes. Such change can be hard to manage, but is a key element of getting this right. Although some problems are sufficiently novel that new procedures and tools will be necessary to do so, companies should not forget traditional techniques of encouraging positive behaviour. Mark Kramer, Founder of FSG Social Impact Advisors, explains: “Until it affects somebody’s compensation and performance reviews, it won’t appear as a serious priority for middle management.”

10. Engage. Sustainability is about the relationship of business to other elements of society. This means that a successful company will frequently cooperate with a range of stakeholders, including NGOs, that might on other occasions campaign against it. It also means engaging in public debates about the appropriate content and limits of corporate social and environmental policies. This may not always be comfortable, but it will contribute both to the success of business and of the sustainability agenda.

Chapter 1:
Sustainability: What is it, why now, and why us?

Key points

- There is a general sense of confusion about the definition of sustainability. It means different things to different firms and varies across industries and regions
- Climate change is the key concern today, but the underlying driver is the changing roles of business, governments and other stakeholders in the wake of globalisation

Three seemingly unconnected news stories appeared towards the end of 2007: a large multinational clothing company faced criticism for deaths at a supplier factory in the developing world; a major oil company's presence in a country known for human rights abuses came under the spotlight after another military crackdown on dissent; and Al Gore and the Intergovernmental Panel on Climate Change (IPCC) won the Nobel prize for their efforts to disseminate knowledge about climate change, while the US Congress debated legislation regulating greenhouse gas emissions.

Although distinct issues, all are part of a multi-faceted challenge that companies are approaching with increasing seriousness—sustainability. Georg Kell, Executive Director of the United Nations Global Compact, a multi-stakeholder, corporate responsibility initiative, describes interest in the field as being on a "total upswing". It is a view that executives interviewed for this report consistently echo.

As will be seen, however, companies are often bewildered in their response to these issues. That confusion is understandable when something as basic as what to call the challenge sparks debate. "Sustainability", "sustainable development", "corporate social responsibility" (CSR), "corporate responsibility", and even old-fashioned "corporate citizenship" are all terms used, often interchangeably, with different parts of the world exhibiting their own preferences. CSR has fallen out of favour among some Europeans because of associations with previous failures, whereas in parts of the US "sustainability" has anti-corporate connotations.

For companies, the specific content of the term—this study uses "sustainability" without any anti-business intent—is even more daunting. Most lists include financial, environmental and social sustainability. The *OECD Guidelines for Multinational Enterprises*, a useful effort to provide advice on state-of-the art best practice in this field, focuses on Disclosure, Employment and Industrial Relations, Environment, Combating Bribery, Consumer Interests, Science and Technology, Competition, and Taxation and has provisions on general policies in such areas as human rights and supply chain management. The UN Commission on Sustainable Development identifies over 40 relevant issues, including such disparate areas as "Mountains" and "Health". Ed Potter, Director of Global Workplace Rights for Coca-Cola, notes that at the theoretical level "sustainability is unbounded". Dr James Suzman, Director of Corporate Citizenship at De Beers, agrees: "Sustainability at different times can mean all things to all men." In practice, it seems liable to mean anything that a business affects, or that affects a business, that is not purely financial.

A better approach than making lists is to examine the ideas behind the terminology. Jane Nelson, Director of the CSR Initiative at Harvard's Kennedy School of Government, explains that part of the problem is historical. "You are getting convergence of similar but somewhat disparate fields," she says. Sustainability or sustainable development started out as a largely environmental concern, which has increasingly embraced both economic and social dimensions, whereas the origins of CSR, especially in the United States, are in corporate philanthropy. Both spread to encompass the other and more besides. The boundaries, however, remain fuzzy. "Many companies have a sustainable development or environment, health and safety function and a CSR function," Ms Nelson notes.

An early, oft-used definition for sustainability

comes from the *Report of the World Commission on the Environment and Development*, the Brundtland Commission: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The original focus was on the environment: development that destroyed or exhausted essential natural resources was inappropriate. Bjorn Stigson, President of the World Business Council for Sustainable Development (WBCSD), explains that in the late 1990s the concept of sustainability started to include corporate social responsibility, including governance in the wake of scandals such as Enron's. The thinking, however, remained consistent. Just as behaviour that destroys the physical environment on which business relies is unsustainable, so too are activities that tear at social structures and stakeholder relationships equally essential for long-term survival.

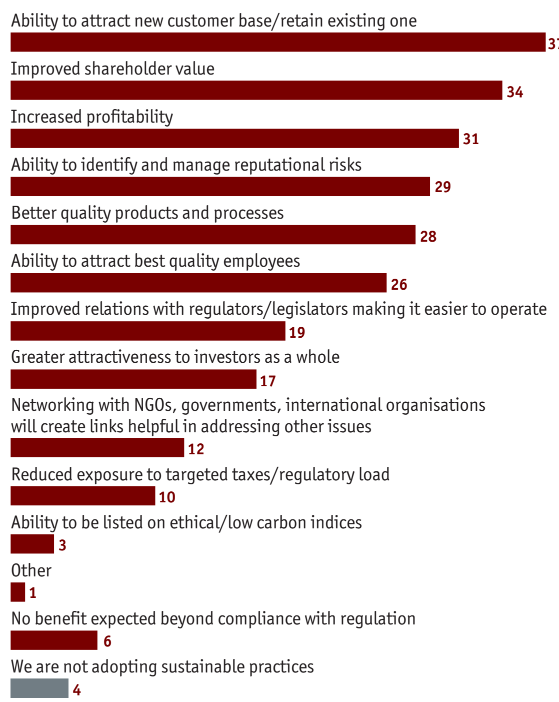
CSR's evolution was different. Adrian Hodges, Managing Director of the International Business Leaders Forum, a group working to enhance business's contribution to sustainable development, argues that corporate involvement in the community some 20 years ago amounted mostly to philanthropy. "The main driver used to be the personal interests of the chairman or, more often, of the chairman's wife." From there, CSR "has moved through a long continuum to where today leading companies are looking at aligning business strategy with societal needs and working hard to eliminate negative operational impacts." This approach, which now includes environmental responsibility, helps with stakeholder and risk management, as well as the search for new business opportunities and competitive advantage.

Mr Hodges and Mr Stigson both present this history in a way that emphasizes the element of enlightened self-interest in sustainability. This certainly has some appeal to modern business. For example, the two most frequently cited benefits that firms expect from sustainability policies relate to improved business outcomes: the ability to attract and retain customers (named by 37% of respondents) and improved shareholder value (34%). The third was straightforward increased profit (31%).

Time to care

Sustainability may have a long history, but why is the concept gaining traction in boardrooms now? The immediate impetus is closely tied to specific worries over global warming. John Elkington, Founder and Chief Entrepreneur of the consultancy SustainAbility, and coiner of the term "Triple Bottom Line", notes that interest in this area comes in waves—this, he says, is the fourth since the 1960s. He sees the particular concerns driving interest as energy security, climate change and the growth of megacities. The

What are the biggest benefits that your organisation expects to derive from adopting sustainable practices beyond those of compliance (if any)? Please select up to three items.
(% respondents)



Source: Economist Intelligence Unit survey, October 2007.

"[CSR] has moved through a long continuum to where today leading companies are looking at aligning business strategy with societal needs."

Adrian Hodges, Managing Director of the International Business Leaders Forum

first two are related, and have clearly become greater political and popular concerns in the wake of extreme weather events and the release in 2007 of the IPCC report, which indicated a very broad scientific consensus that humans are causing climate change and that this is likely to have a serious impact on the planet unless action is taken. Business is not blind to the implications. According to our survey, the leading area of activity in the past five years, and one of the most widespread priorities for the near future, is energy use reduction. Sometimes the change is more dramatic: Hurricane Katrina, for example, sparked a thoroughgoing change in how Wal-Mart approaches sustainability, particularly in environmental areas, but also in social ones.

Climate change, although very important to the current interest in sustainability, is in many ways just the proximate cause. For decades now, globalisation and trade liberalisation have changed the relative positions of companies, governments and other stakeholders in society. Today's sustainability agenda is a continuation of the ongoing attempt to redefine the roles of each to address the challenges facing societies (see box *Globalisation and sustainability*).

Business and morality

These issues are often political, and ultimately complex moral ones, such as what companies' duties are to the communities in which they operate. For this reason, most executives interviewed for this report felt that their sustainability strategy has to start with principle, not profit. "CSR means different things to different people, depending on, for example, culture, religion, geographic location, or position in a value/supply chain," says Mr Stigson. "In considering what you should do as a company, it really comes down to your own values. If you don't know your magnetic

Globalisation and sustainability

Several executives interviewed for this report point to globalisation as the reason why sustainability has become an increasingly important issue for businesses. Edward Bickham, Executive Vice President of External Affairs at Anglo American, thinks the issue goes back to the fall of the Berlin Wall and the disappearance of a mainstream alternative to capitalism. As globalisation accelerated, opportunities for business increased—but so did worries that companies need to be more accountable. Dr James Suzman of De Beers dates a broader sociological shift to the same period, which resulted in companies having to meet new obligations in order to operate on a global basis. Georg Kell of the United Nations Global Compact also sees a strong link between liberalisation, global integration and growing "expectations about business doing more or differently".

The issue was not just about increased business influence in the wake of globalisation, but also a simultaneous decline of state power. "A lot of business risks and opportunities exist because of governance gaps or failures or because of changing boundaries and expectations of government roles," says Jane Nelson of Harvard's Kennedy School of Government. "So many of these issues are trans-boundary and would have been the role of government in the past. This is not to suggest that business should be taking responsibility for all these issues, but in today's increasingly complex and interdependent global economy there is a need to re-negotiate boundaries and burden-sharing between the public and private sector."

Globalisation has made it both more important and yet more difficult to apply consistently high ethical standards to business. Different markets give rise to different responsibilities and expectations. Mr Bickham notes that in Anglo American's British operations, "apart from being environmentally responsible and treating employees properly, our contribution is largely met by paying and treating our people decently, investing and paying our taxes." He believes their responsibilities are different in the poorer countries, however, where the capacity of the government to deliver sustainable outcomes is low, and consequently the requirements placed on business are much greater. Stakeholders are knocking on business's door not only for the problems firms might be causing, but also because companies may simply be the only ones capable of solving other pressing social and environmental difficulties for which they bear no direct responsibility.

north, then the compass is useless." Daniel Vasella of Novartis, believes that the essential first step in this area is to "explore what your beliefs are and to act in accordance with them". Julian Garrido, CFO at GE Latin America, and Bob Langert, VP for Corporate Social Responsibility at McDonald's, also insist that everything starts with setting the right values.

These days it is hard to escape the need for companies to crystallise their thinking on values. Michael Prideaux, Director for Corporate and Regulatory Affairs at British American Tobacco (BAT), the world's second-largest tobacco company,

Case study
The Quakers, social responsibility and profit

The correct conduct of businesspeople in society, and the link between social responsibility and profit, are not new questions. The case of the Religious Society of Friends—the Quakers—provides interesting insights into modern sustainability questions.

As a group, the Quakers go back to the mid-17th century. Originally blocked from entering the professions, many went into trade and later manufacturing. Their dress, language and close links with each other certainly set them apart within business and society, but so too did a number of traits, based on their beliefs, that would hearten the modern corporate social responsibility (CSR) executive.

- They were known, even by critics, for exemplary honesty. James Walvin, a leading historian, concludes in *The Quakers: Money and Morals*, "Their produce was sound, their prices fair, their services honest, their word good and their agreements honourable." Although important today, such behaviour was even more so in previous centuries when bank regulation, for example, was poor at best, and adulterated foodstuffs all too common.
- Quakers avoided even highly profitable sectors that they deemed immoral, such as the arms industry and the slave trade—including, for a time, the closely associated sugar trade.
- They treated their employees very well by the standards of the day, both because it was the right thing to do and because they thought it likely to increase productivity. The Cadburys, at their Bournville facility, in the second half of the 19th century provided decent housing, gardens, sports facilities and Saturday half-day holidays. In the early 1900s, they and the Rowntrees were among the first to set up worker pensions. Quaker employers might in retrospect seem at times highly patronising, but, compared to the alternative, that was a small price for contemporary workers to pay.

By the standards of today, did this eccentric behaviour have any impact on the financial bottom line? As with modern sustainability, it certainly did not hurt. Although Quakers in Britain never numbered more than 60,000, Mr Walvin notes that by 1900 it would have been easy to organise much of material life "around the products and services of a number of Quaker commercial enterprises. Financial transactions could have been conducted through a number of Quaker banks (most notably Lloyds or Barclays), confectionery was to be had from a range of Quaker manufacturers (Huntley and Palmer, Carrs, Rowntree, Fry or Cadbury), and shoes could be purchased from Clarks." These were merely the most noted Quaker firms, which had an influence on British business completely out of proportion to the group's size.

As with those firms that best exemplify sustainability today, the Quakers were not ethical in order to make money, but they did what they saw as right and, either despite or because of this, grew rich. The irony is that their money made them thoroughly uncomfortable—their precepts encouraged plainness, not luxury. As a result, even more wealth made its way to helping society. For example, Quaker businessmen were among the biggest backers of the anti-slavery movement—with both time and money—and for the past century Joseph Rowntree's three independent charitable trusts have been campaigning on a series of social issues worldwide.

In the long term, honesty, integrity and loyalty to one's values are clearly no obstacles to financial success—whether you want it or not.

remembers that early on in its efforts in this area, "stakeholders were asking us what our business principles were. It hadn't occurred to us that people would want that, but ... we went out and developed them."

Morality, philosophy and values, however important, cause most businesses to tread warily. Some companies can draw on the religious precepts of founders and owners, such as Zoroastrianism at India's Tata Group, or Quakerism at C&J Clark, the British shoe company (see case study *The Quakers, social responsibility and profit*). Mr Hodges cites a study showing that the biggest driver of sustainability among Latin American small and medium-sized enterprises (SMEs) is the "values of the family member who started the business". Most modern multinationals, though, avoid a specific faith or ideology: if discussing religion is problematic for dinner guests, it can be fatal for sales or recruitment efforts.

"In considering what you should do as a company, it really comes down to your own values. If you don't know your magnetic north, then the compass is useless."

Bjorn Stigson, President, World Business Council for Sustainable Development

Trying to rely on some broad sense of popular morality that will satisfy consumers, however, is also fraught with difficulty. Popular mores can change rapidly and be inconsistent within the same country, let alone around the world. Ms Nelson notes that "even with the best intentions in the world, companies have fifty different stakeholders telling them fifty different things". Mr Vasella believes "one needs to be open, but not run after fashion". Acting sustainably, he believes, is never easy. "There are a variety of stakeholders—shareholders, NGOs, the media, politicians—they all have an agenda. These agendas are not identical, and are sometimes contradictory. You enter into conflict whatever you do. Unless you stand behind what you really believe, you will not be sustainable because you will be attacked." Similarly, Mr Langert feels that, although it is important to listen to all sides on tough issues, "it is very difficult to satisfy all the constituents. We want to feel that we are doing the right thing."

Inevitable disagreements over moral issues means that "sustainability" is becoming a term like "democracy"—everyone warmly supports the idea, but defines it differently. The contest over content is ongoing and could have profound effects. Jonathan Porritt, Chairman of the UK's Sustainable Development Commission—the government's independent watchdog in the area—wrote in a British newspaper, *The Guardian*, in November 2006 that almost by definition arms companies and cigarette-makers could not be sustainable. Mr Prideaux notes of BAT that "we're very welcome in mainstream sustainability and CSR fora", but the company is barred from anti-smoking ones. Mr Hodges thinks that ultimately "society will work through what is acceptable and isn't acceptable. This is a question of changing values." In the past, he adds as an illustration, slavery was considered acceptable.

The debate over values and what is morally acceptable may be an uncomfortable one for business. As Mr Vasella points out, "Something we have not been trained to do in business schools is how to [engage in] dialogue with peoples with other beliefs." Too much is at stake, however, not to engage. At the very least, companies need to be part of the discussion on how far, if at all, current public concerns about climate change should affect a range of social issues as well. The future of whole sectors, which could find their social and legal licences to operate fading away, may depend on it. So too may the solution of many of the world's pressing environmental and social problems. As Tony Juniper, Executive Director of the environmental NGO Friends of the Earth UK, notes: "We need business to be engaged in this in a positive way."

Chapter 2
Priorities and drivers

Companies are not philosophical academies but practical enterprises. How is the push towards sustainability changing the way they do business?

Overall, business is looking at sustainability challenges across the board, rather than focusing narrowly. Our survey asked respondents to rank the importance of a range of sustainability-related goals at their firms. Around one-half considered the following activities as very important: improving the environmental footprint of products (57%); improving energy efficiency (52%); developing new products to help reduce social or environmental problems (51%); and improving the impact of operations on surrounding local communities and environments (both 50%). At the top of the agenda, however, is communicating this performance to investors and stakeholders (61%), an issue which is discussed later in this report.

It is equally interesting to note which activities are ranked by executives as being of lower importance. Surprisingly, only around 40% of respondents see greenhouse gas reduction as an important priority. Given the interest of the public and politicians, businesses should almost certainly put more focus here. Says Roland Waardenburg, Director of Corporate Social Responsibility at Ahold, "It would be wise to work on this. In the long term you get penalties if you don't; in the short term you can reduce your costs while doing the right thing for the environment. A perfect example of how profit and planet can go together." Companies also seem to be focusing on getting their own houses in order. Supply chain issues are a less common concern, whether they relate to the environment (35%) or human rights (34%), a potential blind spot also discussed later.

The practical content of sustainability also varies by sector. Respondents from the construction and agricultural industries, for example, gave a higher priority than the average to every one of the sustainability issues listed. Respondents in the latter were particularly concerned about local affairs, whether social (68% ranked it an important priority) or environmental (67%). Beyond the general, certain individual sectors also have specific concerns. Energy industry respondents are far more likely to place importance on issues such as energy efficiency (67%), greenhouse gas emission reduction (63%), and even—given their frequent need to obtain supplies in poorer countries—helping governments to promote sustainable development in countries of operation (56% compared with an average of 39%). Similarly, retailers are much more concerned than average with environmental and human rights issues in supply chains (54% for both), which can directly affect sales, and less so with developing new products (35%), a task they usually leave to others.

