Sustainable Consumption Facts and Trends

From a business perspective

The Business Role Focus Area

World Business Council for
Sustainable Development

About this document

This document takes stock of recent developments and trends in global consumption patterns. It presents an overview of documented facts and trends on the relationship between business activities, consumer behavior, and environmental and social challenges. The primary purpose of this paper is to stimulate further discussion among businesses and to be used in dialogue with stakeholders. We have used existing data from a variety of sources, including intergovernmental organizations, non-governmental organizations (NGOs), governments, academics, consumer groups and businesses, including our own members. In all cases, we have sought to use the best data available.

This document has been developed by the World Business Council for Sustainable Development (WBCSD)'s Business Role Focus Area and members of the Consumers & Sustainable Consumption workstream: adidas, BCSD Argentina, Coca-Cola, EDF, General Motors, Henkel, Interface, KPMG, Nokia, Pakistan State Oil, Philips, Procter & Gamble, PricewaterhouseCoopers, Sony, Teijin, Umicore and Weyerhaeuser.

The Business Role Focus Area aims to engage, equip and mobilize business leaders to demonstrate the evolving role of business in a sustainable society. Dialogues with stakeholders around the world have confirmed that society expects business to act, and that leading businesses of the future will be those with products and services that address society's most urgent challenges.[1]

Cover image

The concept of sustainable consumption has been an often confusing, or "wooly", topic of multiple themes, concepts and issues. In identifying the key facts and trends surrounding this subject, and in developing a deeper understanding of key issues from a business perspective, the path towards a sustainable consumption future becomes untangled, clear, good for business and good for sustainable development.

Contents

4 **Message from the co-chairs of the Business Role Focus Area**

5 **Foreword: A statement of intent from the sustainable consumption & consumers workstream**

6 **Executive summary: The issue at a glance**

7 **Introduction: Sustainable consumption**

8 Chapter 1: Global drivers of consumption

10 Chapter 2: Global consumption patterns & impacts

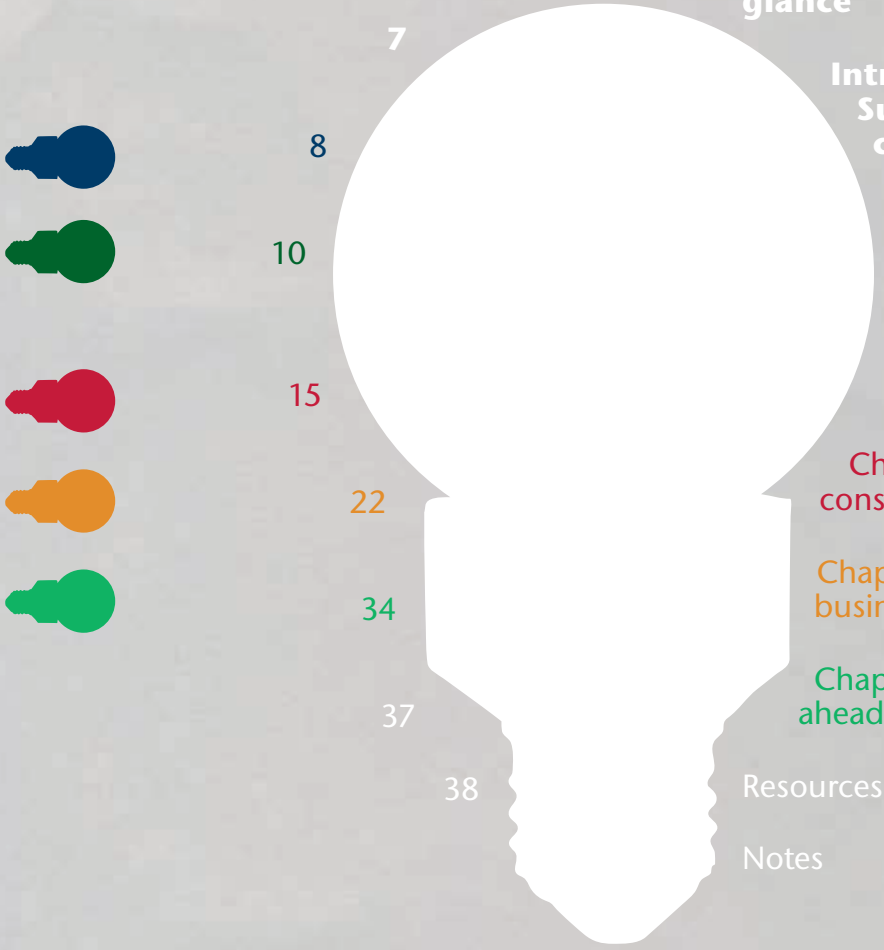
15 Chapter 3: The role of the consumer

22 Chapter 4: The role of business

34 Chapter 5: The challenge ahead & options for change

37 Resources

38 Notes



Message from the co-chairs of the World Business Council for Sustainable Development's Business Role Focus Area

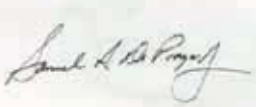
There are now clear signs that consumption issues are increasingly of central concern to business. Further, in response to these challenges, we as business leaders are keen to signal to our stakeholders our willingness to formulate innovative responses and solutions.

In 2005 a group of CEOs from the WBCSD created a manifesto for tomorrow's global businesses that stated: "Leading businesses of the future will be those whose core business directly addresses global challenges." This document also represents a milestone on the journey for business seeking to define its role in tomorrow's society.

The compelling statements of the companies who have contributed to this new report, along with the data presented, make it clear that the role of business is to work in partnership with our customers and stakeholders to define, "what is a sustainable product?" and "what is a sustainable lifestyle?" Determining the answers to these questions will help us achieve more sustainable and responsible consumption.

The statement of intent from the companies contributing to this work (page 5) states that business is at the beginning of this journey. We are confident that business can add significant value in addressing this global challenge, just as we have made significant progress in the area of sustainable production.

We would like to congratulate the companies who have so readily contributed their insights and experience to this important discussion. We would also like to thank them for taking a courageous leadership stance in driving forward a shared understanding of what is meant by sustainable, responsible consumption from a business perspective. As our world faces rising fuel prices, serious issues of hunger and poverty, scarcity of water, arable land and other natural resources ... the question of human consumption and how we deal with it has never been more urgent.



Samuel A. DiPiazza, Jr,
Global CEO,
PricewaterhouseCoopers

Idar Kreutzer,
CEO,
Storebrand

A statement of intent

From the WBCSD's Business Role Focus Area workstream on Sustainable Consumption & Consumers

Current global consumption patterns are unsustainable. Based on the facts and trends outlined in this document, it is becoming apparent that efficiency gains and technological advances alone will not be sufficient to bring global consumption to a sustainable level; changes will also be required to consumer lifestyles, including the ways in which consumers choose and use products and services.

We recognize the need for business to play a leadership role in fostering more sustainable levels and patterns of consumption, through current business processes such as innovation, marketing and communications, and by working in partnership with consumers, governments and stakeholders to define and achieve more sustainable lifestyles.

"The target of this work is to demonstrate that WBCSD members want to be proactive in addressing the global challenges related to shortage of resources, water scarcity, climate change and loss of biodiversity. Understanding and adjusting to the requirements of future consumers who will increasingly want to make ethical choices will be important to the whole business community. Overlooking this trend would be shortsighted and a risk for any company, and we believe it is the responsible companies who will be successful in the long run. Companies can also influence consumer behavior towards more sustainable choices, both through product development and consumer information. It is our aim that this trend analysis on sustainable consumption will act as a trigger for innovation and ultimately for more sustainable consumption."

Kirsi Sormunen, Vice President & Head of Environmental Activities, Nokia

"The role of business and the role of consumers are intrinsically linked in terms of the sustainable use of products. Consumers choose to buy a product for a combination of reasons. One is and will remain excellent performance at an adequate price. In the future, delivering performance that is both based on sustainability and recognized as added value will become increasingly important for consumer choices. This development offers great potential as a driver for innovative products – not merely in the sense of 'green' products, but in the sense of offering smarter consumer-relevant solutions that link product quality to the shared responsibility of producers and consumers. The environmental footprint of the product in terms of production and disposal and – in many cases even more importantly – the proper use of the product with respect to its environmental impact will be decisive. To address this, we must work more closely with consumers, communicating top performance, the added value of sustainable products and enabling behavioral changes."

C-A Weinberger, Corporate Senior Vice President and Global Chief Marketing Officer, Henkel

"Addressing sustainable consumption requires innovative thinking that goes 'beyond the fence'. The fundamentals of business activity in society will be impacted by resource shortages and environmental degradation. This document seeks to explore trends in business approaches that align corporate values and marketing activities in the context of the creation of marketable, sustainable solutions. Once this broadened view is established, it opens new dimensions of market opportunity but not at the cost of the environment."

Frank Henke, Vice President & Global Director, Social and Environmental Affairs, adidas Group

"We need to connect sustainable production with sustainable consumption. This means understanding current and future consumption patterns, then harnessing innovation to develop more sustainable products, services and behavior change initiatives. This publication will help us all learn from those leading the way in identifying opportunities for sustainable value creation for consumers, businesses and society as a whole."

Dr. Peter White, Director of Global Sustainability, Procter & Gamble

"Technology innovation has driven the explosive growth of the 20th century – growth that now presents us with a new set of local and global challenges. Rising effectively to these challenges requires us to work closely with our consumers to redefine the value that we offer to them, and to redefine our corporate values in line with our vision of a sustainable and prosperous society."

Hidemi Tomita, General Manager, Corporate Social Responsibility Department, Sony Corporation

"I see an important role for business in the discussion about sustainable consumption in helping to find an optimal balance between self-regulating market mechanisms on the one hand and legislative, 'level playing field' initiatives on the other."

Dr. Andrew Griffiths, Director EHS Europe, Umicore

"The role of business is to make markets work. This document is a call to action to make markets work for sustainable consumption."

Cassie Phillips, Vice President, Sustainable Forests and Products, Weyerhaeuser

Executive summary

To meet the challenge of sustainable development, businesses can help to foster more sustainable levels and patterns of consumption. There is a significant opportunity for business to help consumers choose and use their goods and services sustainably. In order to do so, business must create sustainable value for consumers by supplying products and services that meet their functional and emotional needs – now and for future generations – while respecting environmental limits and common values.

The issue at a glance...

1. Global drivers of consumption

Global consumption levels and patterns are driven at the most fundamental level by:

- Rapid global population growth – Population of 9 billion expected by 2050
- The rise in global affluence and associated consumption – Global middle class expected to triple by 2030; low-income consumers represent a market of US$ 5 trillion
- A culture of "consumerism" among higher income groups, who account for the greatest per capita share of global consumption

2. Global consumption patterns & impacts

Global consumption is putting unsustainable and increasing stress on:

- The Earth's ecosystems – 60% of the Earth's ecosystem services have been degraded in the past 50 years
- The supply of energy and material resources needed for industrial growth – Natural resource consumption is expected to rise to 170% of the Earth's bio-capacity by 2040
- Human social systems and well-being – Human well-being does not necessarily rely on high levels of consumption

3. The role of the consumer

Consumer attitudes and behaviors:

- Consumers are increasingly concerned about environmental, social and economic issues, and increasingly willing to act on those concerns
- Consumer willingness often does not translate into sustainable consumer behavior because of a variety of factors – such as availability, affordability, convenience, product performance, conflicting priorities, skepticism and force of habit

4. The role of business – mainstreaming sustainable consumption

The business case: Business approaches to sustainable consumption can be grouped into three broad categories:

- Innovation – business processes for the development of new and improved products, services and business are shifting to incorporate provisions for maximizing societal value and minimizing environmental cost
- Choice influencing – the use of marketing and awareness-raising campaigns to enable and encourage consumers to choose and use products more efficiently and sustainably
- Choice editing – the removal of "unsustainable" products and services from the marketplace in partnership with other actors in society

5. The challenge ahead & options for change

- To be able to lead sustainable lifestyles based on informed purchasing decisions and changes in behavior, consumers need the support of all actors: business, governments and civil society
- Business sees a need for further dialogue with stakeholders (such as consumers, retailers, marketers, policy-makers, NGOs) and between businesses to define sustainable products and lifestyles and to formulate actionable responses
- Leading businesses have the capacity to mainstream sustainable consumption and stakeholders welcome the opportunity to work alongside business moving forward.

Introduction: Sustainable consumption

Sustainable production & consumption from a business perspective

Sustainable production and consumption involves business, government, communities and households contributing to environmental quality through the efficient production and use of natural resources, the minimization of wastes, and the optimization of products and services. The WBCSD recognizes the need for business to take a leadership role in promoting sustainable patterns of production and consumption that meet societal needs within ecological limits. Business can best work towards these goals through responsible environmental management, enhanced competitiveness and profitable operations.

WBCSD Policy Statement, May 1995
Source: WBCSD, *Sustainable Production & Consumption from a Business Perspective*, 1997.

An international agenda

The sustainable consumption challenge emerged as a key issue in 1992 at the United Nations Conference on Environment and Development in Rio de Janeiro. Ten years later, at the World Summit on Sustainable Development in Johannesburg, the international community was called upon to improve global living conditions and to "encourage and promote the development of a ten-year framework of programs on sustainable consumption and production (SCP) in support of regional and national initiatives to accelerate the shift towards SCP."

Working definition of sustainable production & consumption

"The use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations."

United Nations Commission on Sustainable Development (UNCSD), Symposium on Sustainable Consumption, Oslo, 1994.[2]

Policy agendas

Governments and policy-makers at all levels have a vital role to play in creating the right legal, fiscal and cultural environment for sustainable businesses to thrive. For example, national sovereignty and differing legal frameworks require nations and regions to cooperate in today's world of global markets and global environmental and social challenges.

The need for policies that foster sustainable consumption has been recognized as a priority at international and European levels, informed, in part, by support and influence from the business community.

- International: The development of a ten-year framework on sustainable consumption and production is led by the United Nations Environment Programme (UNEP) and the United Nations Department of Environmental and Social Affairs (UN DESA) through the Marrakech Process. This includes organizing regional consultations; building regional strategies and implementation mechanisms, with regional and national ownership; implementing concrete programs and projects; and monitoring, evaluating and sharing information on progress.
- European Union: The sustainable development strategy adopted by the European Council in June 2006 included the task of developing an action plan for sustainable production and consumption in Europe. This plan includes leveraging innovation through leadership and networking; using dynamic performance requirements, sustainability labels, eco-design instruments and standardization to result in the production of better products; measures to encourage leaner and cleaner production processes; fostering smarter consumption by means of retailer agreements, market-based instruments, value added tax rates, the EU Eco-Label, advertising, and green procurement; and working for global markets that reward first movers and provide a level the playing field for producers of sustainable technologies and products.
- Business: In 2007 the WBCSD developed policy recommendations on climate change as input into the post-Kyoto negotiation process.[3] These recommendations include: encouraging energy efficiency; broadening the range of fuels in the transport sector; and creating awareness and incentives for widespread take-up of low-carbon products, services and lifestyles by consumers.

1 Global drivers of consumption

Global consumption levels and patterns are driven at the most fundamental level by:

- Rapid global population growth
- The rise in global affluence – middle- and lower-income consumers
- A culture of "consumerism" among higher income groups

Population growth and economic development are driving consumption around the world and will continue to do so as billions of consumers – especially in China, India and other emerging economies – add to the demand for goods and services. The market pressure created by competitive spending and conspicuous consumption turn the affluence of some into the exclusion of many.

There will be an estimated 9 billion people in 2050.

World population is projected to reach 9 billion by 2050, driven largely by growth in developing countries and countries with lower per-capita incomes.[4] Recent studies show that we are already exceeding the Earth's ability to support our lifestyles, and have been doing so for approximately twenty years.[5]

World GDP is projected to grow by 325% between 2007 and 2050.

On average, around 60% of gross domestic product (GDP) is accounted for by consumer spending on goods and services.

World GDP is projected to grow by 325% between 2007 and 2050 as strong GDP growth is forecast to be accompanied by population growth. The already populous nations of China and India are likely to be among the fastest growing – China's GDP is set to overtake that of the US by 2025; India's GDP is expected to rival that of Japan at around the same time, and come close to that of the US by 2050. By 2050, the GDPs of Mexico, Brazil, Russia and Indonesia are all projected to have outgrown that of the UK (currently the world's 6th largest economy). Most of the other emerging market economies look set to overtake the UK in GDP terms by 2050.[7]

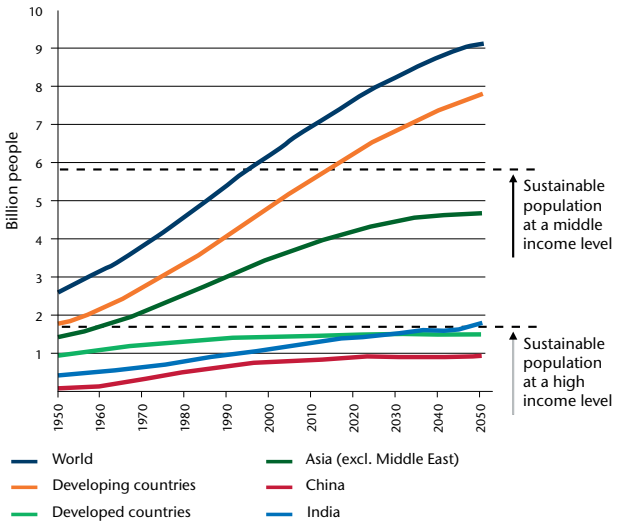


Figure 1: World population is projected to reach 9 billion by 2050; unsustainable at a middle income level (global average).
Source: World Resources Institute (WRI)/Earthtrends, 2008.[6]

The number of middle-class consumers worldwide is expected to triple by 2030.

Projected rises in the GDP of developing countries are expected to accompany a three-fold increase in the number of middle-income consumers. By 2025 there are expected to be 220 million middle-income consumer households in China alone – approximately four times as many as there were in 2004.[8] According to Goldman Sachs, 70 million people each year are entering an income bracket equivalent to between US$ 6,000 and US$ 30,000 in purchasing power parity terms. This phenomenon may continue for the next twenty years, accelerating to 90 million new middle-income consumers per year by 2030. If this proves to be the case, then 2 billion people will have joined the ranks of the middle class by that date, bringing almost 80% of the world population into the middle-income bracket.[9]

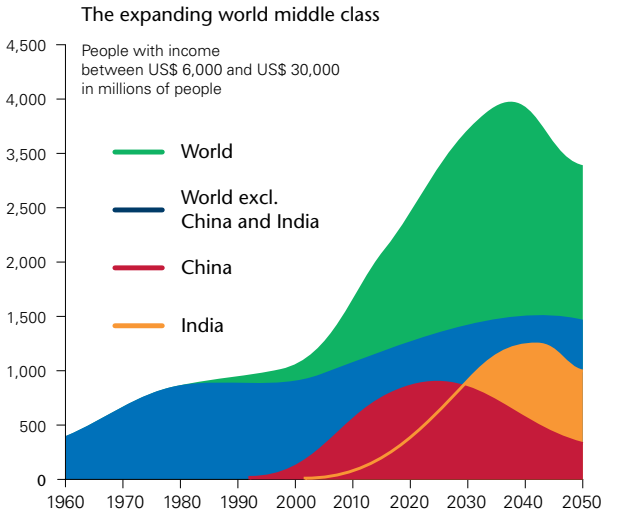


Figure 2: Middle classes in developing countries projected to grow by 300% by 2030.
Source: Goldman Sachs, 2008[10].

Signs of a new "global middle class" with common consumption patterns are emerging.

Globalization and economic integration are giving more consumers access to more products and services. Local and national boundaries are breaking down in the setting of social standards and aspirations in consumption.

Market research is starting to identify categories of "global middle-class consumers" and "global elites" that share a preference for global brands.

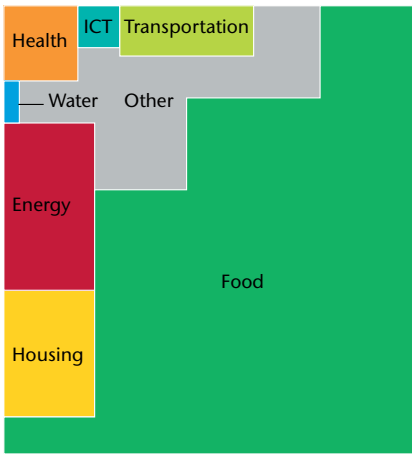


Figure 3a. Relative estimated values of low-income market sectors. Total consumer expenditure in these sectors equals US$ 5 trillion. The size of each segment on the graph reflects its share of expenditure among low-income consumers.
Source: IFC/WRI, *The Next Four Billion*, 2007.

Low-income consumers account for almost two-thirds of the world's population and have a combined spending power of approximately US$ 5 trillion.

Four billion people earn less than US$ 3,000 per year (the equivalent of US$ 3.35 per day). Low-income consumers have a combined spending power of approximately US$ 5 trillion. Food tends to dominate low-income household budgets (Figure 3a). As incomes rise, the share spent on food often declines, the share for housing remains relatively constant, and the shares for transportation and telecommunications grow rapidly[11] (Figure 3b); in Africa, 71% of expenditure comes from low-income consumers, who make up 95% of the population.

	Population	Market size of the low-income segment	Percentage of the region's population	Percentage of the region's purchasing power
Asia (incl. Middle East)	2.86 billion	US$ 3.47 trillion	83%	42%
Eastern Europe	254 million	US$ 458 billion	64%	36%
Latin America	360 million	US$ 509 billion	70%	28%
Africa	486 million	US$ 429 billion	95%	71%

Figure 3b. Estimated low-income market by region.
Source: IFC/WRI. *The Next Four Billion*, 2007. For more information see also WBCSD, *Doing Business with the World*, 2007.