Such diversity is hardly surprising. Ivo Menzinger, Group Head of Sustainability and Emerging Risk Management at Swiss Re, notes that the implications of these issues will obviously vary by industry, with an insurance company and a manufacturer of wind turbines seeing different opportunities and risks. The variations should not, however, obscure the broader message of the survey: a large number of companies across all industries attach importance to a wide-ranging list of sustainability initiatives.

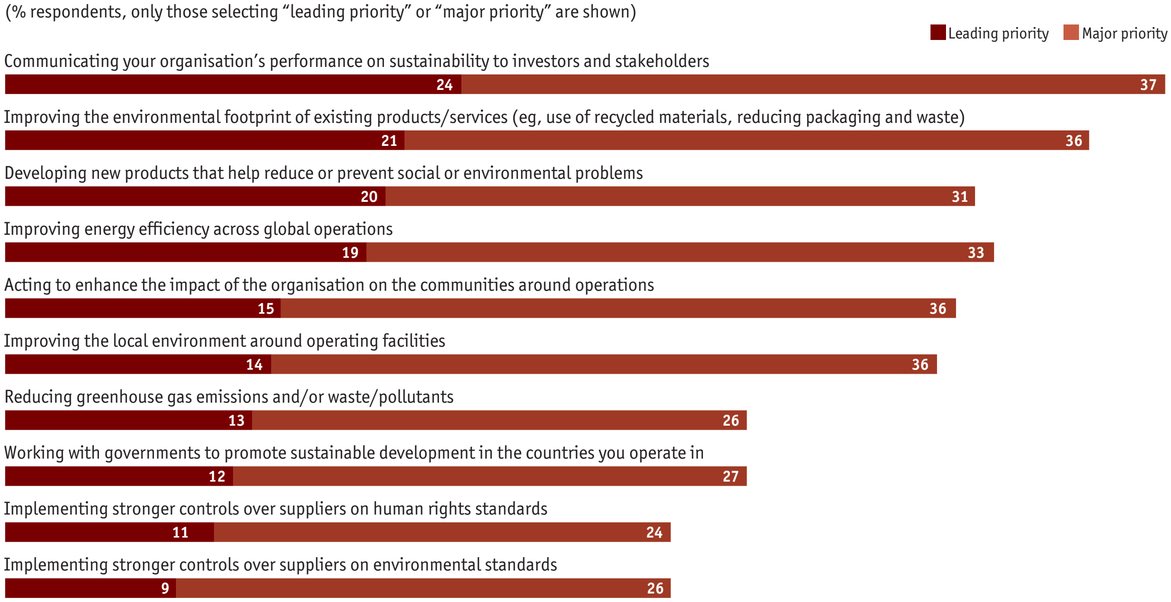
Same planet, different perspective

Different vantage points lead companies to take different approaches to sustainability. As Mr Kell of the Global Compact says, the push for corporate sustainability is "now truly a global phenomenon".

Key points

- Environmentally focused actions account for the bulk of companies' activities
- Global guidelines may be set, but how these translate into local initiatives will vary widely
- Customers and governments are two key influencers globally. Much less consideration is given to developing-world customers

How much of a priority will the following objectives be within your company over the next five years?
(% respondents, only those selecting "leading priority" or "major priority" are shown)



Source: Economist Intelligence Unit survey, October 2007.

That does not mean it is uniform. Instead, local implementation can make sustainability appear more like a mish-mash of concerns that happen to be headed in the same direction.

Values and cultural norms vary from region to region, sometimes even between or within countries. So do the drivers of sustainability. Our survey asked respondents to name the three stakeholders that would have the biggest effect on their sustainability policies. Worldwide, government policymakers, customers and competitors all featured, but with notable differences in emphasis (see chart on next page).

Competitors are a broadly shared concern, and the most pressing in North America. Mark Kramer, Founder of FSG Social Impact Advisors, a non-profit organisation working with corporations and other stakeholders in this field, explains that existing sustainability efforts have changed the playing field: "It used to be easy to say that you can't do anything because of competitive pressures. You can no longer argue that it is impossible for business to do this because many have."

Although other companies are a universal concern, thereafter the picture gets complicated. Companies in Asia-Pacific are more influenced by policymakers than any other stakeholders and also than respondents from elsewhere. Quite simply, the government is often the most active player in this region. Speaking about China, Jing Ulrich, Chairman of Chinese Equities at JP Morgan, says that "thus far the state is leading sustainability efforts". Government has intervened to close some of the worst polluters and to designate several larger firms as industry leaders. These leaders have been rewarded with access to capital and state assets, "but in return have greater responsibilities in terms of best practice," says Ms Ulrich. Dr Hameed Bhombal, CTO and President of Corporate Technology Strategy and Services at Aditya Birla, one of India's largest conglomerates, also notes that the environmental regulations he faces are tightening surprisingly quickly. As the figures show, consumers are not irrelevant in Asia either, although developing-world customers are generally given less consideration than those in the developed world. Even

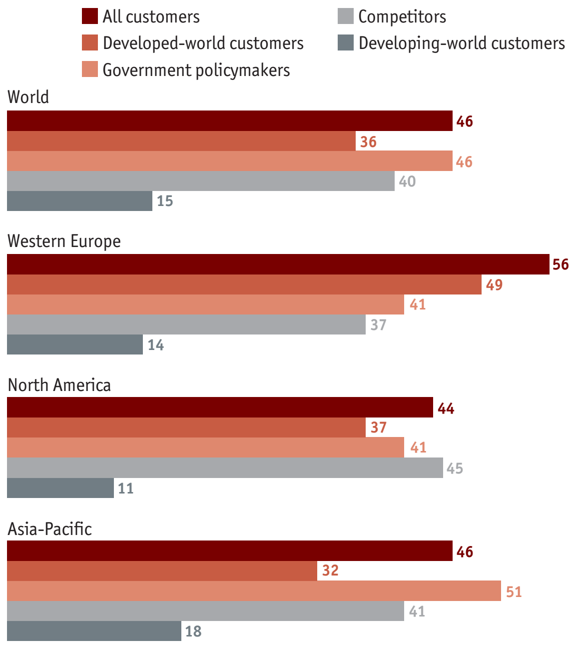
in China, Professor Pan Jiahua, an environmentalist and Executive Director of the Research Centre for Sustainable Development of the Chinese Academy of Social Sciences, notes that domestic pressure on companies is seeing "a much, much faster change than expected. The general public seem to be empowered to report to the authorities. Companies seem to care more about their social images." Nevertheless, the key concern remains the state.

In western Europe, meanwhile, consumers are seen as the most powerful stakeholders of all in driving sustainability concerns. Mr Waardenburg of Ahold, for example, reports that his company usually acts ahead of any new regulations. To help the supermarket chain set its specific sustainability priorities, it consults customer opinion broadly. Francesca DeBiase, VP for Worldwide Supply Chain Management at McDonald's, says that her company did a similar exercise in Europe, which it is now expanding to other regions. "It is fair to say that Europe leads the way in the sustainability discussion. This is simply because the European public, including NGOs, the government and the media, is more sensitive to sustainability and, in general, to a company's inter-linkage with society."

Arguably, consumer behaviour and government action usually arise, directly or indirectly, out of popular opinion, whether exercised through the marketplace or electoral choices. The relatively small direct impact attributed to the media and NGOs on companies (cited by 20% and 13% respectively overall) is on the surface a surprise. Their undoubted influence comes through their effect on consumers, voters and regulators (see case study *Business and NGOs: A changing relationship*).

There is one caveat to the importance of popular views worldwide—some people are more equal than others. Location may explain why customers in the developing world—where two-thirds of the world lives—are a leading factor for so few North American (11%) or west European companies (14%). Even for Asia-Pacific businesses, however, only 18% place

Which of the following will have the greatest influence over your sustainability strategy over the next five years?
(% respondents)



Source: Economist Intelligence Unit survey, October 2007.

developing-world consumers among their top three influences.

If companies worldwide were facing varying degrees of pressure from governments, consumers and competitors, the results might not be that different. Complicating matters is that popular opinion varies by region. Even on an issue where agreement is growing, such as climate change, Mr Stigson of WBCSD notes that, in very broad brush strokes, Americans are more amenable to technological fixes, Europeans to tougher regulations that might hurt the economy, Japanese to voluntary agreements, and Chinese and Indians to solutions that recognise their needs to alleviate poverty. "It is a very broad range of

"It used to be easy to say that you can't do anything because of competitive pressures. You can no longer argue that it is impossible for business to do this because many have."
Mark Kramer, Founder of FSG Social Impact Advisors

mindsets out there."

Going beyond climate change, the variety of views is even greater, often arising out of different levels of development and state ability. Mr Garrido of GE notes that in Latin America the growth of the middle class is changing expectations about areas ranging from healthcare to water use. Dr James Suzman of De Beers believes that "it is fairly widely accepted, when operating in Sub-Saharan Africa, that [Adam Smith's] invisible hand may be invisible because it isn't there. It is hard to avoid the need to engage with societal issues in a progressive way." Gail Kendall, Director for Group Environmental Affairs at CLP Group, the Hong Kong-based power company, says the group's fundamental dilemma is "how to provide energy that is legitimately needed, and at the same time be good on climate change. Even our mainstream environmental stakeholders agree that there has to be a role for a fuel like coal, and that people in countries like India are entitled to development." She adds that local Chinese stakeholders are looking less at emissions and more on education and an improvement in living standards. In India, Aditya Birla's social activities in 3,700 rural communities accordingly focus on development, with programmes addressing issues including education, health and women's rights.

As Mr Bickham of Anglo American noted of Britain, in developed countries environmental stewardship, behaving decently to stakeholders and obeying the law is sufficient to address most concerns on sustainability. However, even developed countries have their differences. As Mr Menzinger of Swiss Re says, "It shouldn't matter in theory what your setting looks like, but it still does." He remembers a former Swiss Re CEO saying that "being Swiss, with Swiss characteristics, and having the glaciers retreating, could have been one of the factors why we became alert to climate change so early". Bart Alexander, Global VP for Alcohol Policy and Corporate Responsibility at MolsonCoors, believes that although US companies and regulators have generally been less active on climate change, they have probably been doing more in the area of financial compliance post-Enron. The general reputation of the country's business sector as a "laggard" on Triple Bottom Line accounting is, in his words, both true and not true. "It is certainly true at the rhetorical level, but if you look at the functioning of North American companies, there is quite a lot of history of community outreach and concern about how people are treated." When he started at MolsonCoors, Mr Alexander found that a lot of sustainable behaviour had already been internalised. Many sustainability-related activities have "been done by a lot of companies, but just not pulled together and labelled as CSR".

Even in terms of broader benefits that companies see from the sustainability agenda, the story can be quite different in regional or country-specific contexts, according to Mr Kell. For some Chinese firms, it is assumed to be a necessary part of wanting to operate on a world stage; in Egypt, "businesses see it as a platform of modernisation, a counterweight" to those wanting to return society to an earlier time; and in more developed economies it is often adopted by companies that want to maintain leadership.

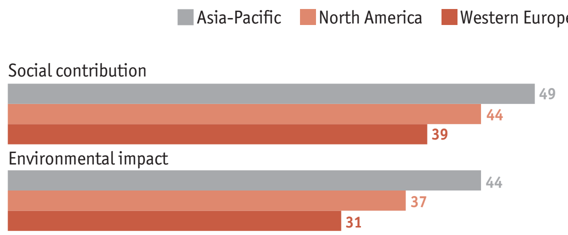
Regional priorities

How are these differences playing out in corporate behaviour? Perhaps because of climate change, Europe has a reputation of being much more advanced on these issues. Our survey suggests a more complex picture, with Asia-Pacific companies rating themselves highly. There is an impression that foreign companies are leading sustainability efforts in the region—most members of the China Business Council on Sustainable Development, for example, are multinationals based in Western countries. Our survey figures indicate, however, that even domestic companies in this region claim to be as active in environmental and social areas as those elsewhere. As Ms Ulrich says of China, "Sustainability is a major concern here. It is certainly not considered just a Western issue."

- In looking at priorities, far more Asia-Pacific companies consider working with governments to promote sustainable development (46%) than those based in North America (33%) or western Europe (31%). Perhaps surprisingly, for most sustainability priorities mentioned in our survey, a higher proportion of Asia-Pacific firms considered them important. Europeans were usually slightly ahead of North Americans, except in fields involving local communities, where the latter placed more emphasis.
- When asked about specific, sustainability-related policies and activities, Asia-Pacific firms on average had adopted more (five) than those in the other two regions (four in each).
- They were also less likely not to have anyone in charge of sustainability within the company—just 7% had no one, compared with 10% in Europe and 17% in North America.
- For companies that considered it relevant, the percentage of executives that thought a significant minority would pay extra for some element of sustainability—such as greener goods, carbon offset, ethical sourcing, socially responsible investment practices or brands associated with sustainability—was between 5% and 15% higher for Asia-Pacific companies than for their peers in Europe or North America.
- Asia-Pacific companies are more likely to think they are performing better than their peers when it comes to social (49%) and environmental (44%) issues. The North Americans are not far behind (44% and 37%), with the Europeans the most pessimistic (39% and 31%).

Although greenhouse gas emission in Asia, and especially China, is a real and pressing problem, it should not obscure the fact that sustainability is about more than one single issue, however important. Our survey and interviews instead paint a picture of companies facing a wide variety of challenges worldwide, with poor performance in one area not necessarily precluding positive performance elsewhere.

How do you believe your company's performance in the following areas rates against that of your main competitors?
(% respondents that selected "much better" or "better")



Source: Economist Intelligence Unit survey, October 2007.

Such regional variety raises two questions. First, how should multinationals operating in many areas address issues with different salience worldwide? Sometimes the solution is to try to satisfy everyone. Tod Arbogast, Director of Sustainable Business at Dell, explains that "fortunately, within our industry, once we implement a sustainable change in a given region, it is beneficial for us to translate it across the globe". Mr Waardenburg, speaking of Europe and America, says in practice the differences are "not too big" and that Ahold's policies are able to satisfy all operating companies within the group. Even potentially more divisive issues do not necessarily cause difficulties. Mr Potter of Coca-Cola notes, for example, that his firm has a single worldwide policy on gender discrimination. "So far it seems to be working without any local hiccups."

Universality, however, is not always easy. On the other hand, policies based on values cannot be completely elastic. Mr Vasella notes that Novartis is "not very flexible" on its rules. "We apply the same kind of standards across the world. That puts us at a disadvantage to some companies locally, but so be it." Our survey shows that this attitude is not shared by all, even on questions where values are central. Just under one-quarter of companies have different standards on business ethics, corruption and bribery,

Case study Business and NGOs: A changing relationship

In popular imagination, relations between non-governmental organisations (NGOs) and companies usually involve angry confrontation—introducing the notion that the business community has been forced to address sustainability issues largely owing to the work of frequently hostile civil society groups.

The image may have historical justification, but the relationship has moved on. The main driver of corporate change is no longer activists with great media acumen chained to corporate property. Survey respondents put NGOs last in a long list of influences over their sustainability policies (only 13% placed them in the top three). Of course, civil society actors certainly affect more highly ranked groups, such as governments or customers, and a well-targeted NGO campaign can cause deep reputational damage. Instead, the apparent decline of NGO influence may be relative rather than absolute. According to Mr Kramer of FSG Social Impact Advisors, because of their success in winning over the public, "pressure from activists [now] falls on more fertile ground. Activist groups certainly continue to put on pressure, have gotten more sophisticated, and have moved from a radical fringe to an accepted part of the culture."

More interesting than conflict is the increasing level of partnership between NGOs and companies. As Georg Kell, Executive Director of the United Nations Global Compact, notes, dialogue required change on both sides, with the former becoming less confrontational and the latter less defensive. Co-operation between individual firms and activist groups, which a few years ago might have been problematic, is now unremarkably commonplace. Ed Potter, Director of Global Workplace Rights at Coca-Cola, says that NGO input to policies at his firm is "quite important". Coca-Cola's recently released workplace rights policy saw "more external engagement with human rights NGOs than we probably did internally". Bob Langert, VP for Corporate Social Responsibility at McDonald's, comments: "We need them and their expertise. We don't know enough about all of these technical issues. Even the campaign NGOs play an important role. These issues need more attention. I like the fact that there are these groups out there rattling the cages. They care, we care." As with its suppliers, McDonald's appreciates long-term relationships with partner NGOs, having co-operated with Conservation International for two decades. Dell too works with NGOs, using the same logic it has for business partners: they bring expertise that the company simply does not have in-house.

Across the fence, Tony Juniper, Executive Director of Friends of the Earth UK, says that after "a lot of greenwash over the last 20 years", his organisation was seeing in some cases "a genuine engagement we haven't seen before". It is now working with Eurostar and the Co-operative Bank, whereas "a few years ago we didn't find partners out there that we trusted sufficiently".