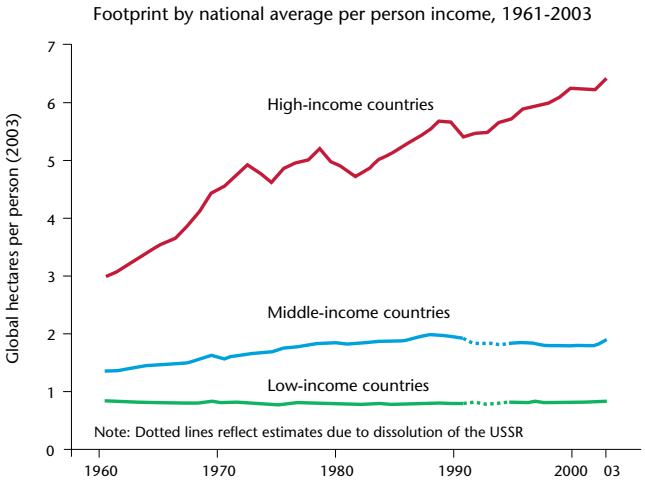


Figure 4: Consumers in wealthy countries account for the greatest per-capita environmental footprint.
Source: WWF, *Living Planet Report*, 2006.

Consumption and wealth: A culture of consumerism

Relatively wealthy consumers account for by far the greatest per-capita share of consumption expenditure and environmental footprint. According to estimates by World Wildlife Fund (WWF), three planets would be required were everyone to adopt the consumption patterns and lifestyles of the average citizen from the United Kingdom; five planets, were they to live like the average North American.[12]

The United Nations Development Programme (UNDP) describes conspicuous consumption as places where there is heavy societal pressure to maintain high consumption patterns and where competitive spending and displays of wealth are encouraged by society.

2 Global consumption patterns & impacts

Global consumption patterns and trends are putting unsustainable and increasing stress on:

- The Earth's ecosystems
- The supply of material resources needed for industrial growth
- Human social systems and well-being

"Peak demand for electricity in Pakistan has been growing at 6.6% per annum since 2001, and the supply shortage has occurred much earlier than expected. It is, therefore, in everyone's interests for us to help consumers save energy."
Pakistan State Oil Company, 2007.

Balance sheet: Ecosystem services

Provisioning services		↓
Food	crops	↑
	livestock	↑
	capture fisheries	↓
	aquaculture	↑
	wild foods	↓
Fiber	timber	+/-
	cotton, silk	+/-
	wood fuel	↓
Genetic resources		↓
Biochemicals, medicine		↓
Water	freshwater	↓

Regulating services	↓
Air quality regulation	↓
Climate regulation – global	↑
Climate regulation – regional and local	↓
Water regulation	↓
Water purification and waste treatment	↓
Disease regulation	+/-
Pest regulation	+/-
Natural hazard regulation	↓
Cultural services	↓
Spiritual and religious values	↓
Aesthetic values	↓
Recreation and ecotourism	↓

↑ globally enhanced
↓ globally degraded

The MA evaluated the global status of provisioning, regulating and cultural services. An upwards arrow indicates that the condition of the service globally has been enhanced and a downwards arrow that it has been degraded in the recent past.

Figure 5: Changes in the provision of ecosystem services show declines in two-thirds of the Earth's provisioning and regulating ecosystem services.
Source: *Millennium Ecosystem Assessment*, 2005.

Studies show that two-thirds of the Earth's ecosystem services are in decline.

Nature provides essential resources to the system of production-consumption, including provisioning services, or products, such as timber and fish, and regulation services, such as climate control, pollination, irrigation and flood regulation. According to the Millennium Ecosystem Assessment (MA), 60% are being degraded or used unsustainably, including 70% of provisioning and regulating ecosystem services.[13] Ecosystem services enhancements over the past 50 years have primarily involved food production: crops, livestock, and aquaculture (Figure 5). 10-30% of mammal, bird and amphibian species are currently threatened with extinction.[14]

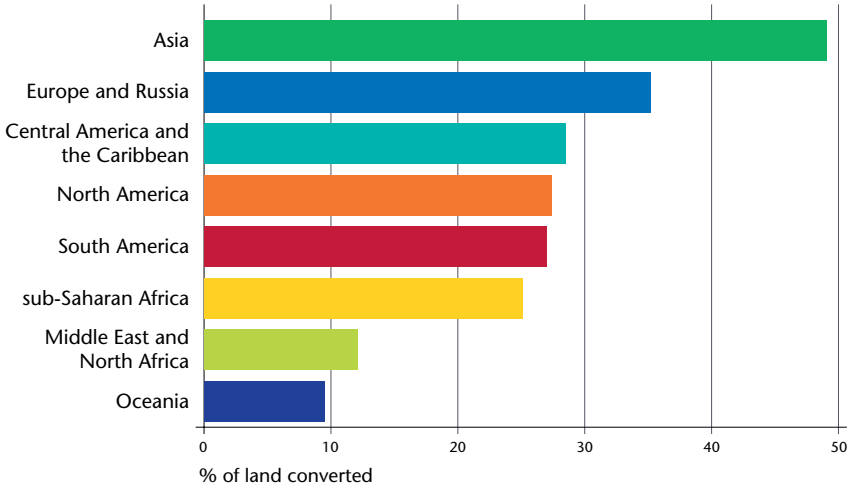


Figure 6: Conversion of natural ecosystems to urban areas or cropland by region, 2005. Almost half of Asia's land area has already been converted.
Source: WRI/EarthTrends, 2005.

Almost 30% of the Earth's terrestrial area, comprising 2 billion hectares of forest and 1.5 billion hectares of grassland, has been converted to urban areas or cropland (Figure 6).[15] According to estimates, almost a third of the Earth's plants and animals have been lost since 1970.[16] Current extinction rates are approximately one hundred times higher than the fossil record. The MA predicts that extinctions could increase further by a factor of ten.[17]

Valuing and paying for natural resources

Market mechanisms can be powerful complements to existing strategies for conserving critical ecosystems services such as water, fiber and food. Markets for ecosystems can be created via:

1. Certification – helping consumers make informed choices
2. Direct payments – creating positive incentives for resource managers to supply ecosystem services
3. Tradable permits – using regulated markets to manage environmental liabilities.

For more information, see International Union for Conservation of Nature (IUCN)/WBCSD, *Business and Ecosystems*, 2007.[18]

It is reported that natural resource consumption by humans has increased to 125% of global carrying capacity, and could rise to 170% by 2040.

According to WWF, humanity's "ecological footprint" (a measure of the pressure on Earth from human consumption of natural resources) has increased to 125% of global carrying capacity and could rise to 170% by 2040.[19]

The most important direct drivers of biodiversity loss and ecosystem service changes are: habitat change (such as land-use changes, physical modification of rivers or water withdrawal from rivers, loss of coral reefs, and damage to sea floors due to trawling), climate change, invasive alien species, overexploitation and pollution.[20] For this reason, economic activity and population density tend to be correlated with the size of the ecological footprint. Figure 7 shows that North America, the EU and the Asia-Pacific region currently consume at rates well beyond their natural resources (referred to as "biocapacity" in Figure 7).

The materials required to satisfy human needs and wants vary considerably. According to the United Nations Environment Programme/Wuppertal Institute Collaborating Centre on Sustainable Consumption and Production (UNEP CSCP), on average, almost a third of each person's material requirements are for housing, and a fifth are for food.

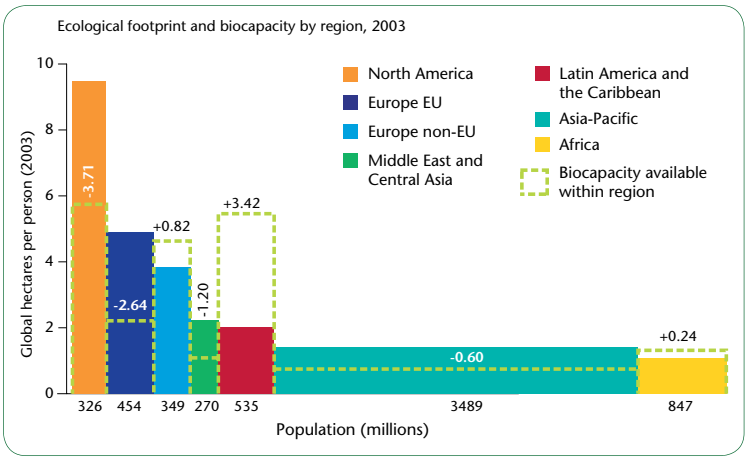


Figure 7: More developed/populous regions consume at rates beyond available natural resources.
Source: World Wildlife Fund (WWF), *Living Planet Report*, 2006.

Food and drink have the highest levels of ecological impact per dollar spent, according to WWF.

In its *One Planet Business* report, the WWF states that each US$ 1 million spent by consumers on food has an ecological footprint of approximately 1,500 hectares (Figure 8). Food and drink are reported to have the highest footprint per dollar spent, followed by household equipment and housing.

In terms of absolute consumption impacts, food, transport and housing are seen as the most significant.[21] Food is described as the most important ecological footprint because of great impacts at both the production and consumption stages. Housing is reported to use both the most materials and the most energy, contributing to its high footprint.[22]

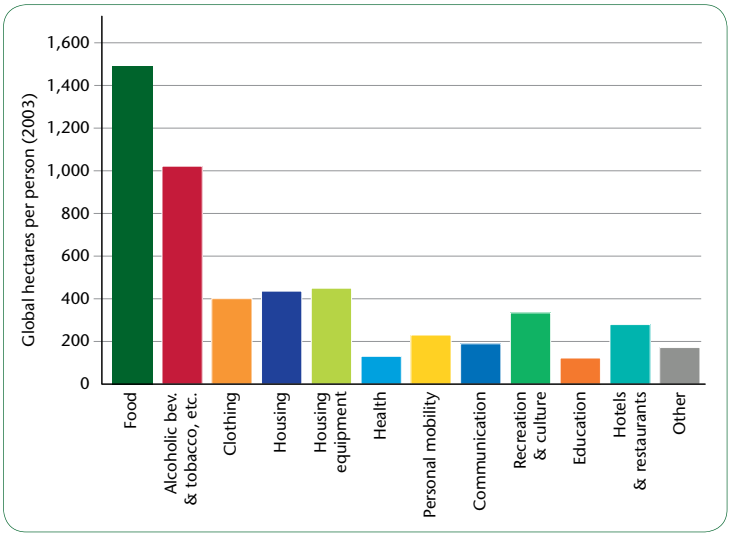


Figure 8: Ecological footprint per US$ 1 million spent by consumers.
Source: Global Footprint Network (GFN)/WWF, One Planet Business Global Evidence Base, 2006.