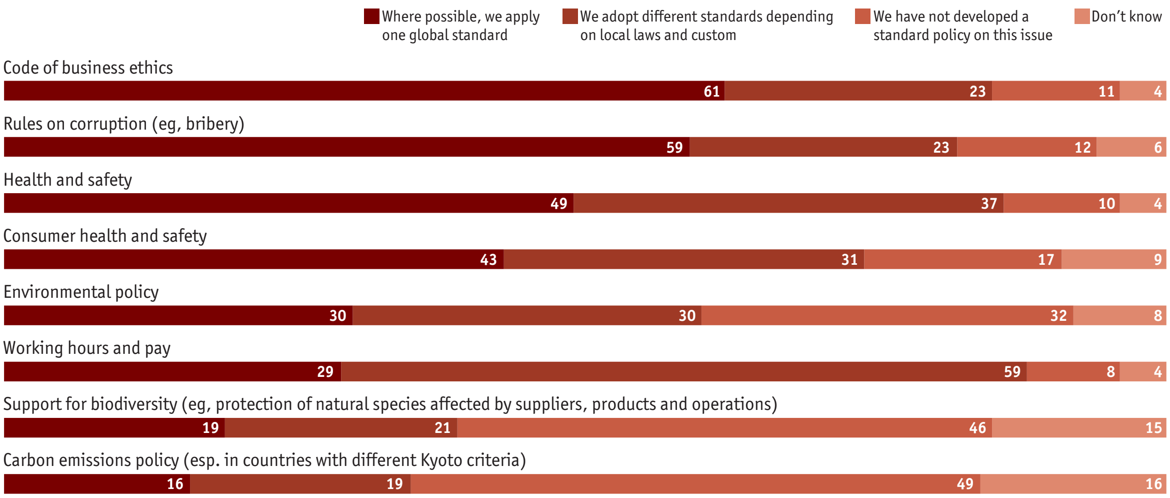
But despite numerous examples of co-operation, mistrust remains between the sectors. Mr Juniper sees "a very mixed level of engagement and performance on sustainability across the corporate world and within sectors". Companies are doing "a lot of engaging in the communications sphere", but only some who make claims are seriously addressing the issues. Daniel Vasella at Novartis points out that, like companies, NGOs are not all the same: "They range from 180 degrees collaborative to 180 degree oppositional." He argues that companies "need to keep open a dialogue with the ones we can, but so do they". Many executives see a simple market logic at work: in Mr Kramer's words, there is "a separate industry of NGOs that needs to find wrongdoing on the part of corporations to sustain themselves. There are those who think business is fundamentally a bad thing. They are not going to change their views."

> "We need [NGOs] and their expertise. We don't know enough about all of these technical issues. Even the campaign NGOs play an important role. These issues need more attention."
>
> Bob Langert, VP for Corporate Social Responsibility at McDonald's

This continuing tension is causing less friction than it might because actors in both sectors have realised that the other is not the key to these issues. At the Global Compact, Mr Kell was "never of the view that the business-NGO partnership dimension is so important. In the broader constellation of business, government remains in the driver's seat." Similarly, NGOs see attacks on companies as sometimes necessary but generally inefficient. Even the largest ones rarely have the resources to co-ordinate more than a few large campaigns at a time. Mr Juniper notes that at Friends of the Earth "our analysis has broadened into a different place, looking less at the performance of individual companies and more at the private sector as a whole and the role of regulation. That has led us to engage less with individual firms, and more with governments." Even the International Business Leaders Forum, whose mission is to put "business at the heart of sustainable development", according to Adrian Hodges, the Managing Director, "spends as much time working with NGO and government leaders as business, because the ability of business to be sustainable is as much a result of the attitudes and actions of these actors as of business itself".

Overall, our survey result does not reflect business being able to ignore activist pressure, but rather a maturing relationship between the sectors and a realisation by both that limited resources are better focused elsewhere.

How do you apply standards in the following areas across your global operations?
(% respondents)



Source: Economist Intelligence Unit survey, October 2007.

depending on local laws and customs. Over one-third treat health and safety issues differently. Some flexibility may be necessary. Ms DeBiase agrees that there have to be global standards, but within such a framework certain issues depend on local needs: water use reduction, for example, might get a higher priority in dry areas. The kind of variation suggested in our survey, however, means that a significant minority of companies risk scandals that sustainability was supposed to help address: after all, developed-world consumers do not differentiate between bribes or sweatshops at home and those abroad. More important, these businesses risk missing the broader changes afoot worldwide.

The second question is: "Where does it end?" Critics of sustainability point out that companies are being asked to do things they are not necessarily very good at, to the detriment of what they do well, thereby ultimately hurting society. As everything above shows, no simple answer exists and context is essential. Alan Rosling, Executive Director at Tata Group, says that his company considers these matters "case by case. There is a limit to what we can do with the resources we have, and we are restricted by what is legal and ethical. Beyond that we don't have any restrictions." Mr Vasella agrees that it is "not a question you can answer in general. You have to explore each and every time. You have to ask what do we really believe is needed and useful." Ultimately, leading companies limit these activities in the same way they do commercial ones, by asking where they can bring added value or make a unique contribution—and, more recently, by asking what aspects of sustainability will bring them competitive advantage as well.

Chapter 3
How is business doing?

Key points

- Few companies rate their efforts on environmental and social issues highly
- Key barriers include a lack of definition about what level of action is sufficient, and the need for deep cultural change within business
- Specific issues centre on leadership, firms' supply chains, reporting and metrics, and the challenge of turning values into processes

Despite numerous examples of companies with laudable sustainability efforts, business as a whole is at a relatively early stage of learning and adoption. Just 53% of surveyed firms worldwide have a coherent sustainability policy. About one-half of these address only company operations, not supply chains. Another 23% of respondents are currently trying to develop policies.

Execution is similarly problematic. Asked about performance on a range of environmental and social outcomes, less than 10% of respondents rated their efforts as outstanding on each, barring public relations (PR). Large majorities described themselves as average or worse.

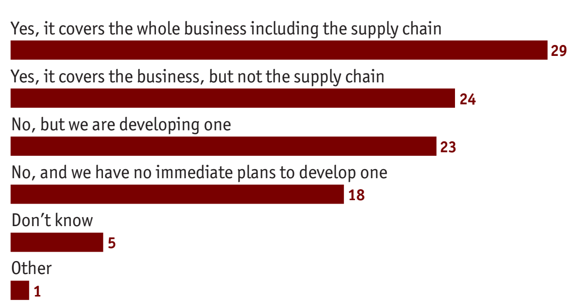
The specific content of sustainability programmes also frequently leaves much to be desired. As noted above, just 55% of companies are reducing energy usage—and those doing so are not having much impact on their carbon emissions. The only other strategy adopted by over one-half of companies (51%) was to change governance structures relative to social and environmental activity. Basic steps, such as upgrading information technology (IT) to monitor performance or integrating sustainability into employee training, were minority tastes (27% and 31% of companies, respectively).

A large part of the problem is simply how new all this is to many, especially when, as Mr Stigson at WBCSD explains, the challenges are very substantial. "There is some humility in looking at these issues," he says. "Most corporations have not been doing so very long. At the same time the agenda is exploding." Similarly, Mr Kell of the Global Compact sees a lot of insecurity as to how to master these issues. "Business people recognise their importance, but when it comes to the practical question of what they mean to the organisation, there is a lot of confusion," he says. "Business has never explicitly embraced these issues. There is no ready recipe or toolbox." Mr Potter of Coca-Cola thinks only a small part of the corporate world has achieved momentum in this area. Overall, business is "at the baby steps stage. This whole thing is a huge endeavour."

The main impediments to progress confirm that companies are at an early stage in the learning process. After fear of costs (40% of companies), the second and third most frequently cited barriers are: difficulty devising useful targets, measures and controls to entrench sustainability (36%); and problems aligning these efforts with financial ones (31%). One-quarter even blame a broad lack of management understanding of what sustainable development means for the organisation.

These difficulties point to two wider issues. First, the lack of definition hinders excellence. Ms Nelson of Harvard explains: "Most companies are not sure what is enough. On climate change, what is enough? That you have a policy? That your emissions meet or

Does your company have a coherent strategy for corporate sustainability that covers the whole business and its supply chain? Please select one answer only.
(% respondents)



Source: Economist Intelligence Unit survey, October 2007.

exceed some publicly agreed level? And if so, who sets the level? There is even more fuzziness on spheres of social responsibility." Jill Brady, General Counsel and in charge of sustainability at the airline Virgin Atlantic, agrees: "The issue is so big and people never know if they're doing enough. I try and get my team to write down little successes along the way—because it's easy to lose sight of what has been achieved."

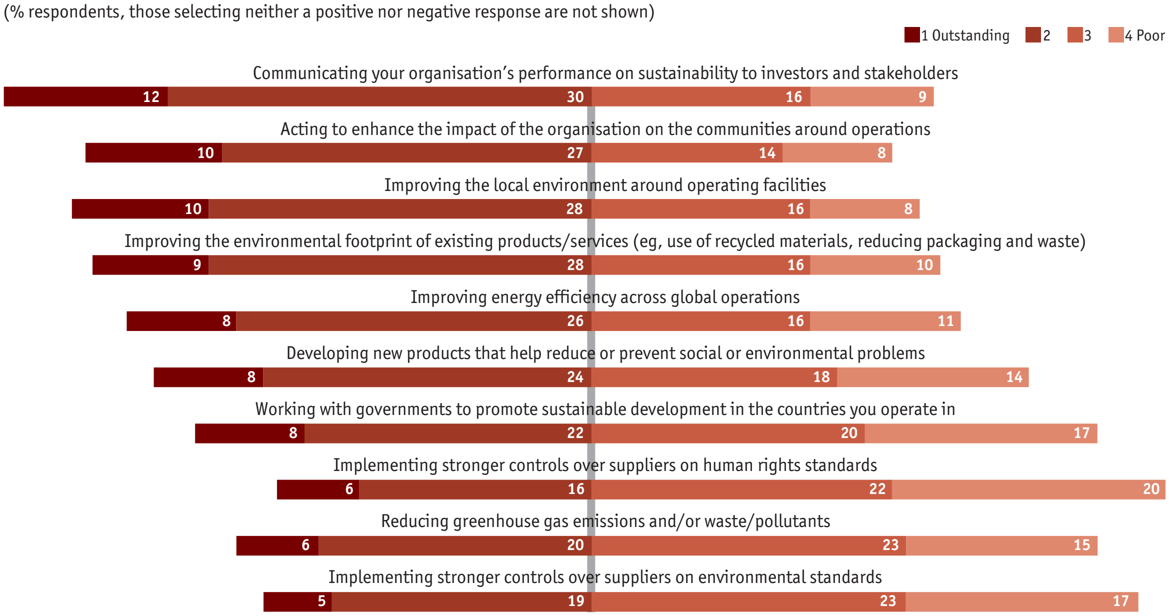
Second, progress requires not only new techniques and tools but, potentially, deep cultural change too. "Sustainability's history of being imposed on companies has made it very hard to see it as a positive thing," argues Mr Kramer at FSG. "It has been deeply ingrained for a couple of decades that it is really an attack on business, something to be avoided and handled through PR." Thus, the starting point is simply taking the challenges seriously, thinking through one's values and long-term business interests, and then acting accordingly. Mr Juniper of Friends of the Earth sees the key for businesses as aligning environmental, social and financial goals. They fail if "they see this as a process of balancing challenges", in which case "they finish up always trading off, and choosing the financial". Creating such an alignment will often, according to Mr Elkington of SustainAbility, require "a fundamental rethink of the business model, which is really, really tough to do".

Looking in detail, several issues stand out as needing attention by many companies.

A. Leadership

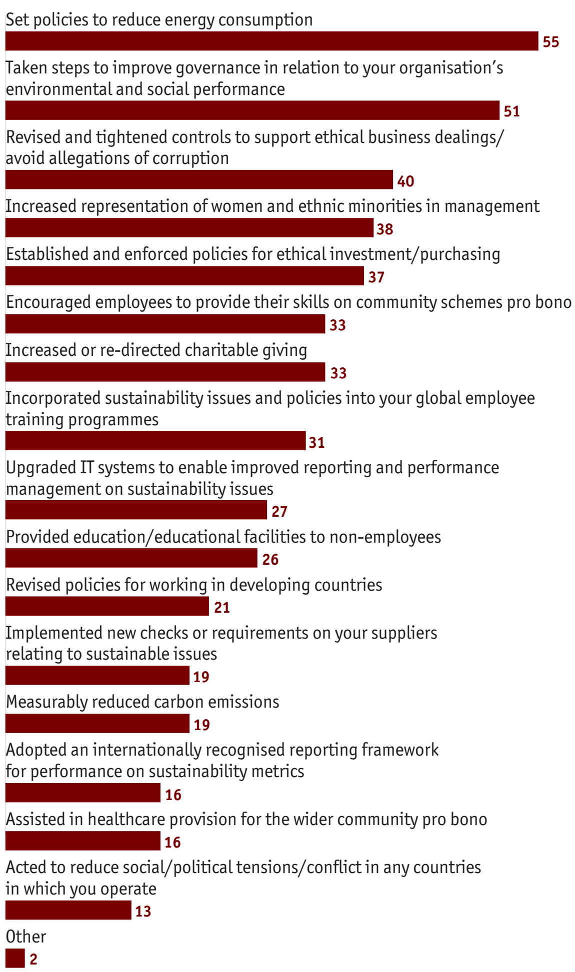
As elsewhere in business, leadership is essential in reaching sustainability goals, but our survey indicates several problems. A handful of companies (4% of respondents) make no bones about the link between sustainability and PR, giving oversight of sustainability issues to their PR departments. More seriously, at more than one in ten firms, nobody has specific responsibility for sustainability. Overall, more than one in four businesses report that a lack of clear responsibility for sustainability at the board level is a major impediment to progress.

In which of the following areas did your organisation perform best over the past five years?
(% respondents, those selecting neither a positive nor negative response are not shown)



Source: Economist Intelligence Unit survey, October 2007.

Which of the following has your company done over the past five years? Please check as many as apply.
(% respondents)



Source: Economist Intelligence Unit survey, October 2007.

Rather encouragingly, however, most firms (59%) give oversight of sustainability to the CEO or the board. Respondents' boards spend an average of 20% of their time discussing such issues, a figure they foresee rising to 29% in five years, indicating a general intent to spend more time on sustainability issues in the future. Perhaps unsurprisingly, the boards of the worst social and environmental performers spend less time (an average of 14%) on these concerns. Of course, CEO and board time is of little value if those involved do not know the topic well—as noted above, a lack of management understanding bedevils 25% of companies.

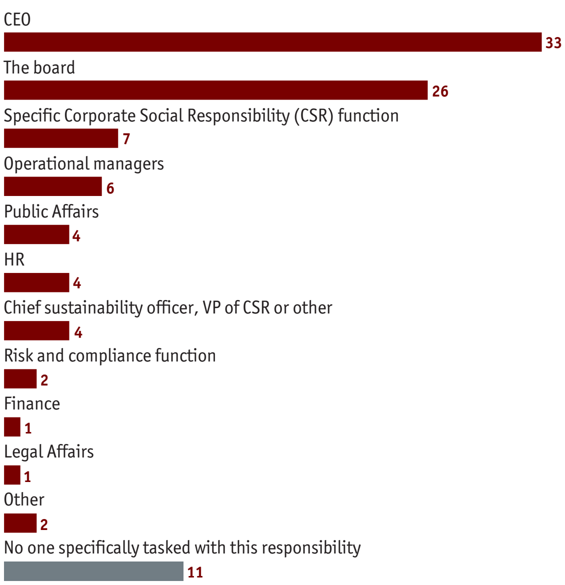
Without proper leadership, sustainability policies will fail. In Mr Juniper's experience, for real change to occur, "senior management or chief executive buy-in to the agenda is absolutely crucial". Mr Vasella of Novartis similarly believes that, after thinking through one's values, the next key to success for CEOs is: "Do you have your board and management team with you?" If things go wrong, the buck stops at the top: if leaders are not acting in accordance with their values, "you should ask yourself 'why am I not doing what I should?'"

This tone from the top is all-important. Mr Garrido of GE believes that "90% of people want to do the right stuff". Good leaders allow this to happen, in part by "walking the talk". Sustainability has "got to be a value the leader believes in or people think the leader is a politician, not a manager", he argues. Mr Waardenburg of Ahold considers his CEO's insistence on integrating social and environmental performance into the company's business as crucial to success. "If that weren't the case, I wouldn't do my job, because it wouldn't make sense any more." Mr Arbogast of Dell agrees: "It makes my role much easier to have a CEO whose leadership is significant and active. Frankly, I feel for those who don't have the support of their chairman: they would have a fairly large challenge to overcome."

B. Global supply chains

Companies are paying surprisingly little attention to sustainability issues among suppliers. Respondents rate their performance in controlling environmental and human rights standards here as worse than any other area: over 40% describe themselves as below par. They are also less likely to report on supply chain human rights standards than on any other of 12 representative areas asked about. And change is unlikely anytime soon: only 35% consider action here

Where does primary responsibility for sustainability performance currently sit within your organisation? Select one.
(% respondents)



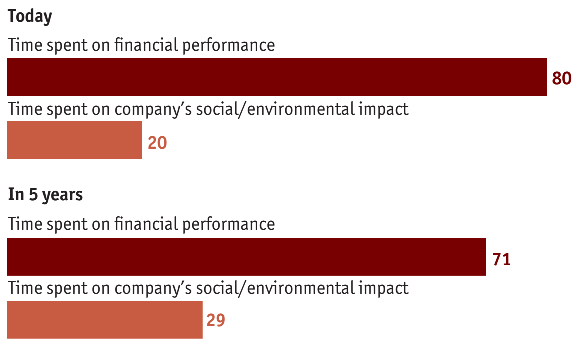
Source: Economist Intelligence Unit survey, October 2007.

an important priority.

Inattention to supply chains shows a failure to understand how societal expectations are changing. Labour conditions within developing-world suppliers, for example, have occasioned embarrassing controversies for their developed-world customers for years. Social auditing arose largely to provide independent confirmation of conditions in these establishments. Doug Cahn, Chairman of the Fair Factories Clearinghouse—recently founded to help share social audit information on clothing and shoe industry supplier factories in the developing world—says: "Every CEO should be asking, after a decade of work in implementing codes of conduct, 'Why haven't we fixed the problem?'" As supply chains become more global, Ms Nelson sees their management as a growing sustainability concern.

Worse still, such inattention shows a misunderstanding of one's own company. Ms DeBiase remembers that at McDonald's, which actively works

Within board-level meetings, how much time is spent discussing the following areas of corporate performance today, versus approximately how much time might be spent in 5 years' time?
(% respondents)



Source: Economist Intelligence Unit survey, October 2007.

on these issues with suppliers, "when we took a look at sustainability across the company we saw that the supply chain is such a big part of taking this seriously that we felt it was necessary to do". But too few businesses share this view.

One reason is this area's inherent difficulty. "Supply chains are very complex," says Mr Cahn. "Relationships aren't always transparent. There is a great deal of subcontracting. Even with robust licensing programmes, the chains are very hard to police." He also points to the challenge of creating sustainable supply chains when operating in competitive markets with poor or virtually non-existent regulatory environments. "Some developing-country governments haven't got sufficient enforcement," he says. Add to this the thorny issue of company integration, tensions between those seeking compliance and those seeking to drive down prices, and crash orders placing hardships on factories to meet standards that companies are trying to impose, and it is clear that applying standards for sustainability can be a major challenge.

Sheer numbers increase the complexity. Mr Bickham at Anglo American explains that extractives as an industry use a lot of contractors. While his firm

Big is beautiful?

Size matters a lot to sustainability performance. Three-quarters of large companies—those with annual revenue over US$10bn—already have sustainability policies, most of which address supply chains. Only 5% have no plans to create one. Meanwhile, of smaller firms—those with revenue under US$500m—just 48% have policies in place, and one in four have no plans to create one. Similarly, four times more large companies engage in Triple Bottom Line reporting, compared with small firms—and this ratio is set to increase over the next five years.

These differences may not reflect dramatic differences in the sustainability outlook. Adrian Hodges, Managing Director of the International Business Leaders Forum, points out that surveys on other policy fields would get the same answer. "Smaller companies tend to have fewer policies about things," he notes. Georg Kell, Executive Director at the United Nations Global Compact, agrees, noting that small and medium-sized enterprises (SMEs) represent 40% of his organisation's membership. They can do management overview without explicit policies, he says. Both he and Mr Hodges also believe that as larger firms focus on supply chains, smaller ones that are part of those chains will increasingly need to address sustainability issues.

Even so, the lack of coherent sustainability strategies does matter. On specific environmental and social outcomes, larger firms rated their efforts much higher than smaller ones, sometimes dramatically so: 38% of the former thought their efforts on greenhouse gas and waste reduction very good, compared with 19% of the latter. Even more striking, more than twice as many small firms ranked themselves as poor performers for every listed sustainability action. Larger companies were also more active, typically being involved in more than one and a half times as many sustainability activities as their smaller counterparts.

Why is this? Cost can be an issue for smaller companies, but is usually not a pressing one. Just 17% noted funding as a major barrier. Although this was much higher than the figure for large firms (7%), it was well down the list of issues.

Instead, small businesses are under less pressure to deliver. In China, for example, Professor Pan Jiahua, an Executive Director at the Chinese Academy of Social Sciences, notes that whereas bigger companies see sustainability as part of what is expected of a business with global aspirations, the smaller businesses are "not ready yet". Mark Kramer, the Founder of FSG Social Impact Advisors, notes that whereas global players need to have a strong corporate social responsibility (CSR) dimension, "SMEs are generally not the targets of activists, so they don't have the defences". The reason is simple and unlikely to change. As Jane Nelson, Director of the CSR Initiative at Harvard's Kennedy School of Government, points out, campaigners "can't go to 100,000 little companies".

Another factor is that small companies tend to be more local. Mr Kell says that the Global Compact has found that success in social and environmental areas correlates positively to the degree of integration into global rather than local economies. For businesses operating in diverse geographies, it is "absolutely necessary to come to terms with environmental, social and government issues," he says. Our survey did not contradict this: the differences between the most and least globalised businesses—as measured by percentage of total sales occurring outside the country of the firm's headquarters—broadly reflected those between big and small companies.

Whatever the reason for their poorer performance, small businesses need to raise their game. They face the same opportunities and challenges as everyone else. Mr Kramer says sustainability is just as important to their strategy as it is to a large company. In fact, he argues, "in many ways, there are niche opportunities that small companies can fill that are too small for large corporations". John Elkington, Founder and Chief Entrepreneur of SustainAbility, agrees: "Big changes in economies tend to come from a very limited set of actors. We will see unsuspected, unknown actors putting profound strategic and competitive pressure on mainstream companies."

The performance of small firms has great implications for the success of sustainability. Some 80% of companies worldwide are small, notes Ms Nelson. Their individual activity, even if problematic, has little effect, but in aggregate it can be huge. On top of this, "some of the greatest innovation in terms of meeting social need comes from small companies," she adds.

tries to address supply chain issues, he comments: "Does that mean we have a complete handle on all 40,000 suppliers? No, but it is a work in progress." Coca-Cola, notes Mr Potter, has over 100,000 suppliers, making management of its supply chain "an immense activity".

Supplier attitudes are also not straightforward. "We get a lot of reactions," says Mr Arbogast, including positive ones. As Mr Potter notes, it is "a very resource-intensive activity to seek to influence businesses that you don't own. Your sole leverage point is whether they continue to be your supplier. It is one thing to take an approach that you throw the rascals out, but that leads to a relatively unpredictable supply chain. You do throw out some rascals, and others leave," but usually you need to work with what is there.

A hard line is also problematic, as its impact can be limited. Ms DeBiase explains that, although McDonald's is clearly an influential buyer, "people tend to think we have more impact than we do. We can make changes but it doesn't change the industry." Mr Arbogast adds that not every company follows leadership in these fields. Indeed, faced with the reality that single-handed acts of responsibility often amount to little but quixotic failures to achieve anything of substance, some businesses form industry or broader stakeholder coalitions. According to Mr Arbogast, although Dell can do much on environmental issues, the complexity of IT's supply chain makes social improvement easier to secure through the broadly supported Electronic Industry Code of Conduct. Similarly, although McDonald's has sometimes created change on its own, such as on animal welfare, it needs help on other occasions, such as the recent controversy over soya from deforested Amazonian land. In this case, it helped to create the Soya Working Group, which included suppliers, producers and NGOs.

The novelty of co-operative solutions can also present legal challenges. The Fair Factories Clearinghouse is unique in how it shares social audit information. Before it could start, however, the organisation thought it wise to get a business review letter from the US Department of Justice to ensure that the latter would not prosecute those involved for uncompetitive behaviour.

Despite all these complications, paying attention to supply chains is not only essential, it can also be highly beneficial. Leading companies, rather than dictating standards to suppliers, work with them to improve their performance—and thereby their products.

The benefits of such engagement can be substantial. BAT recently won a UK Business in the Community award for supply chain sustainability. Mr Prideaux says that it has long been helping farmers to improve crop yields: "We work with them looking for continuous improvement." Sustainability issues add one more part to the mix, but also provide new opportunities. Coca-Cola, says Mr Potter, usually sees problems here as "an opportunity to educate, to ramp suppliers up". Mr Waardenburg points to one of Ahold's subsidiaries' programmes, Albert Hein in Africa. Popular with suppliers, it insists that all of them, large or small, operate at an acceptable social standard. "This is not charity: it is pure business. We create a better long-term relationship with suppliers, have better products, and better control over volume and price," he says. It is also a skills creation opportunity. "Every year, for Albert Hein, the market share and sales of these products is increasing." Mr Alexander at MolsonCoors says that, even in the developed world, where the brewer's suppliers are based, sustainability programmes allow it to raise performance.

"Supply chains are very complex. Relationships aren't always transparent. There is a great deal of subcontracting. Even with robust licensing programmes, the chains are very hard to police."
Doug Cahn, Chairman, Fair Factories Clearinghouse

The benefits from such efforts flow both ways. "If you work in a spirit of collaboration, it is amazing how you can get things done that are practical for

the business and cost effective," says Mr Langert of McDonald's. A recent example is the company's sustainable fish programme. Some 18,000 tonnes of fish sourcing has gone to more sustainable sources, based on a scorecard "developed with suppliers at the table all working in a collaborative way".

The results can be even more powerful when, rather than simply obeying a purchaser's strictures, supply chain members share its values. Mr Garrido at GE says his firm insists on this. "As we develop new products, we need to have people who have the same thing in mind, who understand where we are going." In seeking solutions for its Ecomagination range, for example, "we need people with the same mindset or we wouldn't be able to cope".

C. Reporting and metrics

Reporting is integral to modern business. As sustainability has risen up the agenda, corporate reports dealing with some or all of the issues involved

Case study Learning to share: The Fair Factories Clearinghouse

Social audits are relatively new devices, designed to verify compliance of (usually, developing-world) supplier factories with the employment codes of the (usually, developed-world) companies that are outsourcing their manufacturing to them.

The apparel industry was an early adopter, but its firms soon found themselves frustrated by their limitations. Conceptually based on financial audits, the first reports were not designed for easy sharing, even within companies, let alone with interested stakeholders, such as activists. Progress was hard to monitor, and patterns in data that could act as red flags were hard to spot. Most important, it became clear that social and environmental discussions with supplier factories had a fundamental difference from negotiations over price: for the latter collaboration with other purchasers was anti-competitive, in the former it was essential. Only collective leverage could change the sustainability practices of some of these factories, which in turn required shared information.

"Companies with supply chains and programmes to monitor factories were looking for better tools," recalls Doug Cahn, Chairman of Fair Factories Clearinghouse (FFC), a non-profit organisation. "Some companies needed a data management tool that would help them to meet their commitments to transparency and public reporting."

That tool began as software originally developed at Reebok, which then decided to share its work. Along with a number of other apparel and retail firms and trade bodies, it thus formed the FFC. Members can now use the database, which contains some 15,000 records, to more easily organise and access social audit information, including compliance records and history, for making purchasing decisions—something that major firms like LL Bean, Adidas and VF Corporation do every day.

This, however, is only the first step. "Being able to manage information is one thing, but the ability to share non-competitive information is what companies really want," says Mr Cahn. "When you have multiple buyers from a single factory, it allows for efficiency. More important, it allows for more effective communication about needed corrective action steps when compliance levels fall short of standards." FFC has found that even companies satisfied with their own internal social audit databases are extremely interested in this aspect of its work. The benefits are not all one-way. If purchasers can share information, then factories with good records will not need to undergo so many time-consuming audits.

One advantage of the technology is that it helps overcome a problem that has plagued social auditing from the beginning—a multiplicity of codes. Mr Cahn notes that there was no common ground with early efforts by individual companies in this field. "Now you have hundreds, if not thousands, of codes of conduct, all of which are implemented in slightly different ways," he says. "It has created a real mess and is terribly inefficient from a factory perspective and buyer perspective." The database does not try to harmonise the codes—the FFC is neutral between them—but by including reports that use a range of them, Mr Cahn hopes that companies will understand the advantages and drawbacks of each, which in turn may spark efforts to greater harmonisation between them. "The FFC can be a forum in which the conversation about which standards may make more sense can take place."

The FFC's collaborative approach is now attracting interest from smaller firms. "These companies are not going to have the resources to build out a million-dollar database system," says Mr Cahn. "For them, for a subscription fee, they can have access to the tool, to the information, and to hundreds if not thousands of other audits. Sharing is a huge opportunity for smaller and medium-sized companies."

have appeared worldwide. Despite real progress, too many companies do not report on their efforts, and those that do still frequently grapple with central questions of what to report, how to do so, and what the results even mean.

Just 22% of survey respondents issue formal reports on their environmental and social impact and performance, along with their financial performance (the so-called Triple Bottom Line). Others are preparing to do so: 40% expect to publish such documents in the next five years. The other 38% have no plans to, although this does not mean that they are not monitoring these issues. Many report on specific items, including: programmes managing the impact of operations on communities (25%); energy use reduction (26%); jobs created by gender or minority group (40%); and donations to community and civil society groups (55%). Only 42% of respondents report nothing at all on environmental impact, and just 34% fail to report on employment conditions and social impact. These figures recall a point made by several interviewees, that companies have been doing a lot of this activity, but have just not called it sustainability.

Nevertheless, even the higher figures indicate, as Mr Juniper says, "a huge level of disengagement". More striking, of those who did report any environmental or social data, a minority of respondents (41% and 31%, respectively) had it audited.

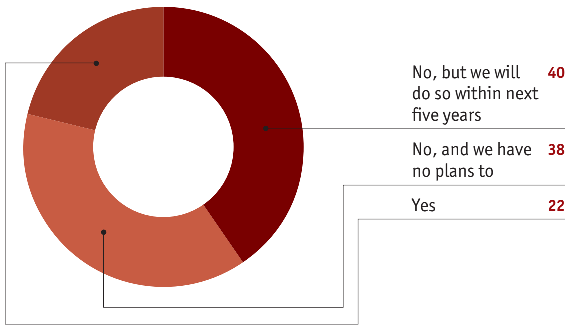
The value of reporting is straightforward and centres on measurement. Mr Vasella believes that "when you say you will do something and you communicate it, you ought to measure it". If not, "you don't know if it is being done". Companies need the "courage to be accountable", which spurs them to find innovative ways to keep commitments. Reporting "has a lot of effects on the organisation and credibility," notes Mr Vasella. Mr Langert adds that one important outcome of McDonald's CSR report has been enhanced transparency within the company. Indeed, employees will be one of the many stakeholders interested in such reports, along with governments, regulators, consumers, NGOs and, of course, other businesses. Mr Potter of Coca-Cola says he is an "avid reader" of sustainability reports. This varied readership makes for a tough balancing act. A significant portion of respondents (43%) say that meeting the needs of such a multi-stakeholder audience is either a major or moderate challenge. Just 18% say it isn't.

As with many things, however, the devil is in the detail. Among companies for which it was relevant, over-half faced important challenges from basic reporting questions, such as establishing appropriate key performance indicators (60%); finding reliable, relevant, internal data (58%); developing tools to monitor performance (53%); and meeting the reporting needs of different stakeholders (51%). The problems may be even more widespread: Mr Cahn notes that "everyone interested in social compliance needs to find better tools".

Novelty is again an issue. Mr Potter says that establishing the right key performance indicators is tough: "I don't think anyone has found the path to do that. To a large extent, this kind of work in a serious way has been going on for 15 years, but is still pretty embryonic." Mr Bickham, although more positive, still has concerns. Devising metrics, he says, "is a work in progress, but it is quite well progressed". Mr Prideaux of BAT agrees, and says "it is hard to find metrics, but it can be done". The ideal "is to find something that you are already doing and use that". For example, BAT used its Dow Jones Sustainability Index score in its latest annual financial report.

Several organisations have worked on reporting frameworks or standards, ranging from ISO 14000 certification to the AA1000 assurance standard. In fact, says Mr Bickham, if anything, Anglo American's difficulty is that "we almost have too many benchmarks and metrics to report against". The most popular current standard is that of the Global Reporting Initiative (GRI). Although comprehensive, the GRI's guidelines "can look like a shopping list" of numerous suggested metrics, says Mr Bickham. Rather

Does your company formally report on its environmental and social impact and performance, as well as financial performance (known as Triple Bottom Line Reporting)?
(% respondents)



Source: Economist Intelligence Unit survey, October 2007.

than providing a solution, the work is a starting point from which companies need to select what is relevant to them and then decide how to report on it. The issues of finding data, devising monitoring tools and getting stakeholder agreement still remain.

Some companies are experimenting with alternatives. Mr Alexander explains that MolsonCoors decided not to produce a traditional CSR report, because it is "not clear that these get widely read". Data-driven ones, reliant on the GRI or other standards, also can hide the deeper story. "Although aware of the standards, we wanted to look at the key issues to our stakeholders, consumers, owners and employees, to start with those, and build a report around how our business impacts those stakeholders." Accordingly, rather than producing a static document, MolsonCoors plans to relaunch its website, with new interactive details of its sustainability performance.

Best practice is still clearly in flux. But as governments, especially in Europe, consider activists' demands for mandatory sustainability reporting, more companies should start addressing these issues.

D. Turning values into processes

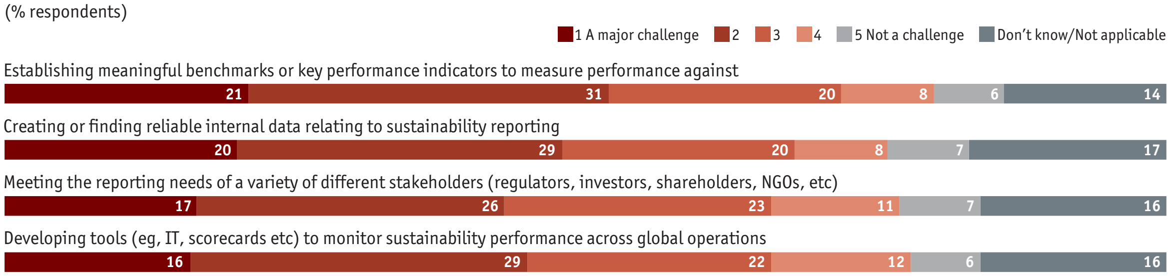
Sustainability requires more than corporate values. Efficient individuals do not inevitably create efficient organisations: they need efficient processes too. Similarly, ethical individuals will not inevitably create ethical companies without the right structures.

One challenge lies in integrating long-standing values into corporate behaviour. As Mr Vasella notes, "thought about minimising negative impact has been around for a long time". The change is that environmental and social impacts were not assessed so systematically before. Dr Bhombal of Aditya Birla agrees. Although his firm often tried to save energy for financial reasons in the past, all "processes developed today are as efficient as possible from an emissions point of view. You can't do it the way you did it in the past." Similarly, on pollution, previously "we cleaned up waste streams after the fact, now we are trying to design processes to avoid pollution".

All interviewees agreed that such thoroughgoing integration of financial, environmental and social goals is essential for successful corporate sustainability. As Dr Kendall of CLP Group says, "You can't bolt this on and have a department in a closet thinking good thoughts and writing reports." Mr Prideaux of BAT insists that corporate behaviour, not philanthropy, is the right starting point. But creating such alignment throughout the company is not straightforward. At Anglo American, "at the international big picture level," says Mr Bickham, "we are increasingly getting toward that integration. Making certain that it happens consistently at every site remains more of a challenge."

Traditional tools can help. One is money. "It is very hard," Mr Kramer explains, "to get people within the company to get it. Until it affects somebody's compensation and performance reviews, it won't appear as a serious priority for middle management. People are not sure if CEO speeches on CSR are PR nonsense or important: they look to compensation and performance reviews." Mr Garrido also believes that companies get what they create incentives for and measure. It is also sometimes possible consciously to structure sustainability into how the organisation operates, such as with Aditya Birla's energy efficient

How much of a challenge are the following when it comes to reporting on sustainability issues?
Rate on a scale of 1 to 5, where 1 = A major challenge and 5 = Not a challenge.
(% respondents)



Source: Economist Intelligence Unit survey, October 2007.

processes. Ms DeBiase says McDonald's has included a full-time sustainability person in its supply chain management. "Sustainability needs a strong seat at the table like procurement and finance," she argues. "It is the way everyone should be thinking."