Type of economy	Example countries	Main sustainability challenge
Consumer	US, Japan, Western Europe	Dramatically lowering resource use while maintaining economic output ("Factor 10")
Emerging	China, South-East Asia, some countries in South America	Leapfrogging to sustainable structures of consumption and production without copying western examples first
Developing	Many countries in Africa, some countries in South America	Developing dedicated solutions for the "low-income segment of the population"; providing a basis for sustainable growth

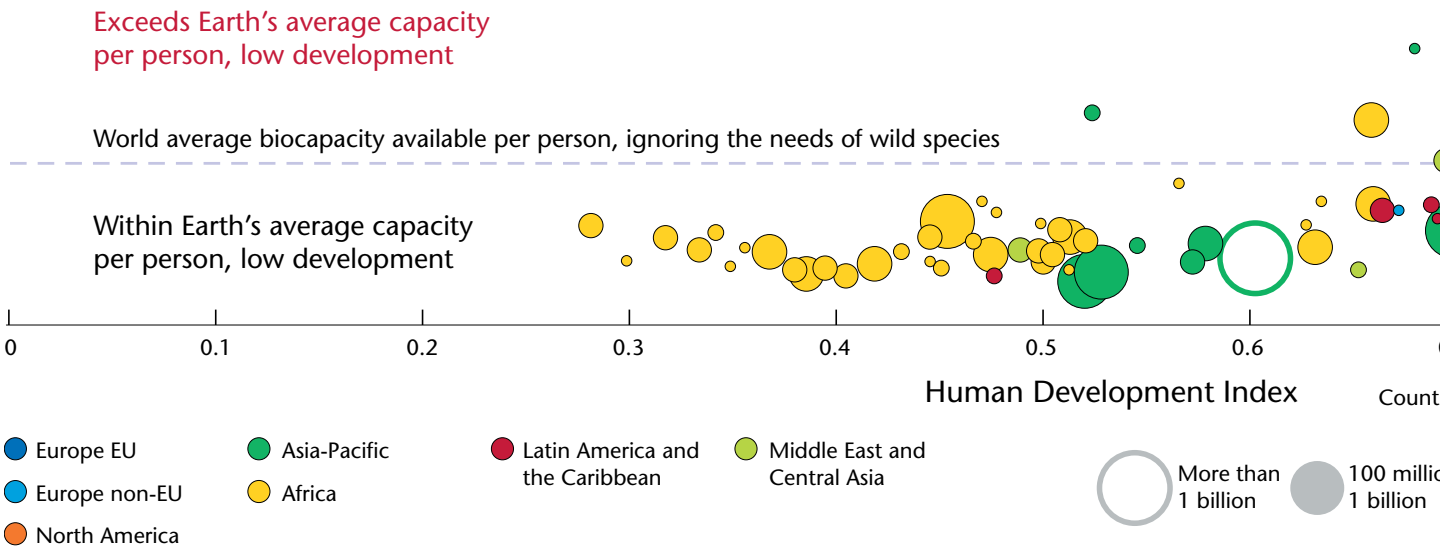
Figure 9: Sustainable consumption challenges by type of economy.
Source: Sustainable Consumption Research Exchanges (SCORE!), *System Innovation for Sustainability 1: Perspectives on Radical Changes to Sustainable Consumption and Production*, 2008.

Studies show that consumption pattern impacts vary considerably by geography, income and demographics.

Consumption levels and patterns vary considerably by geography, income and demographics. The associated sustainability challenges also differ markedly per type of economy (Figure 9). Poorer people (who are responsible for emitting the lowest levels of greenhouse gases) are disproportionately vulnerable to the loss of biodiversity and ecosystem services. They will also suffer most from the impacts of climate change, such as flooding, reduced access to clean freshwater, health and social problems according to Sustainable Consumption Research Exchanges (SCORE!) an EU funded network project in support of the UN's 10 year framework program on sustainable consumption and production.

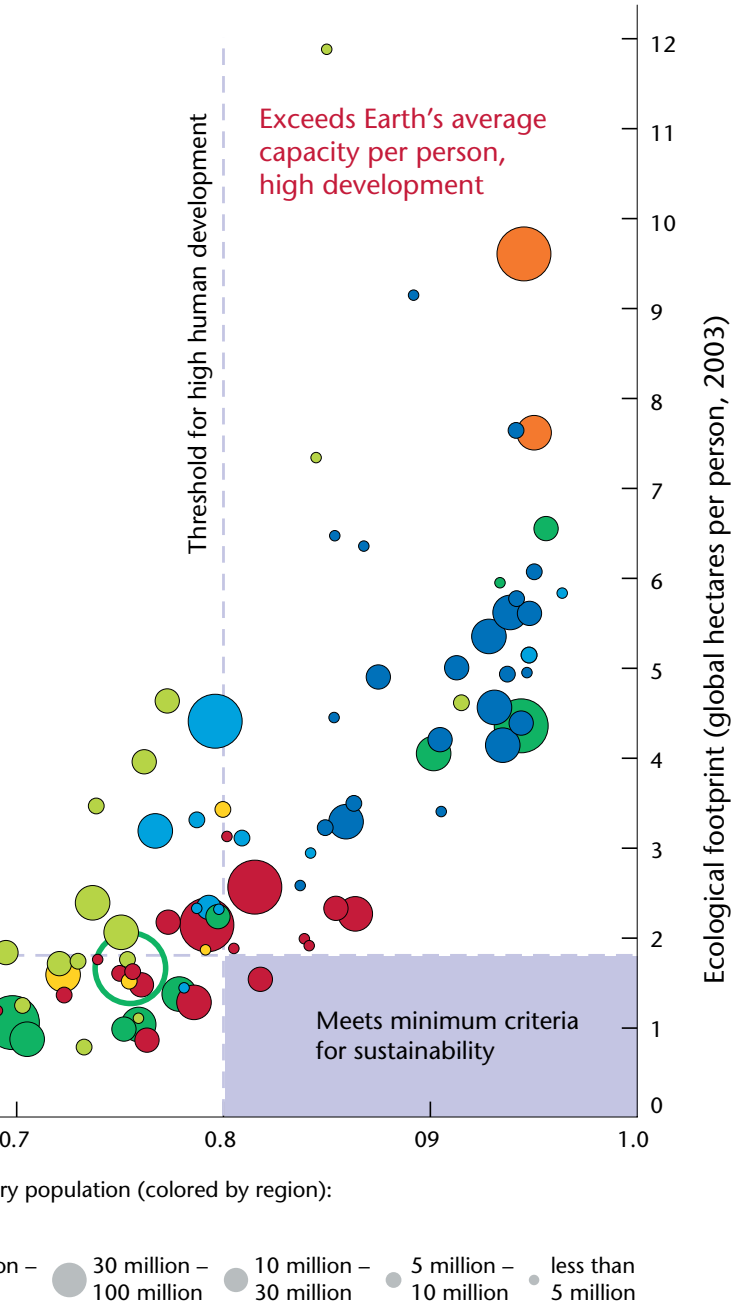
Figure 12 highlights the need for solutions that are appropriate to local conditions. Sustainability experts from Brazil, China, Germany, Hungary, India, Italy, Mexico, Russia and the US describe the challenges and priorities they see I their countries and regions. While many of the challenges of sustainable development are similar everywhere, priorities and perspectives differ widely from region to region. Emerging economies in particular expect multinationals to contribute to the development of their countries. In industrialized countries, maintaining competitiveness is seen as a key challenge.

Figure 10: Higher levels of human development tend to be associated with unsustainable ecological impacts.
Source: Global Footprint Network (GFN), 2006.



Well-being is not necessarily correlated with high levels of consumption

The New Economics Foundation's Happy Planet Index ranks a nation's progress based on the amount of the Earth's resources its inhabitants use and the length and happiness of people's lives. Although this is a contentious area of research, it yields some interesting insights. According to the study, a high consumption level does not necessarily guarantee happiness. It claims that people can live long, happy lives without using more than their "fair share" of the Earth's resources. While no country combines high GDP with low life satisfaction, many poorer countries achieve levels of life satisfaction just as high as their wealthier neighbors.[23] Above a minimum level, there is no apparent correlation between per capita GDP and life satisfaction.



The UN's Human Development Index associates increased development and GDP with unsustainable ecological impacts (Figure 10). The inhabitants of those nations with the highest levels of human development, such as Canada and the US, consume ecosystem services at rates far higher than the Earth can regenerate them. Nations in which consumption levels do not overstress the Earth's regenerative capabilities, such as India and China, tend to fall below the UN's threshold for adequate human development. As development proceeds in these countries, the strain on biological resources is likely to increase.

Human health is an important element of well-being, and one that can be affected both positively and negatively by consumer products and services. In recent years the health effects of over-consumption of products such as tobacco and products with a potential to fuel obesity have exposed manufacturers to significant legal liabilities.

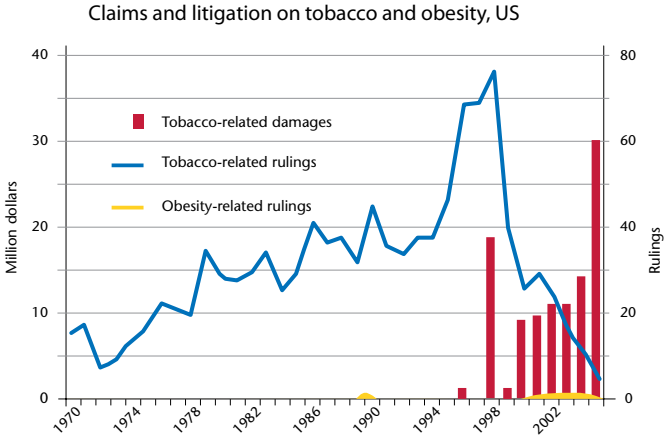


Figure 11: Trends in legal claims and litigation cases regarding tobacco, obesity, and food marketing practices in the US show risks to human health and well-being can also be risks for business.
Source: SustainAbility/Insurance Information Institute, *The Changing Landscape of Liability: A Director's Guide to Trends in Corporate Environmental, Social and Economic Liability*, 2004.

Key areas	Expectations in industrial countries	Expectations in emerging economies
Economic development	Remain competitive and offer development opportunities to emerging economies	Contribute to the country's development, especially in structurally weak regions
Ethics and management	Promote the adoption of environmental and social standards, throughout the value chain, especially among suppliers Create transparency, regarding economic, ecological and social aspects of corporate activities, especially in emerging economies Support human rights	Act ethically and legally Establish high environmental and social standards, and set an example for suppliers and competitors Help to build management competencies and institutions
Employees and jobs	Promote job security through employee training and development Proactively address challenges like equal opportunity and population aging	Create jobs and train employees Ensure occupational safety and health protection Promote and raise employee awareness of environmental protection
Products and marketing	Ensure product safety Offer quality products at fair prices Promote sustainable consumption through ethically and ecologically sound products, and by informing consumers and raising their awareness	Develop and market quality products for those at the bottom of the affluence pyramid Ensure that products are safe and environmentally compatible Consider the cultural and social context
Resource efficiency and climate protection	Stronger focus on products: dematerialization of the economy by moving from product- to service-oriented business models Help to reduce greenhouse gas emissions	Transfer know-how and modern energy- and resource-conserving technologies Satisfy growing consumer needs with products that use limited resources efficiently
Social commitment	Work toward meeting the United Nations' Millennium Development Goals Help to solve social problems, also by encouraging employee volunteering	Support and promote, in particular, disadvantaged children and young people Raise public awareness of environmental protection Promote education and research for sustainable development

Figure 12: Expectations of businesses in industrialized and emerging economies.
Source: Henkel, 2007.