On other occasions, these issues need new skills and innovative process-driven models. Working with communities, for example, requires consultation more often associated with development workers. Such activity, Mr Potter believes, will not be successful unless firms have a robust, multi-stakeholder programme in every community in which they operate. "A company could lose the forest for the trees and not contribute, because they come in with a pre-conceived notion of what is needed." In fact, the largesse imposed by the company may be neither wanted nor required. Mr Rosling of Tata Group also stresses that programmes have to be owned by local people in order to be effective, simply because local needs differ. It will take time for businesses to acquire these skills: just 15% of respondents rank community leaders among the greatest influences on sustainability strategy, well behind the media. A good example of where best practice may be headed, and the kind of new challenges that sustainability is demanding of business, is Anglo American's socio-economic assessment toolbox (see case study *Anglo American's approach to social impact*).

> "Sustainability needs a strong seat at the table like procurement and finance. It is the way everyone should be thinking."
>
> Francesca DeBiase, VP, Worldwide Supply Chain Management, McDonald's

Case study Anglo American's approach to social impact

Several years ago, mining giant Anglo American was considering how to get appropriate information to improve its understanding of stakeholder perspectives and to improve its developmental impacts on the communities in which it operated. The company conducted social impact assessments when opening a new mine, or before a major expansion. But this was an initial step, rather than a repeated exercise.

Edward Bickham, the company's Executive Vice President for External Affairs, explains that "we were grappling with the difficulty of measuring in the social sphere. If you judge performance only by quantifiable metrics, you do it based on what you can measure, not what necessarily matters." The relevant information, however, is crucial in addressing social risks. The company piloted its socio-economic assessment toolbox (SEAT) process at three sites, in Australia, South Africa and Brazil. Since 2004 it has been used at over 60 locations, with feedback leading to an improved SEAT II in 2007.

The SEAT process involves seven steps:

i. Profile the Anglo operation.
ii. Profile and engage with the community(ies) associated with the operation.
iii. Identify and assess social and economic impacts, key local socio-economic development needs and existing social management initiatives.
iv. Improve the management of relationships with stakeholders and of socio-economic issues and impacts.
v. Create initiatives for supporting community development.
vi. Develop a management and monitoring plan.
vii. Prepare a SEAT report and feed it back to stakeholders.

The idea is not to reinvent the wheel—where the necessary data are already available, for example, the process does not require that they be gathered again. And for each of these steps, the company has developed practices and tools to improve results. Step five, for example, which deals with community developments, has 11 tools to help with everything from establishing partnerships to small-scale water and sanitation projects. This does not mean the process involves the company identifying and fixing problems on its own. Consultation with community stakeholders and establishing partnerships are absolutely essential and frequently repeated parts of the process.

Although the company had already been covering some of this work in various ways, the introduction of a formalised process has been highly beneficial. "By talking with stakeholders in a structured way," Mr Bickham says, "we have understood more about the challenges around us, especially as we are putting social investment in place." This knowledge means that useful investment need not always be expensive. For example, simply moving one of its mine's fences to open land for livestock grazing helped everyone in the local area, and many of the action points arising out of these assessments revolve around basic improved communication. Anglo Brazil's sustainable development manager reported that simply running the consultation exercise improved the company's reputation among local people.

Mr Bickham notes that SEAT assessment also allows a number of issues to surface. "It is allowing us to understand the dynamics between stakeholders, as well as between ourselves and stakeholders, which did not come naturally to us before." Now, not only is Anglo American better informed than before, but SEAT is also helping it improve performance. The management and monitoring plan in step six involves, in part, development of local key performance indicators (with a relevant tool to help). And the report in step seven includes public commitments on improvements, such as water quality, as "a key part of process", adds Mr Bickham. He believes that this is a useful way of focusing management attention. The overall results of SEAT have been very positive—so much so that Anglo American's board has made SEAT assessments mandatory every three years at all its operations.

Although some of the social and environmental challenges of sustainability may force companies to deal with novel challenges, SEAT shows that using a business-like, process-driven approach can be as valuable here as in other areas.

Chapter 4
Does sustainability pay?

One perennial and unresolved debate about sustainability is whether taking it seriously improves financial results. Convincing data are elusive, although most people assume a small, positive relationship. Among survey respondents, 57% hold that the benefits of investing in these fields outweigh their cost. Also, although slightly more people expect such spending to yield a profit rather than a loss, of those for whom the question was relevant, 89% thought the effect either way would be slight. Mr Potter of Coca-Cola notes that demonstrating the link for an entire company would involve important measurement issues. "I don't think that anyone has established the connection in accounting terms," he says. "Much of this is based on faith, and a belief that there is a clear connection." Mr Prideaux of BAT agrees. The link is difficult to demonstrate mathematically, he says. "It is an implicit one: if a business is not seen to be sustainable, it is unlikely to be highly valued. I'm absolutely convinced that it is there, but can't prove it. As far as costs are concerned, good behaviour doesn't cost much and, on the environmental side, if you use less raw material, you can save money." Mr Bickham says "some parts of the agenda cost us money, and some help us to make money including in areas like energy efficiency." He says some people make "Panglossian speeches" about the benefits of anticipatory expenditure to further sustainable development, but the net financial effect can be in either direction.

Our survey results indicate that, although it is no magic carpet to prosperity, attention to sustainability is consistent with, and may cause, higher share price growth and profits.

The most striking data relate to differences in attitude towards sustainability between companies with high share price growth—of over 50% in the past three years, hereafter described as share price climbers—and those whose value declined by more than 10% in that period (share price losers).

- Share price climbers put a greater emphasis on social and environmental considerations at board level.
- Share price climbers place higher importance on social and environmental goals, from improving human rights within supply chains (40% ranked this an important priority, compared with 18% of share price losers), through reducing greenhouse gases (38% compared with 24%), to developing products to address social or environmental problems (49% compared with 35%).
- Share price losers are 2.5 times more likely to have nobody in charge of sustainability: share price climbers usually give this task to the board or CEO.
- Sustainability also left the worst performers the most confused: their biggest impediments to progress in this area were poor management understanding, and lack of board responsibility (42% cite each); high growth companies instead face problems of implementation, such as finding the right targets, controls and processes (39%).

So a correlation between a serious approach to sustainability and high share price growth exists, but is the link causal?

According to our survey, the companies that adopted the highest number of sustainability policies had only marginally better profits than their peers. Instead, quality may matter more than quantity. When asked to rank themselves relative to peers on environmental and social performance, about 6% of respondents rated

Key points

- Companies that think they are doing well on sustainability are generally seeing better financial results than those who believe the opposite
- Sustainability itself has not yet become a major draw for investors
- A shift to so-called "sustainability 2.0" involves the possibility of exploiting new markets and opportunities

themselves "much better" in both. The average net profit growth of this self-selected group was 16%, but share growth over the past three years reached 45%, well ahead of the average. At the other end of the scale, those companies that ranked themselves "worse" or "much worse" than their peers in social and environmental fields saw annual profit growth of just 7% and share price growth of 12% over three years. Although subjective ratings can be problematic, clearly companies that think they are doing well on sustainability are seeing dramatically better financial results than those who believe the opposite.

The bottom line

Despite this generally positive, or at worst neutral, picture about benefits and profits, concerns over cost remain an issue. The risk that sustainable practices would raise expenses relative to competitors was the most common impediment cited by respondents to furthering these policies (listed by 40%). Mr Elkington of SustainAbility considers this apparent schizophrenia to be a timescale issue. "In the short term, there is absolutely no question that doing these things better costs money," he says. "It's an investment. Over the longer term it can be profitable." The risks grow with the degree to which sustainability impacts the company, with a big gap between what Mr Elkington describes as modest housekeeping and market redefinition.

"In the short term, there is absolutely no question that doing these things better costs money. It's an investment. Over the long term it can be profitable."

John Elkington, Founder and Chief Entrepreneur, SustainAbility

The overall business case, then, may be no stronger than "sustainability probably helps and at least it does not hurt", but an attempt to find aggregate implications can hide important details. Sustainability is not a single process, but a change in how issues are approached, with numerous different practical results. Any business model variation has benefits and drawbacks and the overall results depend on execution as much as underlying ideas. Far more useful than searching for some overall net financial benefit is to look in detail at the economic opportunities sustainability provides.

Cost reduction

For nearly two decades companies have been finding that "eco-efficiency"—a WBCSD-coined term from 1992—and social sustainability can bring savings. DuPont, for example, has cut costs by US$2bn since 1990 through increased energy efficiency, while reducing greenhouse gas emissions by two-thirds. Substantial improvements can continue for a long time. Mr Vasella reports that Novartis, which has been increasing water and energy efficiency for several years, considered 32 environmental projects in 2006 "which could save US$50m over ten years". Multinational conglomerate 3M, after cutting energy intensity by 34% and saving US$82m in expenses between 2001 and 2005, achieved further reductions of 9% in 2006, saving an additional US$10m.

Such benefits are often unexpected for the first companies addressing issues. Anglo American, for example, began offering HIV/AIDS testing and free anti-retroviral treatment in its South African mines in 2002. They now reach 65% of workers, with participation rates of over 90% in the company's best performing mines. "We have surprised ourselves," says Mr Bickham. Not only is the programme probably slowing the pandemic among workers, but "in the best operations it is becoming self-funding, through balancing savings from reduced absenteeism and preservation of skills".

Once potential savings are discovered, other firms would be sensible to adopt emerging best practice. Too few are. Mr Elkington notes that many companies are "profligate" when it comes to resource usage: "Often companies audited on energy and water efficiency are shocked to see the state of affairs." Our survey bears this out. Although 55% of companies instituted policies to reduce energy consumption in the past five years—the most common sustainability-

related policy change—45% have not. The impact of these policies is also questionable: only 19% have measurably lower carbon emissions. Infrastructure may be an issue here. A survey of Asia-Pacific, American and European commercial real estate sectors by Jones Lang LaSalle, in collaboration with CoreNet Global, showed that in 41% of European and American executives see limited availability of sustainable real estate in some markets. Although more than 90% of respondents saw a cost premium associated with sustainable new buildings, 77% said they are willing to pay the premium to get energy cost savings and other benefits.

Savings found elsewhere—such as process standardisation—might be greater, but aligning environmental, social and financial goals can cut costs, and more attention here would benefit many companies.

Reputation and PR

Another oft-cited benefit of sustainability policies is enhanced reputation, with knock-on effects for brand value and reduced reputational risk. Respondents to our survey considered this their leading objective: 79% ranked enhanced brand reputation as a "very important" goal for their programmes. Among the benefits they expected from these policies, they put first an opportunity to attract and retain customers (cited by 37%), and fourth the ability to manage reputational risk (29%). Similarly, 18% of firms thought that most of their customers would pay extra for "a brand renowned for its commitment to sustainable development", and a further 37% thought that at least a "significant minority" of customers would pay more.

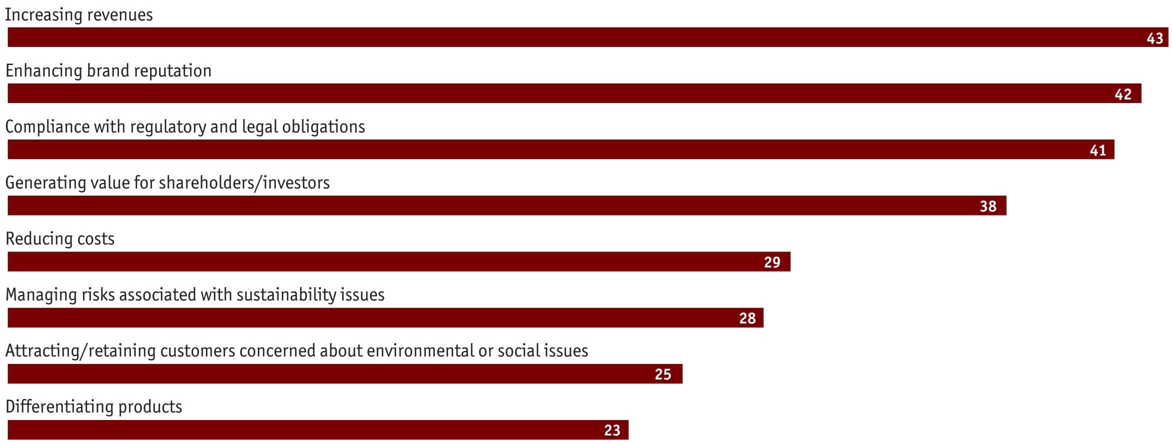
Seeking such benefits is perfectly legitimate. And why not, asks Pierre Poret, Head of the OECD's Investment Division. "This is not incompatible with behaving responsibly. It's just fine if they capitalise on the positive impact on their reputations" if they are actually behaving sustainably, he argues. The leading sustainability-related focus by far among respondents was not any particular social or environmental issue, but rather communicating performance to investors and stakeholders: 61% considered this an important priority, including even 39% of the worst performers. Similarly, when asked what they were doing right on sustainability, 12% rated communication of their efforts as outstanding, and 30% as very good, far higher than any other activity.

Reputational benefits from sustainability certainly exist. At a basic level, good credentials here can be essential for a social, and sometimes literal, licence to operate. Dr James Suzman of De Beers explains that the diamond industry as a whole "recognises that our survival depends on us being able to ensure that the consumer proposition is not interfered with by awkward ethical questions". Mr Rosling of Tata believes that acting sustainably is both right to do, and also smart, as the firm is then welcomed in the community and people trust it. "A reputation for fair dealing makes a difference," he says. "Going to another country, governments are more likely to welcome us. It does matter." Brand value is also key. Mr Stigson says, "at a normal global company, the majority of the assets underpinning market capital are intangibles. That is a different story than in the past. The business case for sustainability is now increasingly connected to brand and reputation."

> "A reputation for fair dealing makes a difference. Going to another country, governments are more likely to welcome us. It does matter."
>
> Alan Rosling, Executive Director and Board Member, Tata Group

Reaping these benefits, however, is neither straightforward, nor easy. First, empty claims rarely fool anyone. Even 71% of those surveyed agree that "too many organisations use sustainability merely as a public relations tool"—just 5% demurred. Second, pursuing sustainable policies simply to garner good reputation is bad business strategy. Mr Menzinger of Swiss Re explains that such motivation makes it "very uncertain whether you are going to keep going down that road if the key individuals, such as the CEO, change". Moreover, it will be unclear where to focus—

If you have or are developing a strategy for corporate sustainability, how important is it to your company that this strategy meets the following objectives?
(% respondents, only those selecting "Critically important" are shown)



Source: Economist Intelligence Unit survey, October 2007.

especially as popular mores are not fixed. "These issues are shifting from country to country and year to year," says Mr Kell at the Global Compact. "Currently it is climate change, last year it was poverty." What might win praise one year could easily seem inconsequential, or an embarrassment, the next.

Finally, sustainability's reputational advantages are equivocal. A good record only goes so far. Mr Potter Mr Potter of Coca-Cola sees little public relations benefit beyond the hope that moderate activists will wait to hear Coca-Cola's side of the story before condemning it for an alleged incident. More broadly he says, "there is no getting around the fact that we are symbolic of potentially three things: globalisation, multinationals, and America." Accordingly some people will condemn his business whatever it does. Others go further and argue that a good record can itself also attract problems. Mr Kell believes that "a psychological element" stops companies from claiming sustainability successes. "When you say you are best in class, you open yourself up to scrutiny," he notes. This is such a problem that Ms Nelson of Harvard thinks "companies are worried about trumpeting their own efforts or they will get slapped down by NGOs and journalists. I'd be amazed if I could identify one company that said that it was doing right." Mr Rosling notes from experience that "the bigger your reputation, the more willing people are to have a go at you. Sometimes it feels as if people are going for us because we are nice, have a reputation, and may cave in easily to make the attacks to go away." Although critics may sometimes have a point, on other occasions "you have to stand tall if some bully tries to go for you".

Mr Menzinger sums up the best approach: "It doesn't hurt to take into account that sustainability may help your reputation, but if that is your sole goal, it will not be sustainable in the long run." Instead, companies should "treat reputational benefits as a positive side effect".

Investor attraction

Another suggested financial benefit of sustainability is the attraction it might have for investors—both the specialist socially responsible investment (SRI) community and more mainstream ones.

The direct practical impact of the former on companies is comparatively small. Only 3% of respondents rated the ability to be listed in ethical/low-carbon indices as a leading benefit of

their sustainability policies. Mr Elkington, who has worked for 15 years with a variety of SRI funds, is not surprised. "I think they've done great work, and helped wake up investor relations people, but the total amount of money moved by SRI is still very small and relatively volatile." On the other hand, he says, "companies are quite proud to say things like 'we are in the Dow Jones leaders category', but this sits at a brand enhancement level". Mr Arbogast of Dell finds the biggest benefit of his meetings with the SRI community is the chance to discuss performance and best practice rather than easier access to funds. Mr Menzinger, who sees a strong business case for Swiss Re to consider various environmental and social issues when selecting investments, is "a little bit sceptical, to be perfectly honest" about sustainability ratings. In his view, they are too backward-looking and not necessarily based on criteria relevant to the financial outlook for a company.

Far more important is how more mainstream investors approach sustainability. FSG's Mr Kramer considers this a key issue: "Investor behaviour drives a lot of business behaviour and the weight of the investment community is not yet there." Similarly, Ahold's Mr Waardenburg senses that the number of investors interested in seeing sustainability data and performance is rapidly increasing, but it is a small segment in the market. Our survey backs these impressions. On the one hand, 58% agreed that investors would increasingly reward companies with above-average performance in this area, and 34% considered increased shareholder value a leading benefit of sustainability. On the other hand, only about one in five said their shareholders would be playing a leading role in setting sustainability strategy, and 29% ranked the short-term focus of investors as one of the biggest barriers to progress in the field.