Key issues for business

from IUCN/WBCSD, *Business and Ecosystems*, 2007.

- Financial – Changes in fiscal and tax regimes to internalize environmental and social costs resulting in higher cost of capital and more rigorous lending requirements
- Regulatory & legal – Increased regulatory constraints as governments seek to protect degraded ecosystem services and human health
- Reputational – Risk to reputation, brand equity, and license to operate for businesses most directly linked with threatened ecosystems, resources or risks to health and well-being
- Operational – Substantial increase in cost of important inputs (such as water or agricultural products); increased vulnerability of assets to floods or other natural disasters; conflict and corruption that may arise in areas plagued by scarcity of ecosystem services

The role of the consumer

3

Consumer attitudes & behaviors

- Consumers are increasingly concerned about environmental, social and economic issues, and increasingly willing to act on those concerns; however
- Consumer willingness is not translating into sustainable consumer behavior. A variety of barriers have been identified, such as availability, affordability, convenience, product performance, conflicting priorities, skepticism and force of habit.

Chapters 1 and 2 examined current and projected patterns of global consumption and its impacts. This Chapter examines the consumers themselves, including their attitudes to sustainable consumption, relevant aspects of their lifestyles, and their role in driving more sustainable patterns of consumption.

Awareness and concern

According to recent studies of consumer attitudes in developed markets, awareness of environmental and social issues is entering the mainstream:

- 96% of Europeans say that protecting the environment is important for them personally. Two-thirds of this group say that it is "very important".[24]
- Nearly one in four US adults now subscribes to a new set of values that typically includes "environmentalism, feminism, global issues and spiritual searching". These "cultural creatives" are well educated, relatively affluent, and typical of the kind of consumer responsible for the success of hybrid cars.[25]
- In the UK, 18% of consumers are willing, able and motivated to take action on environmental issues. These "positive greens" are strongly influenced by sustainability issues in their consumption choices and lifestyles, but remain attached to conventional car use, frequent flying and supermarkets.[26]

Global consumer attitudes to sustainability

A 2008 survey by the National Geographic Society and GlobScan on consumer choice and the environment reported on current behavior in fourteen countries (including Canada, China, France, Germany, India, Mexico, Russia, the UK and the US). The study found signs that consumers in all countries "feel empowered when it comes to the environment and are taking some action in their daily lives to reduce consumption and waste."[27]

A global Synovate survey conducted in 2007 in association with Aegis, and repeated in 2008 in association with BBC World,[28] also found that consumers in most countries are becoming more aware and willing to act on environmental concerns. The US had the largest rise of all, from 57% in 2007 to 80% in 2008. Chinese consumers also showed increased willingness to act on their concerns about climate change.

Reported behavior change	2007 (%)	2008 (%)
Saving power	76	81
Recycling	65	70
Reducing water consumption	65	69
Using less packaging and bags	56	68
Buying green products	53	61
Buying energy efficient devices	53	59
Informing oneself about climate change	46	58

Figure 13: Consumer awareness and willingness to act on environmental concerns is rising in most countries.
Source: Synovate/Aegis, 2007; Synovate/BBC World 2008.

Because this behavior is self-reported, it is an unreliable indicator of real behavior; however, repetition of the survey in successive years is indicative of the trend towards greater consumer concern and engagement on climate change.

Important note for this chapter: The data gap

Data linking the use of ecosystem services with consumption is less prevalent than data on the direct impacts of production. According to the United Nations Environment Programme/Wuppertal Institute Collaborating Centre on Sustainable Consumption and Production (UNEP CSCP), 80% of data currently collected focuses on impacts from manufacturing; however 80% of the impacts themselves occur during end use.

There is a need for further research linking self-reported behavior (as represented by the majority of existing studies) with empirical data on real behavior, because self-reported behavior is a poor descriptor or predictor of real behavior.

Willingness

Consumers in rapidly developing and developed markets – particularly China, Australia, Sweden and the US – report a propensity to buy from companies with a reputation for environmental and social responsibility (Figure 14)[29]; and, in a study by the European Union, 75% of respondents agreed that they would pay more for environmentally friendly products (Figure 15).

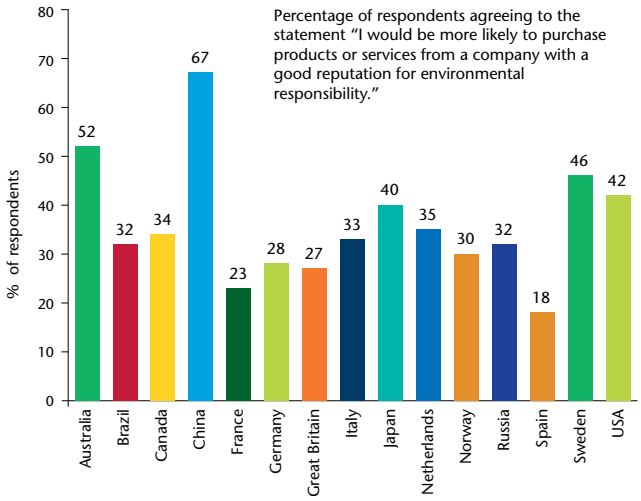


Figure 14: Consumers globally report a greater propensity to buy from companies with a reputation for environmental responsibility
Source: Tandberg, 2007.

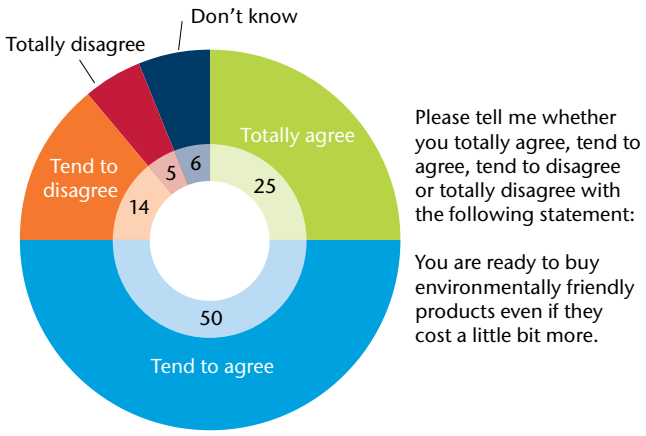


Figure 15: Consumers report a willingness to pay more for "environmentally friendly" products or services.[30]
Source: European Commission Directorate General Environment/Eurobarometer 295, *Attitudes of European Citizens towards the Environment*, 2008.

While these studies are not necessarily a reliable indicator of behavior, they are indicative of shifting consumer values and ideals.

Consumer attitudes in emerging markets: Focus on India

In 2008, the WBCSD's Future Leaders Team[31] spoke with young business professionals about sustainable consumption in India. These young business people also represented young Indian consumers, mainly from the middle and upper socio-economic groups. Following are some of the insights gathered with regard to sustainable consumption – and its prospects – in India:

> Consumption patterns. Indian household incomes are set to almost triple over the next two decades.

> Consumer awareness. Awareness and understanding of sustainable consumption among consumers was low; the majority of Indian consumers still buy small, unpackaged goods from low-cost, family-run shops. Even to wealthier Indian consumers, sustainable consumption was felt to imply only consuming less; the concept of consuming differently is "a significant but missing factor".

> The role of brands. Middle and high income Indian consumers are very brand conscious, so brand owners can play a major role, both in changing their practices and in educating their consumers.

> The role of business. Participants felt that sustainability and CSR should be embedded into corporate strategies, including the responsible investment of company assets and the encouragement of social entrepreneurship. Significant opportunities exist in the development of new sustainable markets, such as for eco-products, non-petroleum-based products, sustainable buildings and public transport.

> The role of governments. Support from government is essential, since some businesses will always seek to place profit before cost, even if the majority behaves responsibly: "One of the most important aspects is to work closely with government – setting the law, regulations and tax framework." (HSBC)

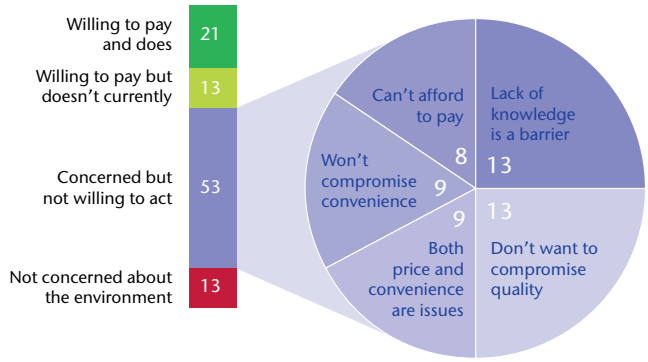


Figure 16: Global retail consumers segmented by willingness to pay for products with environmental & social benefits – Survey of consumers in Brazil, Canada, China, France, Germany, India, the UK and the US.
Source: The McKinsey Quarterly, March 2008.

The gap between consumer attitudes and behavior

People don't always act on environmental and social concerns

Despite significant shifts in levels of awareness, concern and general attitudes to environmental and social issues, many consumers have not made the same shifts in general behaviors, lifestyles and purchasing decisions. Consumers are more likely to adopt environmentally responsible behaviors if both cost-efficient and convenient. A McKinsey survey of consumers in Brazil, Canada, China, France, Germany, India, UK and the US found that 53% were concerned about environmental and social issues, but not willing to take action at the shops (Figure 16); a further 13% were willing to pay more, but currently did not do so.

In the UK, where the government provides financial and practical help to install insulation and recycle rubbish, consumers are more likely to take those actions than to purchase fewer short-haul flights (the costs of which have fallen dramatically) or to abandon their cars in favor of public transport (which is among the most expensive in the world) (Figure 17). More effective ways to reduce carbon emissions, such as avoiding unnecessary flights, using more efficient vehicles and using the car less for short trips, were less widely adopted.