Such apparent contradictions arise when investors are considered a monolithic bloc. Mr Elkington delineates "different trophic levels in the financial ecosystem", with reinsurers, insurers and pension funds showing greater sensitivity to long-term issues, and financial analysts—"often working on nano-second time scales"—struggling to appreciate their significance. Also, the correlation between sustainability and share price growth indicates that many companies with active programmes are having no trouble getting funds. Investors in a company know how the company is run when they put money in. For Mr Garrido (GE) and Mr Alexander (MolsonCoors), the values surrounding, and approach to, sustainability form part of what makes their companies worth buying into. "Our investors understand that," says Mr Alexander. "They may not be demanding sustainability results, but they expect us to make decisions that sustain the investment in the long run."

Sustainability 2.0

In the past, corporate sustainability pioneers were as often defending themselves against reputational or regulatory risk as looking for value. Cost reduction, reputational benefits and increased attractiveness to investors brought limited financial gains. Now, however, leading companies are moving from "sustainability 1.0 to sustainability 2.0", as some describe it. The latter involves exploiting the markets and opportunities that an understanding of the issues, and of the consumer reaction to them, presents.

> "It doesn't hurt to take into account that sustainability may help your reputation, but if that is your sole goal, it will not be sustainable in the long run."
>
> Ivo Menzinger, Group Head of Sustainability and Emerging Risk Management, Swiss Re

Among the best-known examples of this trend is GE's Ecomagination product range—with products varying from low-energy light bulbs to car and truck fleet services. It added US$12bn to the bottom line in 2006, a figure expected to reach US$20bn by 2010. Mr Garrido admits that it is a surprise to see such benefits arising from a simple idea. "We came to the conclusion that we can make money by facing environmental challenges, because our customers are demanding it." After consulting consumers, environmentalists and other stakeholders, GE saw that the needs of some sustainability challenges matched what existing products could provide and new products could be developed to meet other problems. "It was a no-brainer," says Mr Garrido. "We always believed that providing such products was the right thing to do," he says. "Now, it is not only consistent with our values, but we can make money out of it. If other companies don't see that, then that's even better for us."

Generally speaking, though, companies have started to realise the possible opportunities that exist here. Mr Kramer believes that they "are only just beginning to consider CSR as a competitive advantage and move beyond defensiveness. It will get much, much more common". Our survey suggests that the desire is there, but not necessarily the ability. Just over one-half (51%) of respondents say developing products that address social or environmental problems is an important priority going forward, a higher figure than for reducing greenhouse gas output. But far fewer, just 32%, thought they had done well in this area recently. The International Business Leaders Forum's Mr Hodges, author of *Corporate Social Opportunity*, describes many companies as being at the aspirational stage. They "don't necessarily have the right processes in place to make it a normal part of the business cycle," he says. "Do you have the right skill sets inside the business to understand how social trends may impact the business?" Relationships with community institutions or organisations in developing-country markets or open communications channels with socially conscious young consumers in developed countries, can provide new insights compared to more traditional sources of intelligence for research and development (R&D).

Indeed, exploiting these market opportunities requires not so much the invention of novel products, however helpful, as cultural change to align internal economic, social and environmental thinking. Mr Menzinger points out that Swiss Re's insurance products designed to address global warming risks take no carbon out of the atmosphere, but they did arise from an understanding of the issue. In other words, although the challenges differ in each sector, the possibilities of sustainability 2.0 are open to all firms once they focus on them. GE's Ecomagination may have started with energy-saving products, but it has now moved on to items such as credit cards where up to 1% of net purchases are set aside each month and will be used to buy carbon offsets every year on Earth Day.

In assessing the financial benefits of such market-seeking sustainability, it is difficult to go beyond the anecdotal. It is noteworthy, though, that among surveyed companies with the worst share performance, the leading benefit of sustainability was defensive—the ability to identify and manage reputational risk (cited by 45%). Share price climbers instead focused on improved shareholder value (47%) and the ability to attract new customers (35%).

Although leading companies are finding profits from sustainability, it would be a mistake to see it as an optional route to wealth for some. The risks of not addressing these issues are also great. Mr Elkington, for example, expects that the changes likely to be imposed in the wake of climate change will initiate a period of experimentation. "If businesses think this is going to be easy, they are deluded," he says, "Creative destruction pressures are going to elbow out of markets a huge number of companies." Mr Menzinger is one of the few executives interviewed to stress straightforward strategic thinking rather than underlying values. "[Firms] need to approach sustainability from a business angle. From a risk and opportunity perspective, what does it mean?" he asks. "People think of it as corporate citizenship rather than thinking about it as affecting their business model." One example he gives was the relatively sudden decision to ban incandescent lighting in some countries, something which will clearly affect its manufacturers. Awareness of sustainability issues may become not an additional business tool, but a key to survival in 21st century markets.

Limits of the business case

Interviewees for this report caution against placing too much weight on building a business case for sustainability. Mr Rosling of Tata says, "I don't think we have a business case for what we do". Owned by charitable trusts, the group's *raison d'être* is ultimately to improve society. "[Sustainability] is in the business interests of Tata companies, but that is not the reason why they do it. It is right to do it. Anyone producing a business case would be shown the door," he says. "What we do is manage it in a strict businesslike way, and we certainly budget and plan fully for it." More traditionally owned firms are

Case study **View from 30,000 ft: Virgin Atlantic**

Although corporate interpretations of sustainability encompass everything from monitoring labour standards in suppliers' factories to promoting ethnic diversity in the workplace, for Virgin Atlantic Airways, one issue dominates the agenda: climate change. "We have environmental targets that include other resources like water," says Jill Brady, General Counsel at Virgin Atlantic, who is in charge of sustainability. "But climate change is certainly the biggest focus for us."

Part of the reason for that focus is consumer perceptions. Although the airline industry contributes a relatively small proportion of the world's man-made greenhouse gases and aircraft engines are now about 70% more efficient than they were 40 years ago, environmental campaigners have been joined by the public in putting aviation under the spotlight. "In the UK there is a perception that aviation is one of the biggest causes of climate change, and that's driven by NGOs and the media," says Ms Brady. "It's one we all have to deal with whether it's right or not."

However, although the contribution of airlines to climate change is currently small, it is increasing. "The industry is recognising that it is a polluter," says Ms Brady. "So while we're a relatively small polluter, we're growing and that's something the industry has to deal with." And it is not only individual consumers that want to see airlines address climate change. Ms Brady says many of Virgin's corporate clients are pushing the company in this area in order to reduce their own carbon footprint. "We know a lot of customers are interested in what we're doing in relation to climate change," she says. "And corporate customers certainly are. A large proportion of the tenders they send in for business contain questions around sustainability impact."

As a result, Virgin Atlantic has been addressing its carbon footprint in a number of areas. For a start, at the group level, the Virgin Green Fund (formerly Virgin Fuels) is investing in companies developing renewable and alternative energy sources, as well as in companies working on technologies that generate fuel efficiency. The initiative is part of Sir Richard Branson's pledge—made at the 2006 Clinton Global Initiative meeting—to invest US$3bn of the profits made in the next ten years from his transport businesses in efforts to combat climate change. As well as such group-level initiative, Virgin Atlantic itself has set a target of improving fuel efficiency by 30% by 2020. Initiatives range from the development of alternative fuels to aircraft acquisitions—introducing the Boeing 787 Dreamliner to the fleet, which is 27% more efficient than its current aircraft. It is also enhancing working to enhance engine efficiency and investigating more regular polishing of fan blades.

Along with this, the airline is reducing fuel consumption on the ground by shutting engines down in queues, towing aircraft at airports and plugging aircraft into ground power sources while stationary to avoid running engines simply to keep the air-conditioning and other equipment running. A "Weight Watchers" team works on eliminating unnecessary equipment onboard and ensuring that new products designed to go on board are made of lightweight materials.

However, for Virgin, the savings on fuel costs mean its sustainability efforts soon pay for themselves. "A lot of what we were doing already around fuel efficiency and being an efficient business fits well with the sustainability agenda," she says. "This has given us another lever to engage people and has put more urgency around some of the targets."

"If you are going to do this because it is about values, it doesn't mean you can't do this because it is good for the business. Any CEO should be able to articulate both cases."

Jane Nelson, Director of the CSR Initiative, Harvard's Kennedy School of Government

surprisingly similar. Mr Potter of Coca-Cola and Mr Bickham of Anglo American both think that the data for the business case are not there. Instead, what is driving change at Coca-Cola is "a broad philosophical" commitment to sustainable communities. Meanwhile, Mr Bickham believes that "in our business, sustainability is a threshold requirement", with any competitive gain staying "at the margins". Dr Kendall of CLP says that its retrofitting of power stations to reduce emissions "is nothing to do with competition in the market. It is our stakeholders' and regulators' expectation that this is correct thing to do in the community." Her company is not addressing climate issues "to make a quick dollar or out-position competitors. We see it as the right thing to do."

Ironically, other stakeholders seem more likely to play up the business opportunities of sustainability than corporate executives. Mr Juniper, from Friends of the Earth, often surprises companies by telling them "climate change is the biggest business opportunity in history". Indeed, non-profit organisations understand perfectly well the importance of the market to broader sustainability efforts. Mr Waardenburg says NGOs frequently encourage him to make sure his programmes make money, because "without a profit for us, it is not going to be sustainable".

Thus companies point to ethics, leaving the defence of Mammon to NGOs. Ms Nelson sees this as "a false dichotomy and a false debate. If you are going to do this because it is about values, it doesn't mean you can't do this because it is good for the business. Any CEO should be able to articulate both cases."

Nevertheless, sustainability debates often focus on the financial case for two reasons. First, as Mr Stigson points out, "self-interest is very much connected to market solutions and much easier to implement". The moral questions at the core of sustainability are simply harder. Second, the public may consider corporate talk of values overblown. Mr Kramer says, "I'm not sure anybody believes business if they claim to be virtuous."

But there is another element, encompassing sustainable development, that often gets too little attention. Perhaps because Milton Friedman's dictum that "the social responsibility of business is to increase its profits" was used to oppose CSR, even corporate discussions of sustainability tend to focus on the social and environmental. Business's contribution to society is, however, undeniably economic—ultimately providing the money for almost all social and environmental progress. Dr James Suzman cites De Beers' joint venture with Botswana's government. The latter receives US$1.6bn in dividends, about 50% of the national budget. "As a direct result, Botswana has gone from third-lowest on UN development indices to near the top," says Dr Suzman. This is a tiny but striking example of how, in Ms Nelson's words, "the greatest business contribution to society is creating wealth". Noting the dearth of references to this area in the vast majority of CSR reports, she thinks "business has been its own worst enemy in some ways. Much of the CSR debate has been shaped by activists, NGOs and the media."

A proper understanding of the Triple Bottom Line requires greater appreciation of the benefits arising from the original bottom line. Whatever the merits of the business case for sustainability, the sustainability case for business is unquestionably far stronger.

Chapter 5
What will deliver: Markets or regulation?

How far can business's sustainability efforts go to improve the world's physical, social and political environment? And where should the line be drawn between the responsibilities of individual businesses and the responsibilities of government?

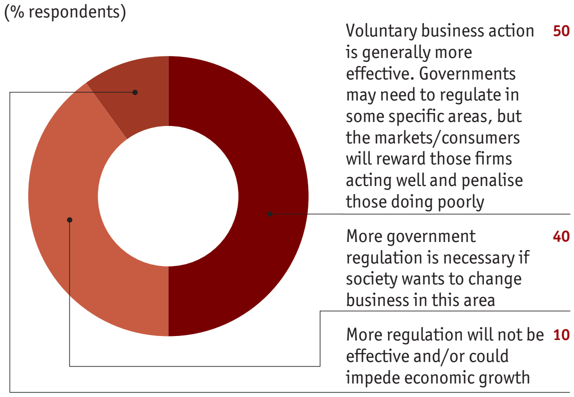
Obviously, companies can do a lot, especially in their areas of expertise. When asked about the state's proper role, however, respondents gave an unusual reply for a business survey. A large proportion, 40%, believe that more government regulation is necessary if society wants to change the impact of business in social and environmental areas. Half of executives polled held that, although consumer and investor demands leading to voluntary business action would be the more effective route to change, state regulation in certain fields would nevertheless be necessary. Even North America, traditionally a more free-enterprise culture, had similar numbers.

Why do companies think that markets alone are insufficient?

First, as Mr Alexander of MoltonCoors notes, to be successful, "sustainability has to embrace consumers as well". As discussed earlier, 46% of respondents listed their firm's customers as the stakeholders with the greatest influence over their sustainability policies, tied with government as the leading choice. Although people as citizens are making clear their support, the same individuals as economic actors are displaying less straightforward behaviour. Customer influence has geographic variations, with consumers having a far greater effect in Europe. Moreover, among companies for which it was relevant, only 10-15% thought the majority of their customers would pay a premium for greener products, ethical sourcing or socially responsible investment. About 40% thought that a significant minority of buyers would do so, but the general consensus was that few consumers would support values with their wallets.

This range of behaviour has predictably had an uneven market impact. Some firms, such as GE, have made money from developing more sustainable products. Ms Brady says that for Virgin Atlantic, quite simply, "It is a competitive issue, because consumers are interested to see what big businesses are going to do about this." At Dell, Mr Arbogast notes that "many of the strategic initiatives around sustainability are a direct reaction to customer feedback", including those involving energy efficiency and product recovery. "Part of sustainability's focus here is driven by customer needs," he says. Companies as diverse as McDonald's and De Beers noticed increased consumer interest in different sustainability issues going back to the 1990s. Now says Mr Langert, "customers care more about this than ever". Professor Pan at The Chinese Academy of Social Sciences even sees a rising interest

What is your view on the role of regulation in relation to reducing companies' environmental and social impact?
Please check one answer only.
(% respondents)



Source: Economist Intelligence Unit survey, October 2007.

Key points

- Perhaps surprisingly, a large proportion of firms believe that more government regulation is needed
- Collaboration between business, government and society is critical
- Governments are often constrained in their ability or desire to act, whether owing to a lack of political will, limited power, or a simple lack of know-how

among Chinese consumers.

But companies that are equally active on sustainability issues have had different experiences. Carl Kitchen, Public Affairs Manager at Hong Kong-based CLP Group, notes that the firm's Australian power customers only began to drive demand for renewable energy within the past 18 months. "Until then, it wasn't there," he says. His colleague, Dr Kendall, adds that in the power sector, the customers are not quite there yet. Only "a small percentage are asking for low carbon industry", she says, noting that "markets in India and China will not pay the extra costs of clean energy without government or international support".

If uneven customer demand makes markets an imperfect, albeit still powerful, tool for societal change, so does the limited power of corporations themselves. Companies cannot always bring about environmental or social improvement on their own, and the novelty of co-operative solutions poses its own potential legal risks, as noted earlier with the FFC.

"Most of the time we are ahead of what they set as a target anyway. It is more an opportunity to work with governments, and to show alternative ways to do things."

Roland Waardenburg, Director of Corporate Social Responsibility, Ahold

It would be far simpler for companies if the state dealt with these questions. In our survey, 62% agree—and only 10% disagree—that uncertainty over government policy "is making it difficult to plan strategies for corporate sustainability". Businesses are even beginning to lobby for regulation: the best example is the US Climate Action Partnership, a club that counts some of the country's biggest blue-chips among its members, which is pushing for mandatory carbon emission caps. A good regulatory framework could do much to address the confusion that surrounds what is expected of businesses. The OECD's new *Policy Framework for Investment* outlines one of the top goals of public policy in this area as "providing an enabling environment which clearly defines respective roles of government and business", and asks states whether they "actively assume [their] responsibilities and avoid *de facto* privatisation of public roles". The OECD's Mr Poret adds that government and business responsibility go hand in hand.

Companies are not, however, seeking highly proscriptive regulation. On climate change, for example, many agree with Mr Rosling of Tata that "the best long-term solution is likely to be market-based, but you can't have market solutions without a government-designed system. You need incentives to reduce your carbon footprint because it is much cheaper to have non-sustainable energy." Mr Stigson (WBCSD) adds that "it is important to recognise that there is no inherent conflict between markets and regulation". In fact, leading companies can benefit from working with governments on regulations. Mr Waardenburg explains that his firm does not feel threatened when discussing sustainability issues with the EU. "Most of the time we are ahead of what they set as a target anyway. It is more an opportunity to work with governments, and to show alternative ways to do things. Sometimes they tend to say very specifically how to do what, but we can suggest better ways." In Dell's case this involved helping Texas create mandatory computer recycling based on the company's voluntary experience.

Still, governments are taking some action—and this does not necessarily always mean legislation or imposed regulation.Mr Poret points out that "there are other ways of communicating expectations: such as joint regulation, self-regulation and soft law". Such communication can also take place within the workplace, with local communities, with trade unions, through discussions with investors, dialogue with other civil society organizations, via the press and so forth. For these other communication processes to work well, governments have the responsibility to protect the human and other rights framework. Although the various strategies that each state chooses "may look multiple, they are all underpinned by the same values and principles",

on which there is broad agreement among OECD and partner countries. He notes, for example, that beyond the OECD's core membership, Brazil and nine additional countries have adopted its *Guidelines for Multinational Enterprises*. These not only provide a detailed and comprehensive set of voluntary standards and principles of responsible business conduct but also require adhering governments to institute national contact points, which handle and conciliate complaints over alleged violations, a facility used some 160 times by interested parties since the revision of the Guidelines in 2000. In Mr Poret's view, sustainability will advance through "a combination of both markets and proscription, with the balance changing all the time".

Reluctant governors

A certain irony arises from the current views of stakeholders on that balance. Mr Stigson notes that "governments are proponents of market solutions, and business is saying we want some regulation. From the outside, it can look pretty confusing." Mr Juniper of Friends of the Earth has noticed the same dynamic: "There is now a reversal of roles." Government is arguing for a market role, but companies are moving away from a knee-jerk opposition to regulation and encouraging it. In fact, for Friends of the Earth, instead of focusing on helping business change themselves, now "the bulk of our effort with them is in seeking to get companies to change their regulatory environment," says Mr Juniper.