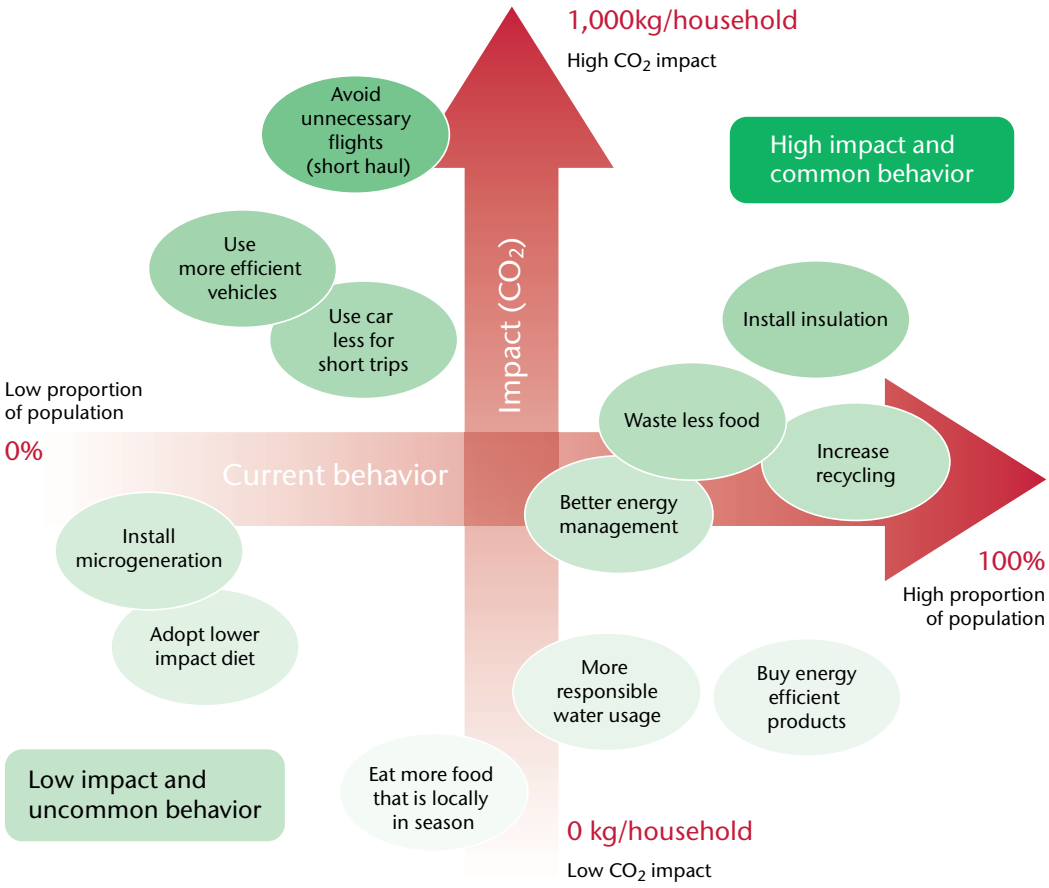
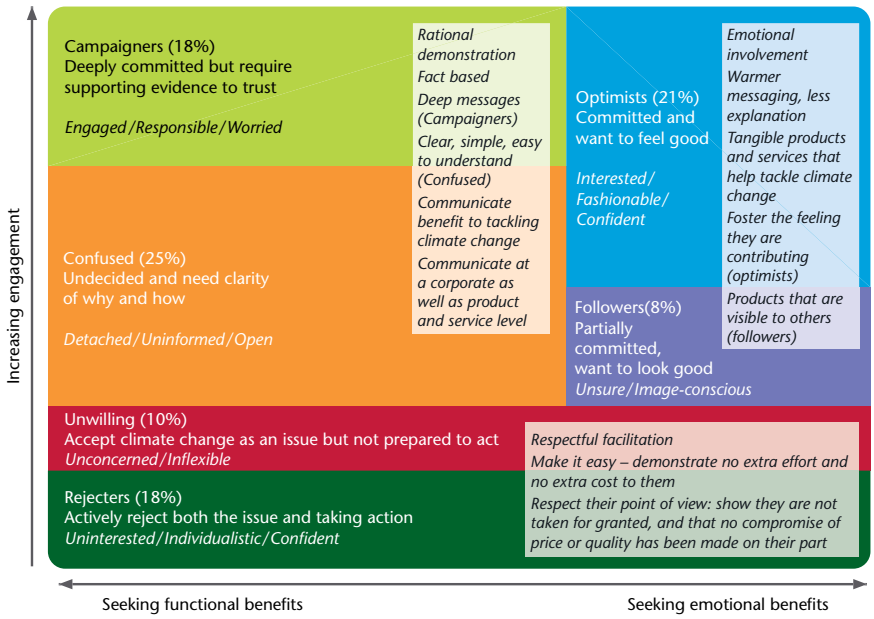


Figure 17: Consumers favor cost-efficient or convenient behavior changes over others that would save more carbon, but require a sacrifice.
Source: DEFRA,UK, *A Framework for Pro-Environmental Behaviours*, 2007.

There is currently no globally recognized or agreed definition of a sustainable consumer/lifestyle.



Who is the "green/ethical/sustainable" consumer?

Some market research companies are starting to apply new taxonomy to consumers to understand who is the green/ethical and sustainable consumer.

The segmentation model shown here is one example of consumer segmentation tools starting to emerge.

Figure 18: Segmentation of US and UK consumers according to their attitudes and behaviors related to climate change, and most appropriate communications approaches. The UK Climate Group, in Association with Sky and Lippincott, compared US and UK consumers according to six segments, and proposed optimum approaches to engage them in sustainability. In both countries, only 28% of consumers were not open to sustainable solutions. Figures for the UK were broadly similar to those for the US, although a greater proportion of UK residents were categorized as "campaigners" (27%), and fewer were "confused" (19%).
Source: UK Climate Group/Sky & Lippincott, 2007.

Barriers to behavior change

What is the reason for the difference between what people say they are willing to do, and the decisions that they make in real life? Figure 19 shows, in order of importance, those factors that are believed by a broad cross-section of sustainability experts (working in both private and public sectors, as well as the media) to be the most important obstacles to increased willingness to pay for the full costs of the ecosystem services that society uses. The three most significant factors were felt to be: lack of understanding; selfishness; and associated costs and taxes. The fourth factor, "tragedy of the commons", refers to the tendency of consumers to be more willing to act if they see their peers acting as well; it reflects an "I will if you will" mentality.[32]

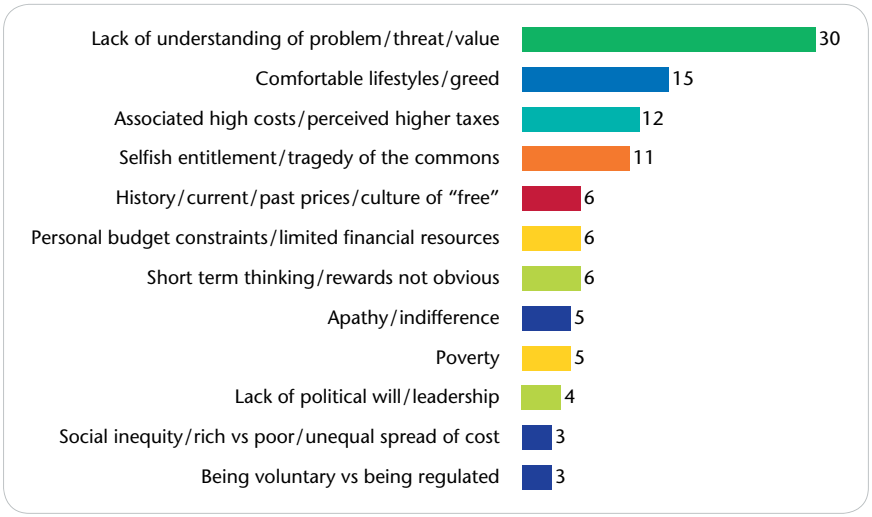


Figure 19: Why consumers are sometimes unwilling to pay more for environmental performance.
Source: National Geographic Society/GlobeScan, Greendex 2008: Consumer Choice and the Environment – A Worldwide Tracking Survey, 2008.

Consumer organizations point out that it is not generally enough for cost savings to be available over the total lifetime of a product; high "up-front" costs can act as a deterrent.

Finally, there is some evidence that consumers are prone to the "rebound effect" – a tendency to use products more in response to efficiency improvements, thereby reducing the expected benefits of those efficiency improvements.[33] For example, consumers in the US reportedly increase their use of air conditioning by up to 50% when they switch to a "green" energy supply. Home heating and personal transportation also tend to have significant rebound effects.

Lack of understanding/confusion – on-pack claims and labels

The products available in today's supermarkets carry a wide range of labels, on-pack claims and elements of design that are meant to inform and reassure consumers on health, safety, environmental or social concerns. Several brands, including grocery retailers, have developed their own labels; other brands use endorsements from non-certifying (but trusted) third parties, or on-pack claims (such as "natural") to convey sustainability attributes (Figure 20).

Some products are certified by an internationally recognized and respected body, such as a local, national or regional authority. Examples of third-party labels include: "organic" (e.g., USDA, Rainforest Alliance, Soil Association); "healthy" (e.g., National Heart Foundation Approved, Low Glycemic Index/gluten free); "sourced from sustainable sources" (e.g., Forest Stewardship Council, Sustainable Forestry Initiative, Marine Stewardship Council); "dolphin friendly" (e.g., Greenseas); "ethically sourced" (e.g., Fairtrade); "eco-friendly" (e.g., EU "Flower"), "sustainable cleaning" (e.g., A.I.S.E "Washright" campaign). Along with these labels, producers are also obliged to provide nutritional values and a full list of ingredients.

Consumers International and the UK's National Consumer Council report that many consumers remain confused about which products are better for society and the environment. Nevertheless, labels can play an important role in fostering sustainable consumption when used as part of a package of measures.

Figure 20: A selection of third-party labels on consumer products.
Source: WWF, 2006.

"Eco-promising"

Business for Social Responsibility and Forum for the Future[34] identify several barriers to the effective use of labels, on-pack claims and other means to inform consumers about the environmental credentials of products and services:

- Confusion among consumers about the differences between fairtrade, ethical, organic and other types of products
- Unrealistic expectations of consumers, who are not usually willing to spend time understanding these issues and are rarely prepared to pay more for sustainable products
- The complexity of supply chains and the costs of effective monitoring and reporting
- Suspicion of "greenwash" (environmental claims that could be considered false, unsubstantiated and/or unethical)

AISE campaign for sustainable washing

The International Association for Soaps, Detergents and Maintenance Products' "Washright" campaign brings together members of the European detergent industry (producers and retailers) in an attempt to reduce the burden on the environment and guard the health, safety and well-being of consumers, customers and employees. It is committed to high ethical standards (beyond legal requirements) and to contributing to economic development. Its work – which includes an ongoing dialogue with key stakeholders, and information campaigns for consumers – is guided by an eleven-point sustainability charter, uses life cycle assessment to analyze impacts, and is the subject of an annual, externally verified sustainability report.

Environmental aspects

Sustainability
Have forest been sustainably managed?

Special places
Have special places, including sensitive ecosystems, been protected?