Government reluctance to take firmer action may be owing to a number of things. In some cases, like companies, its powers are limited. In China, for example, Professor Pan notes that, whatever the central government's wishes, "institutions need to be built step by step. Local governments are very powerful and work together with factory owners in a way that hurts the environment, because they want revenue." Ms Ulrich adds that, although China's policies reflect its growing recognition that the country has paid too high an environmental cost for its development, the central government will increasingly face demands from localities for compensation of economic losses they suffer to comply with stricter environmental rules. This, she says, will slow the process of reform, but not derail it.

More than power, Mr Stigson points to a lack of political will. Governments "don't want to regulate consumer behaviour" because it is too fraught with political danger, he says, "but you won't be able to get away from that if you want to create a sustainable world". In Mr Juniper's experience, beliefs play as big a role as politics in explaining the difference. "Governments are ideological and companies are quite practical. I get the impression that carbon trading is used by the UK government as a tool which fits the ideology rather than doing the job. There is no debate on what works. Companies don't do that. You are starting to see some saying we need a different mix of tools." Our survey suggests that, whether for ideological or practical considerations, the will to act within the public sector is not great: only 48% of respondents within government thought that more regulation was essential for change, and 42% considered voluntary action, along with some state help, as the best way forward.

Another cause for a lack of government appetite to regulate may be that civil servants are as confused as everyone else. In looking at their own organisations, 43% considered a lack of management understanding as a major impediment to the pursuit of goals in this area, 17% had nobody in charge of these issues, and fully 46% had no plans to report on environmental or social performance—all figures well above the business averages. If governments are going to mandate change for companies, then they must set their own houses in order as well.

Conclusion

The debate over the role of the state and business leads back full circle to the definition of sustainability and the reason why it has become such a pressing issue. Although currently being driven by growing anxiety over the impact of climate change, the underlying questions about the relationship of business with the world's societies—developed and developing—have been given a new urgency by the impact of globalisation. The social and environmental benefits of sustainable business practices are what governments and citizens are likely to demand in return for an open world economy.

Sustainability is not, however, a check list of activities. It is a change in attitude that aligns financial, social and environmental goals. Fortunately, businesses rarely need to establish clear values for themselves. Instead, they need to apply the ones they have. In practice, companies are defining sustainability widely, looking at a range of relevant environmental and social goals. The specific form that sustainability policies take, however, will inevitably be shaped by differing drivers and needs—economic and regulatory, as well as environmental and social—around the world, leading to a bewildering range of activities involving every function within business.

Although a few companies have a long history of addressing sustainability issues, business as a whole is still, as Mr Potter of Coca-Cola puts it, at the "baby steps stage", scrambling to address the issues and experiencing the pains inherent in learning to master a new area. The necessary rethinking of business models, is "very, very tough to do", notes Mr Elkington of SustainAbility. Four key areas currently receiving too little attention within business are: leadership; supply chains; reporting and metrics; and the transformation of values into processes. At present, weaknesses in one or another of these will condemn too many companies to poor performance in this area. This presents more than a social or environmental problem. The financial benefits of sustainability remain unclear, but an understanding of where the economic advantages are—in particular cost reduction and a range of untapped market opportunities—can be very helpful to profits. Perhaps more important, as the social and environmental forces driving sustainability reshape the global economy, an inability to understand and perform in this area could be fatal for businesses.

Neither business, nor government, nor any other stakeholder, can meet these challenges on its own (indeed, many seem to wish that somebody else will do it for them). If they are to be addressed, however, it will be through a messy period of redefining, among other things, business's relationship with the world around it, as well as the legal and regulatory framework in which it operates. Companies must, at the very least, be part of that debate, for their own sakes as well as for that of society as a whole.

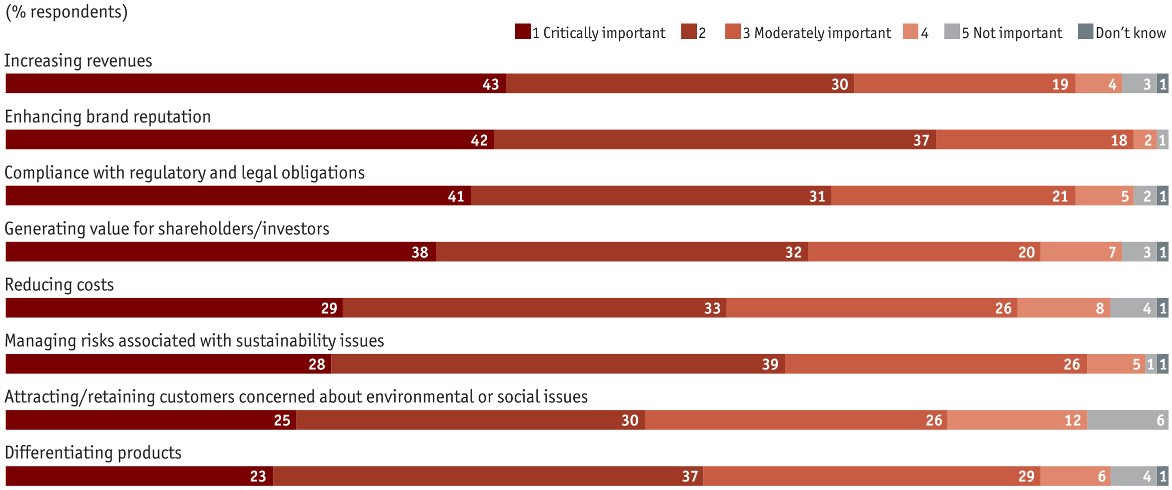
In the end, sustainability will require changes, but not perhaps those the public expects. Businesspeople have long realised that the image of an immoral private sector motivated only by greed is a caricature, and a poor one at that. Most think that their economic activity serves the public good. Moreover, the executives interviewed for this study held that corporate values were not window-dressing, but at the core of what their firms did. The innovation that sustainability demands is to integrate these values into the structures, processes and incentives that mould behaviour inside companies. Social and environmental initiatives should not be something that firms do in addition to making profit: instead, they should become a central part of the strategy for corporate prosperity.

Appendix: Survey results

In September and October 2007, The Economist Intelligence Unit surveyed 1,254 executives from around the world. Our sincere thanks go to all those who took part in the survey. Please note that not all answers add up to 100%, because of rounding or because respondents were able to provide multiple answers to some questions.

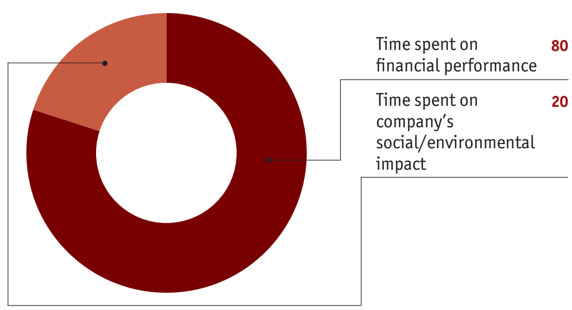
Does your company have a coherent strategy for corporate sustainability that covers the whole business and its supply chain? Please select one answer only.
(% respondents)

If you have or are developing a strategy for corporate sustainability, how important is it to your company that this strategy meets the following objectives? Rate from 1-5, where 1=Critically important, 3=Moderately important, and 5=Not important.
(% respondents)

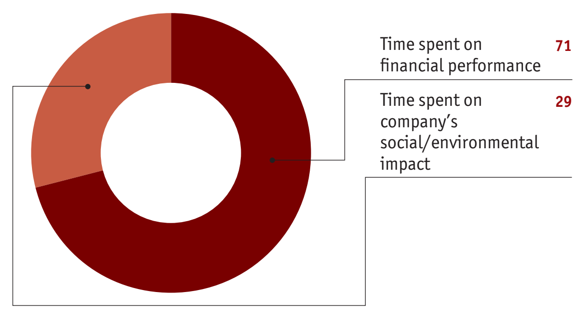


How much of a priority will the following objectives be within your company over the next five years?
(% respondents)

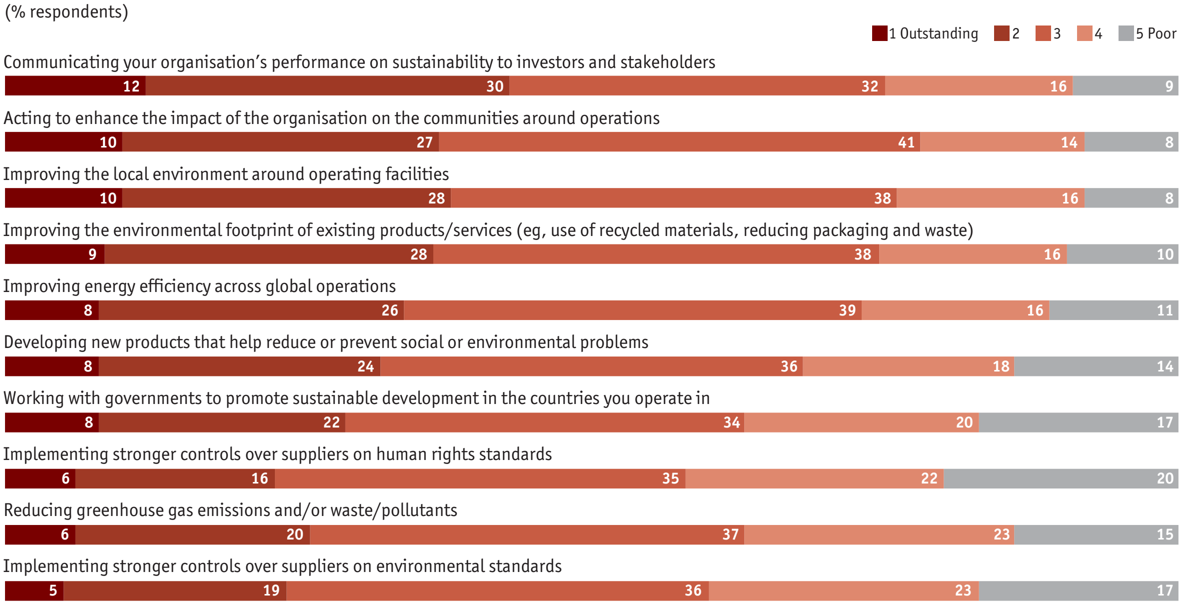
Within board-level meetings, how much time is spent discussing the following areas of corporate performance today?
(% respondents)



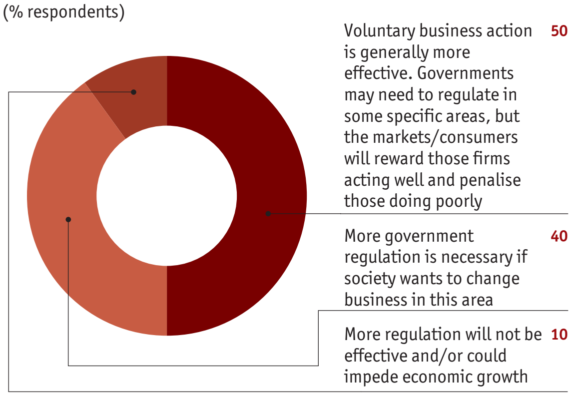
Within board-level meetings, approximately what percentage of your time might be spent discussing the following two areas of corporate performance in 5 years' time?
(% respondents)



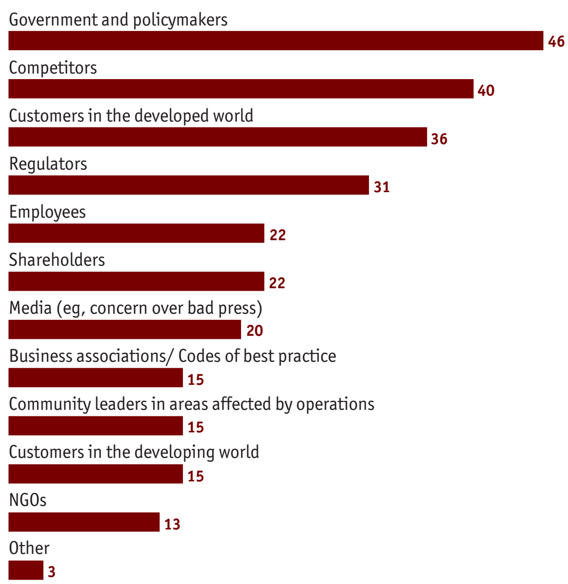
In which of the following areas did your organisation perform best over the past five years?
Rate on a scale of 1 to 5, where 1=Outstanding and 5=Poor.
(% respondents)



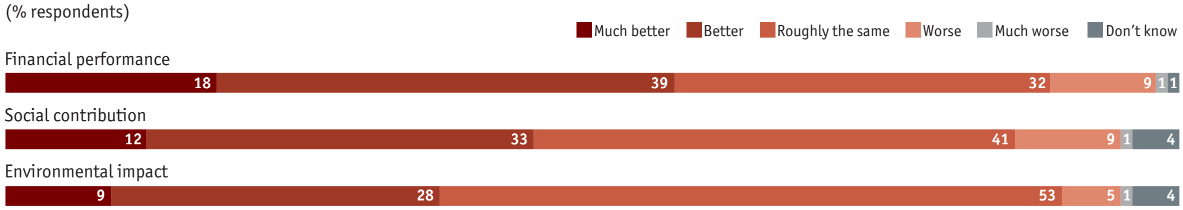
What is your view on the role of regulation in relation to reducing companies' environmental and social impact?
Please check one answer only.
(% respondents)



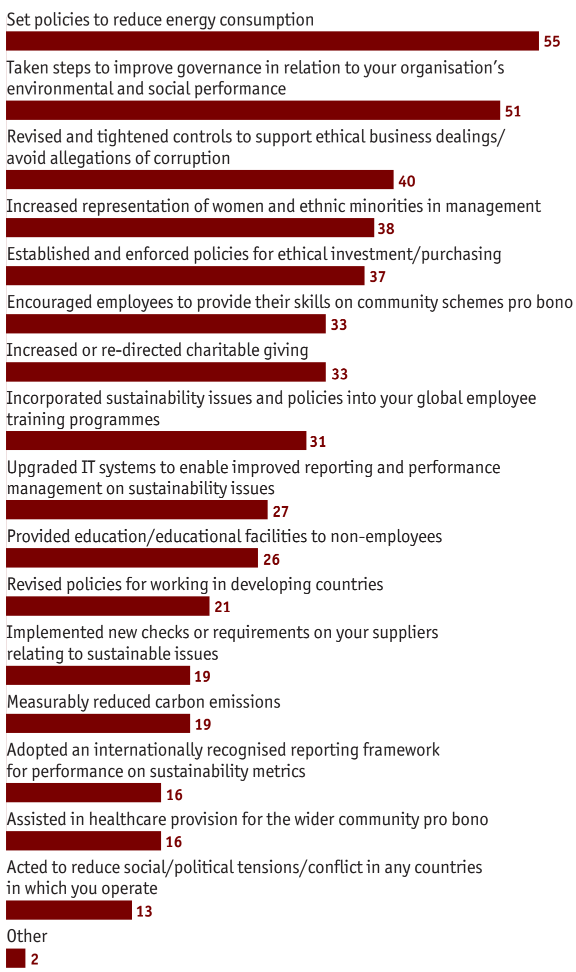
Which of the following will have the greatest influence over your sustainability strategy over the next five years?
Please check up to three responses.
(% respondents)



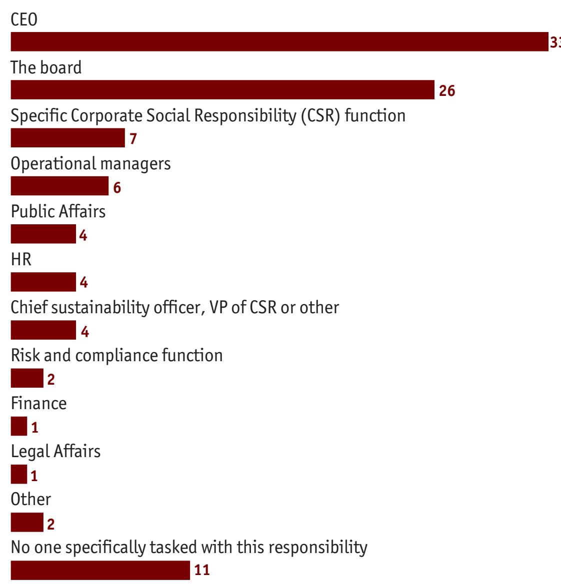
How do you believe your company's performance in the following areas rates against that of your main competitors?
(% respondents)



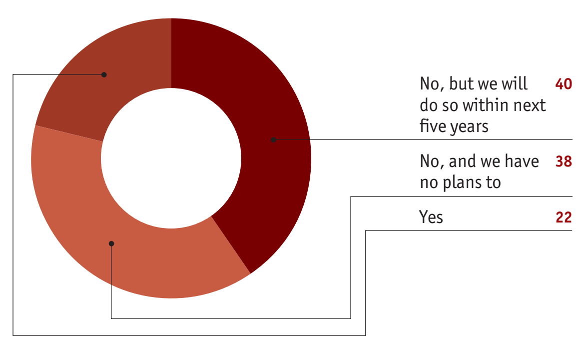
Which of the following has your company done over the past five years? Please check as many as apply.
(% respondents)