Climate change
Have climate issues been addressed?

Environmental protection
Have appropriate environmental controls been applied?

Recycled fiber
Has recycled fiber been used appropriately?

Other resources
Have other resources been used appropriately?

Sourcing and legality aspects

Origin
Where do the products come from?

Information accuracy
Is information about the products credible?

Legality
Have the products been legally produced?

Social aspects

Local communities and indigenous peoples
Have the needs of local communities or indigenous peoples been addressed?

The WBCSD's *Sustainable Procurement Guide and Resource Kit* on 23 existing eco-Labels in the forest products industry

In response to the extensive proliferation of approaches to the "responsible" procurement of forest products from "sustainable" sources, the World Resources Institute and WBCSD developed a "business-to-business" *Sustainable Procurement Guide and Resource Kit* on 23 existing eco-labels, buyer guides and certification systems for timber and paper products. The WRI/WBCSD Guide proposes a ten-question sustainable procurement framework (see diagram) and provides information on which approaches verify specific performance. For more information visit www.sustainableforestprods.org

The rise of consumer power and consumer skepticism

Many of the early products designed to be environmentally responsible, such as electric cars and recycled paper, did not meet the basic expectations of consumers. Rightly or wrongly, these early disappointments have made it tougher to convince today's consumers that green products work as well as those that they are intended to replace, or are worth higher prices. In their search for guidance on consumption choices, people trust each other more than any other source of information[35] (Figure 21).

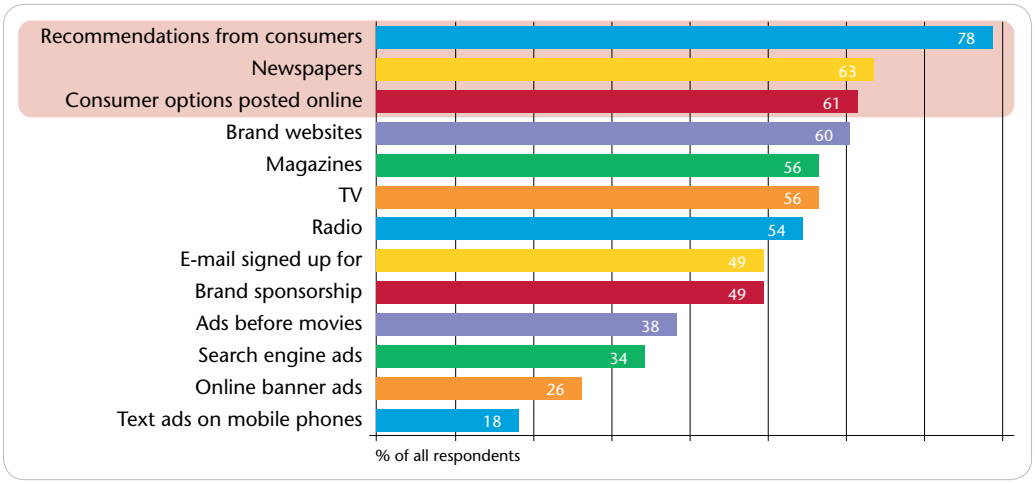


Figure 21: Consumers trust other consumers most.
Source: Nielsen, *Trust in Advertising, a global Nielsen consumer report*, October, 2007.

At the same time, studies are showing that consumers are less trusting of brands than in the past, and increasingly believe that they have the power to significantly influence how responsibly a company behaves (Figure 22).

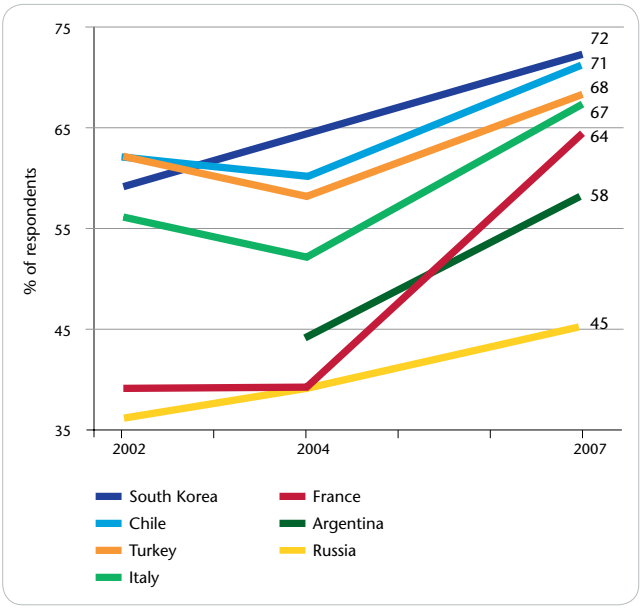


Figure 22: Consumers believe they can make a difference in how responsibly a company behaves.[36]
Source: GlobeScan, CSR survey, 2007.

Consumers are increasingly turning to the Internet as a trusted source of peer-generated information: 61% of consumers now consider blogs a reliable source of information, and more than half trust consumer-generated media and branded websites (Figure 23). Web-based information sources, such as web logs ("blogs"), are most trusted in South Korea (81%) and Taiwan (76%), while scoring lowest in Finland (35%).

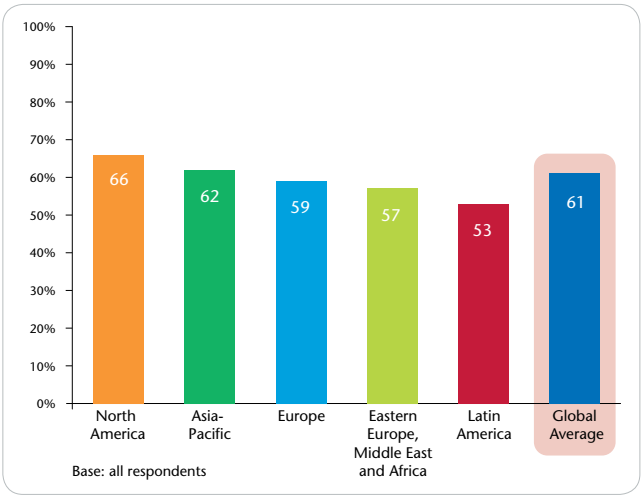


Figure 23: Consumers in North American and Asia consider blogs a reliable source of information.
Source: Nielsen, *Trust in Advertising, a global Nielsen consumer report*, October 2007.

"Web 2.0" (web-based communities and hosted services, such as social-networking sites, wikis and blogs) and mobile technologies have made it easier for individuals to access, edit and share content on websites such as eBay, YouTube, MySpace, Facebook and Zagat. Such sites allow users to share experiences and opinions about corporate values, practices, products and services, influencing corporate reputations. Factors that may previously have prevented them from doing so, such as lack of technical knowledge, social networks, verbal skills, geography and access to funds, no longer apply.

Key issues for business

- Making it easy and affordable for the consumer to make sustainable purchasing decisions, as they increasingly report a willingness to do so
- Making sustainable products available and comparable – without compromising on performance and at no extra costs
- Leveraging the unprecedented power of consumers to share information about companies, products and services via social networks, to promote sustainable products, usage, consumption and lifestyles

4 The role of business – mainstreaming sustainable consumption

The business case

Business approaches to sustainable consumption are a part of current business processes and can be grouped into three broad categories:

Innovation Business processes for the development of new and improved products, services and business models are shifting to incorporate provisions for delivering maximum societal value at minimum environmental cost.

Choice influencing The use of marketing communications and awareness-raising campaigns to enable and encourage consumers to choose and use products more efficiently and sustainably.

Choice editing The removal of "unsustainable" products, product components and services from the marketplace in partnership with other actors in society.

Since the WBCSD's 1995 policy statement on sustainable consumption and production (see p. 7 of this document), many companies have been able to reduce the per-unit impacts of their operations by employing eco-efficiency mechanisms and applying life cycle management techniques to products. Some examples include: sourcing raw materials from sustainable sources, reducing the weight of packaging and products, switching to renewable energy and using different means of transport.

Today, there is increased importance on linking production with consumption – the way in which products and services are selected and used – to address current unsustainable consumption patterns. Current findings show that the use of a product is often more important than production methods in determining environmental and social impacts. In particular, this tends to apply to products that require significant energy inputs during the use phase, such as cars (via fuel) (Figure 24) and dishwashing detergents (via hot water) (Figure 25), as well as light bulbs and electronics (via electricity). Services and communications also have significant impacts during the use phase. For example, when end use of its products is taken into account, the information technology industry could be said to account for 2% of global carbon emissions.[37]

From a business perspective, sustainable consumption is a meaningful concept only in the broader context of a sustainable marketplace, and relies on three things: the development of sustainable products, processes and business models; the use of marketing communications and other means to enable and encourage consumers to choose and use products more efficiently; and the removal of unsustainable products and services from the marketplace (such as joint initiatives with retailers and authorities). These three concepts can be called "sustainable innovation", "choice influencing" and "choice editing" respectively (Figure 26).

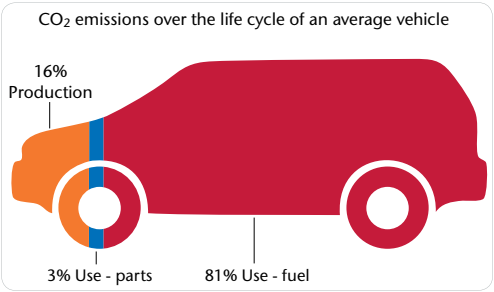


Figure 24: Distribution of energy demand/carbon consumption throughout the life cycle of a typical car
Source: WWF-UK, One Planet Business Global Evidence Base, 2006

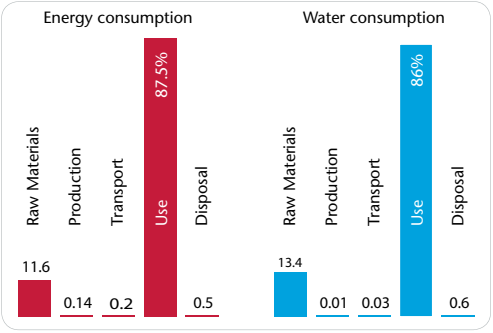


Figure 25: Distribution of energy demand/carbon consumption throughout the life cycle of a dishwashing detergent allows for focus on areas of the life cycle where greatest improvements are possible.
Source: Henkel, 2008.

This report signals a shift in the nature of the sustainable consumption agenda from the introduction of niche products and services to the embedding of sustainability principles into the core business model. Business can play an important role in fostering sustainable consumption by delivering sustainable value to society and consumers, helping consumers to choose and use their goods and services sustainably, and promoting sustainable lifestyles that help to reduce overall consumption of materials and resources.

The business case for sustainable consumption

Figure 26: The business case for sustainable consumption can be grouped into three broad business approaches: innovation, choice influencing and choice editing.
Source: Sustainable Consumption & Consumers workstream, The Business Role Focus Area, WBCSD, 2008.