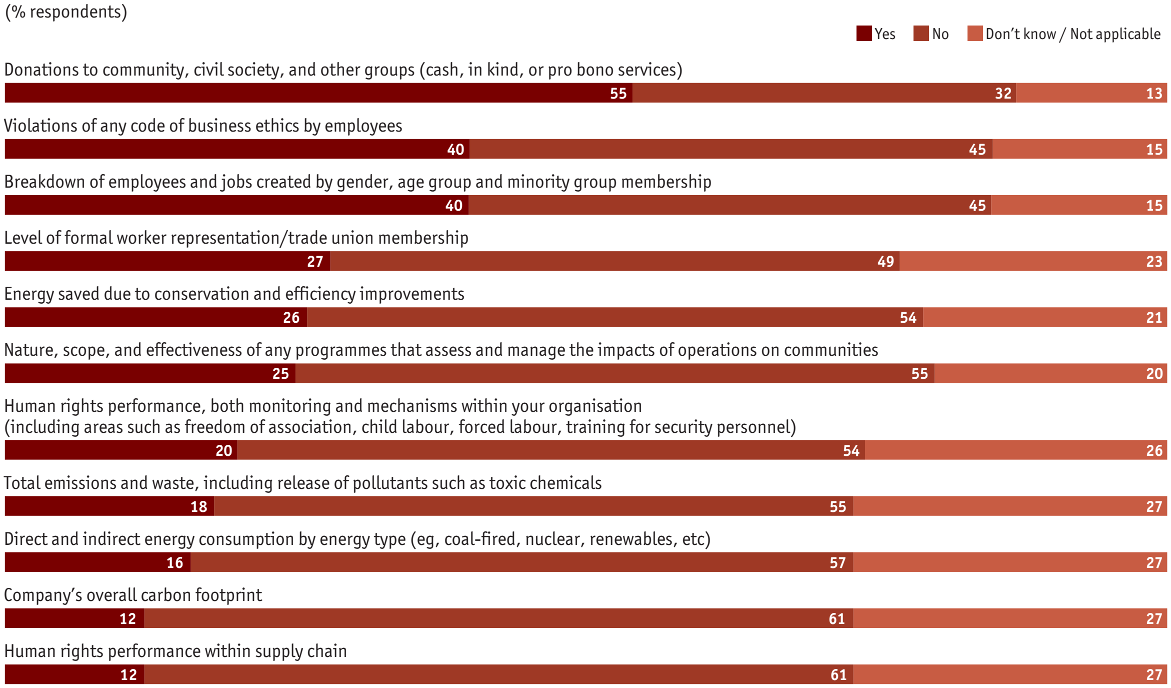
Where does primary responsibility for sustainability performance currently sit within your organisation? Select one.
(% respondents)



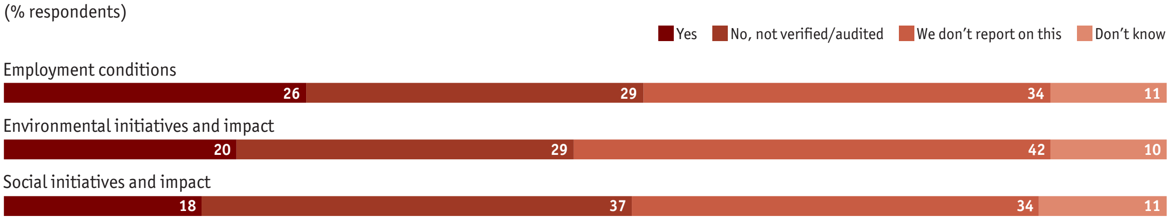
Does your company formally report on its environmental and social impact and performance, as well as financial performance (known as Triple Bottom Line Reporting)?
(% respondents)



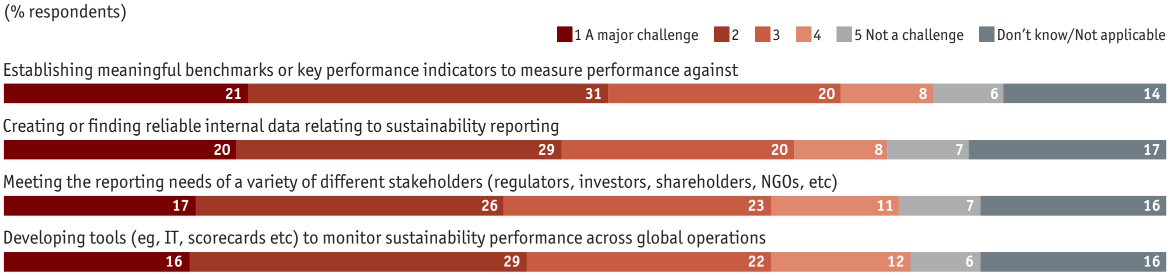
Specifically, does your company formally report on the following?
(% respondents)



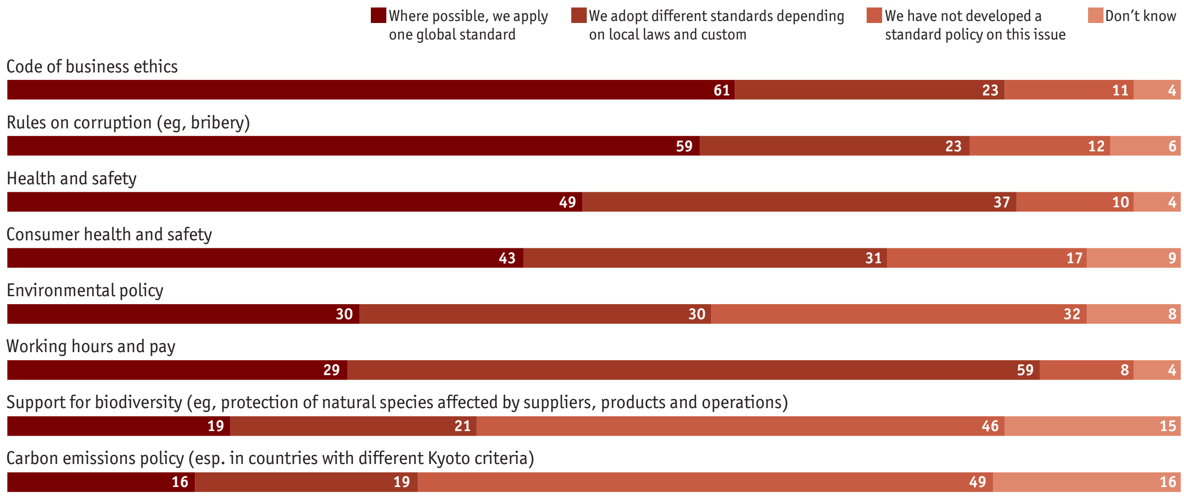
Is the following information in your sustainability reporting independently verified/audited?
(% respondents)



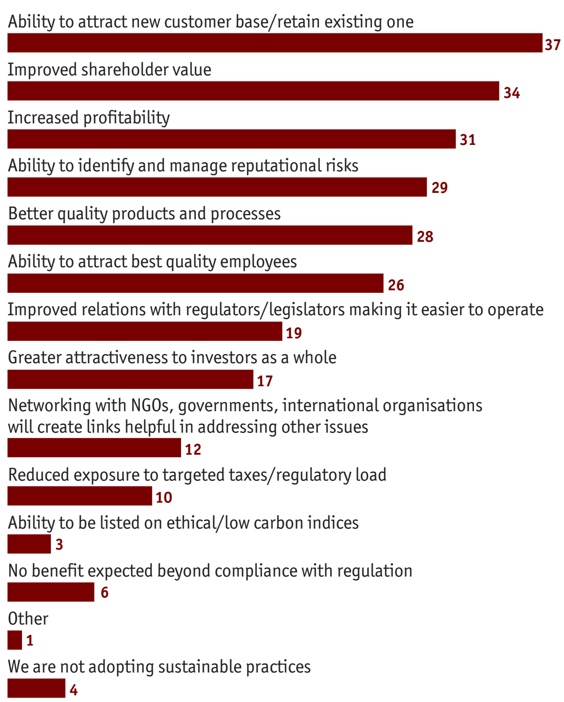
How much of a challenge are the following when it comes to reporting on sustainability issues?
Rate on a scale of 1 to 5, where 1 = A major challenge and 5 = Not a challenge.
(% respondents)



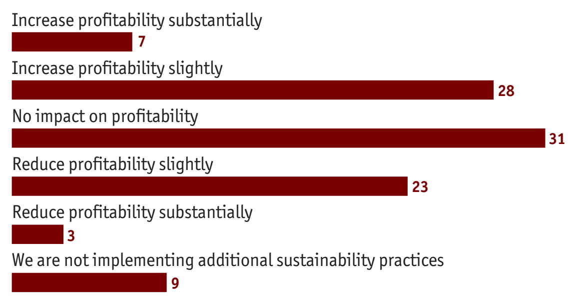
How do you apply standards in the following areas across your global operations?
(% respondents)



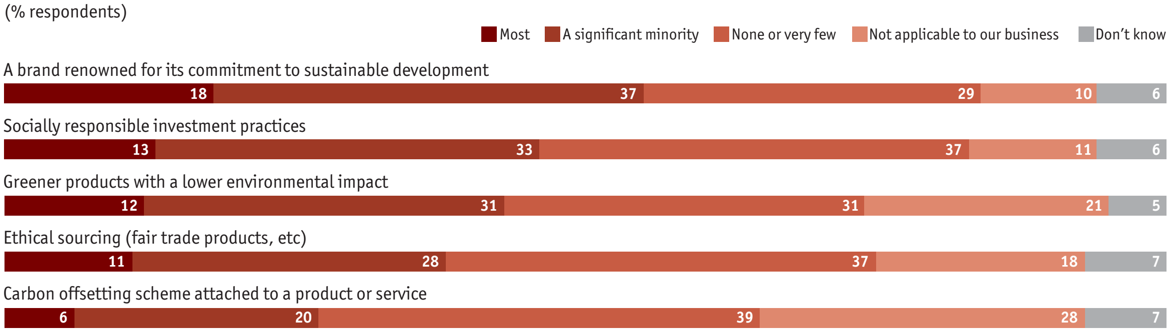
What are the biggest benefits that your organisation expects to derive from adopting sustainable practices beyond those of compliance (if any)? Please select up to three items.
(% respondents)



How do you expect the adoption of sustainable practices to impact your profitability over the next five years?
(% respondents)



In your view, how many of your customers would be willing to pay extra for the following?
Please check one column for all applicable options.
(% respondents)

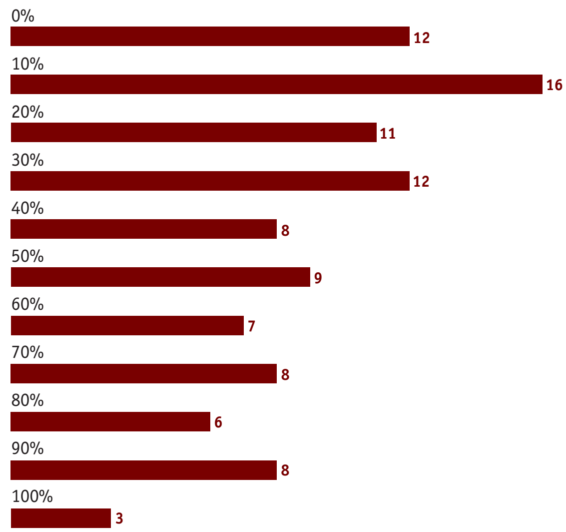


Do you agree or disagree with the following statements?
(% respondents)

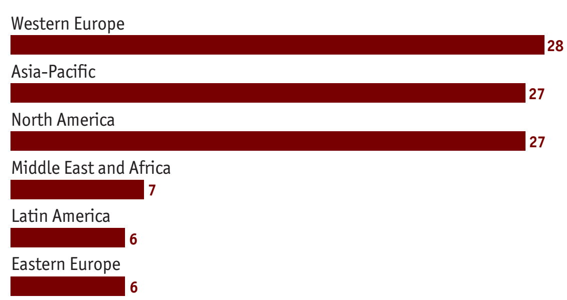
What are the major barriers to making further progress on sustainability goals in your organisation?
Please check up to three answers.
(% respondents)

About the respondents

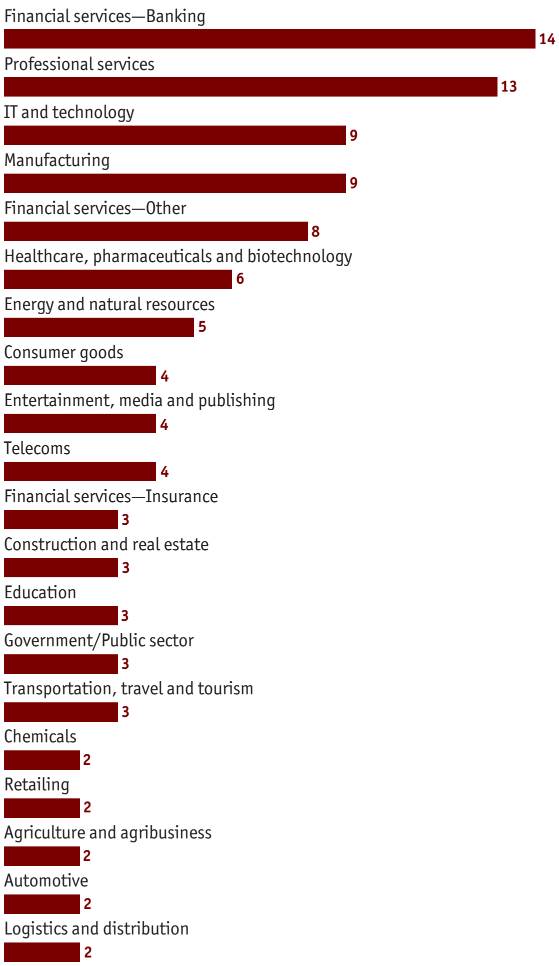
Approximately what proportion of your company revenue is accounted for by markets outside of the one your organisation is headquartered in?
(% respondents)



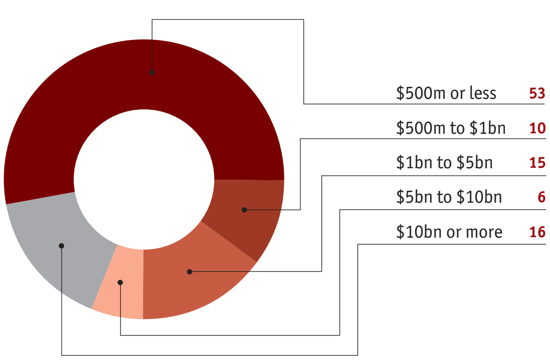
In which region are you personally based?
(% respondents)



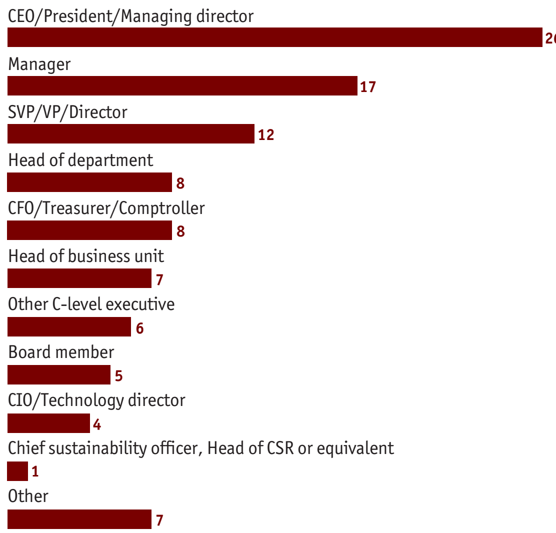
What is your primary industry?
(% respondents)



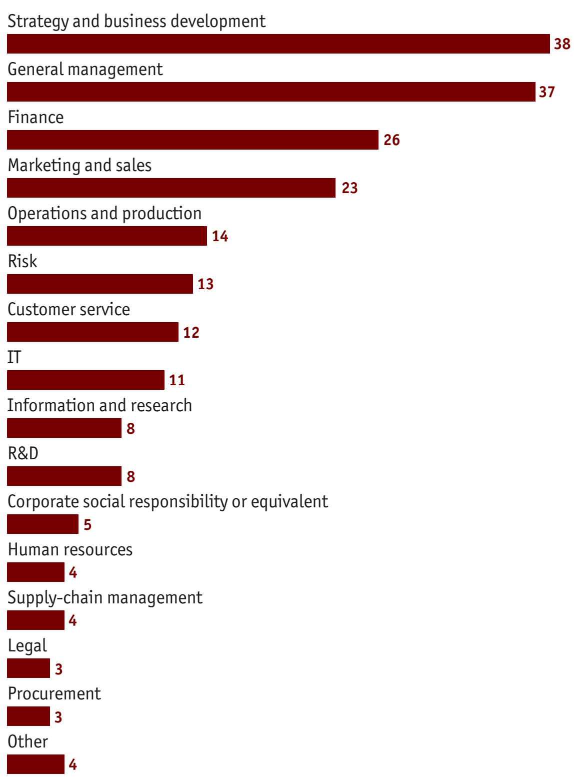
What are your company's annual global revenues in US dollars?
(% respondents)



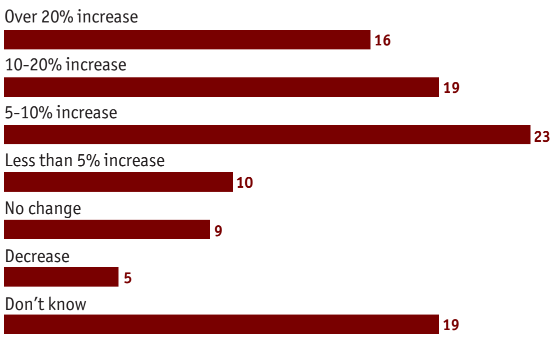
What is your title?
(% respondents)



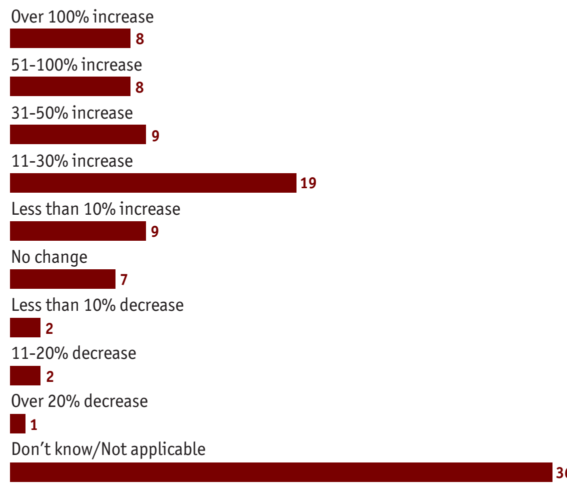
What are your main functional roles?
Please choose no more than three functions.
(% respondents)



How has your company's EBITDA changed each year, on average, over the past three years?
(% respondents)



How has your organisation's share price changed over the past three years?
(% respondents)



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