Innovation

From the perspective of business, innovation is an essential driver of more sustainable consumption. The goal of sustainable innovation is to deliver high levels of emotional and functional value, while minimizing resource use and environmental impacts. Innovation is a well-known core business function. Business innovation responds to the challenge of sustainable consumption through: eco-efficiency measures, product innovation and design, production & supply chain management, and business model innovation.

Eco-efficiency

As defined by the WBCSD, "eco-efficiency is achieved by the delivery of competitively priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life cycle to a level at least in line with the Earth's estimated carrying capacity." In short, it is concerned with creating more value with less impact.

Some examples of eco-efficiency have included: the minimization and optimization of packaging; minimizing the amount of materials going to waste (through re-use and recycling); reducing the amount of fuel required to move raw materials, products and people (e.g., by "greening" vehicle fleets and using videoconferencing in place of air travel); reducing the amount of water used in manufacturing; stemming the release of any toxic waste; and making the most efficient use of fuel and materials in production and distribution.

Learning

Not only can eco-efficiency lower production costs, it can also represent additional value to consumers and industrial customers. The consumer is not always aware of this added benefit, however. As a result, and in order to maximize this value, leading companies offer information and training to customers through a variety of approaches (see choice influencing on p. 28).

Product innovation and design

The research and development of new products, product features, technologies and services driven by the quest for the best performance at the best price that also improve eco-efficiency and societal value

Product innovation and design has long been seen by companies as an effective way to reduce the environmental and social impacts of a product or service. As early as ten years ago, for example, detergent manufactures (such as Henkel and Procter & Gamble) conducted life cycle analyses of the carbon efficiency of their dishwashing and laundry detergents and found that around 90% of the carbon emissions from a single load came not from manufacturing and distributing the detergent, but from heating the water and powering the dishwasher or washing machine. Companies therefore re-formulated their products to deliver even better performance at lower temperatures, which would save money for the consumer – therefore delivering even better value.

> "Market research has confirmed that UK consumers actually are indeed washing at lower temperatures (2007 IPSOS survey). The survey showed that 17% of UK households now wash at 30ºC, up from only 2% of households in their 2002 survey. The average UK washing temperature across all households has decreased from 43.5°C to 40.2°C. According to the 2007 'IPC Green Research' study, approximately 85% of UK consumers claimed that the Ariel Turn To 30 campaigns were the main reason that convinced them to turn down their washing temperatures."[38]

Learning

Products that did not deliver superior quality were not successful with consumers. Energy savings (and therefore cost savings) passed along to the consumer through superior product design were not immediately evident to the consumer and therefore had to be explained through effective marketing and communications.

Business model innovation

The development of new markets or business models that deliver consumer value in more eco-efficient or socially beneficial ways

There are several ways in which strategies can be built around a product or service that delivers social benefits. Some strategies center on differentiation, aiming to offer a superior product or service with a distinctive brand. Other companies offer low-cost, no-frills products. Some seek to win by pre-emptive moves, gaining first mover advantage such as customer loyalty. Others focus their product on a specific segment or geography, while some look for synergies, enhancing value to the customer while reducing costs to the producer.[42]

Learning

As companies go through the process of applying life cycle analysis to their products or developing new understanding of sustainability issues material to their core business, new business models directly linked to addressing sustainability issues are emerging. Some companies are choosing to invest in particular product lines that address a global issue and divest in others that have not netted satisfactory performance in life cycle analysis processes. Others are seizing the current opportunities to use technological expertise, research and development to address current needs for new technologies that will help to address global challenges (such as future energy needs or water scarcity).[43]

Production/supply chain management

The setting, monitoring and enforcement of environmental and social standards throughout the supply chain

The ways in which products (goods and services) are delivered to our societies have become increasingly complex and global. Actions taken by designers, producers, their suppliers, consumers, and communities are all interlinked and can affect each other, and the global environment. A recent report cites customer relations as a key driver to "greening the supply chain".[39]

Companies are approaching "green" supply chain practices through: compliance initiatives, *making standard business practices green* and increasingly by innovation through product life cycle and supply chain management convergence. The fuel cost challenge provides a catalyst for innovation through the extensive use of outsourced logistics services and the implementation of IT solutions as supply chain best practice.[40]

Learning

Corporate values have tended to have a better chance of trickling down the supply chain via tailor-made capacity building. Management of sustainability related supply chain issues has become a bargaining chip for attracting business, and companies are increasingly training buyers on sustainable procurement.[41]

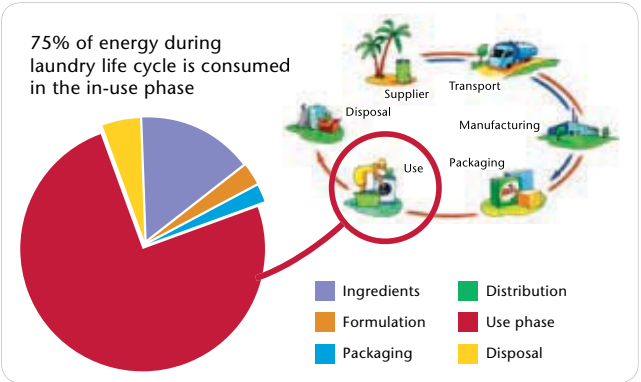


Figure 27: Distribution of energy demand/carbon consumption throughout the life cycle of a laundry cycle.
Source: Procter & Gamble, 2008.

Henkel: Quality and responsibility drive innovation and sustainable development

Henkel's premium laundry detergent brand, Persil, was launched as the world's first self-acting detergent in 1907 and directly contributed to social progress by washing and bleaching without chlorine and making the strenuous washday more bearable.

In the 1950s Henkel replaced natural soap with synthetic surfactants. These unfortunately foamed not only in the machine but also in the discharged wastewater, which led to regular ecological quality checks of all laundry detergents and the development of surfactants that are easily biodegradable. Launching the first phosphate-free Persil in 1986, Henkel demonstrated its innovative response to both new ecological trends and consumer expectations. By keeping the traditional Persil on the shelves for a transition phase, Henkel ensured consumer acceptance. Consumers could experience themselves that the new phosphate-free formulation did not compromise cleaning performance.

The pioneering work in enzyme research, which Henkel has carried out since the 1970s, is the basis for providing superior cleaning performance at lower temperatures. As early as the 1970s, Persil 70 with innovative enzymes was the solution for synthetic, colorful textiles that could not be hot-washed. Since then, electricity consumption per machine load has been halved, thereby decreasing carbon dioxide emissions by 1.5 million metric tons in Germany alone.

Consumer insights showed a demand for smaller and lighter packages, which lead to the development of compact detergent. Whereas 280 grams of conventional washing powder were needed for one wash cycle in the 1970s, just 67.5 grams of Persil Megaperls now suffice. Yet the motto "avoid, reduce, recycle" has not in every case proven successful in the market. In 1993 Persil with Plantaren was launched with surfactants based on 100% renewable raw materials. The slogan "more biodegradable than a leaf" as well as recyclable packaging made of light plastic and a paper banderole proved to be too abstract for the mass market. Furthermore a significant proportion of consumers was not willing to accept compromises in terms of product performance and convenience. Successful innovations combine outstanding product performance with responsibility for people and the planet – and thus contribute to sustainable development and Henkel's economic success. Henkel now applies this philosophy of "Quality & Responsibility" to its entire range of laundry and homecare products, driving continuous innovation and sustainable development.

Philips: Energy-efficient lighting outperforms

Philips has been a pioneer in the development of energy-efficient lighting. In the second quarter of 2008, sales of its energy-efficient lighting grew by 16%, fuelled by increasing consumer concerns about their carbon footprint and energy bills. Philips's lighting division now derives half of its sales revenues from light fixtures powered by light-emitting diodes, halogen lamps and energy-saving bulbs, all of which are more energy-efficient than the incandescent bulbs that they are designed to replace. Philips believes that "green lighting" has the potential to protect it from an expected downturn in the market for lighting in developed markets, where rising energy costs are placing downward-pressure on overall demand.[44]

adidas Grün: Mainstreaming "Green" footwear and apparel at top brands

In response to increasing consumer awareness of the importance of sustainability, the adidas Group launched the adidas Grün ("green") range of footwear and apparel for men and women. adidas Grün minimizes its environmental impact by being as efficient as possible with the use of the natural resources involved in its production and packaging. It was developed by a cross-functional team comprising staff from across the adidas Group, external material suppliers and manufacturing partners. Together, they researched and selected environmentally acceptable materials that would meet both quality standards and consumer expectations. The final product lines include recycled fabrics and natural materials from certified sources, such as cotton, hemp, bamboo and cork.

Nokia: Improving the energy-efficiency of products now and in the future

The Finish communications company Nokia has been investigating and implementing ways to reduce the overall energy consumption of its devices. It identified that two-thirds of the power consumed by a mobile phone is wasted when its battery is full but its charger remains plugged. This is referred to as a charger's "no load" energy consumption. Since the beginning of this decade, Nokia has reduced the no-load consumption of its chargers by 70% on average, and 90% in its best chargers. By 2010, Nokia targets to reduce this by a further 50% from 2006 levels. In 2007 Nokia became the first mobile phone manufacturer to introduce alerts in its devices telling users when their phone batteries are fully charged and that they should unplug the charger. These alerts will be included across Nokia's product range by the end of 2008. Nokia estimates that if all Nokia users unplugged their chargers when their phones were fully charged, enough energy would be saved to power 100,000 average-sized European homes.

Nokia is also actively researching the best way to use new sources of energy for charging the mobile devices. Forum Nokia and the open specification encourages innovative business development for alternative energy sources outside Nokia, as well. Also several base stations already operate with solar power, or even windmills. In practice, Nokia devices and accessories have software that supports alternative charging, especially for solar chargers, and the open specification encourages innovative business development for alternative energy sources outside Nokia.

Procter & Gamble: Innovation in partnership for emerging markets

Over a billion people worldwide do not have access to safe drinking water. By working with a range of partners, Procter & Gamble (P&G) has developed a new social market model that has been able to set up sustainable markets for delivering clean safe water in Haiti, Pakistan, Kenya and Uganda.

Using technologies from its laundry detergent business, P&G has developed a low-cost water purification product for developing countries in collaboration with the US Centers for Disease Control and Prevention (CDC). This product – PUR® Purifier of Water – can clean and purify contaminated drinking water to World Health Organization standards in consumers' homes for less than US¢ 1 per liter.

P&G's learning with this product was that product innovation and P&G's conventional commercial market model were not able to get this product to the people that needed it, at a price they can afford, on a sustainable basis. It was not successful because people did not understand the need for the product. High social marketing costs and health education campaigns were required to raise awareness of the importance of safe water. After all, you need to know it's the water that is making you sick before you will change your behavior and buy and use a water-cleaning product. On the other hand, the product has proved very effective for aid agencies in disaster relief during the tsunami and other natural disasters. For disaster relief, P&G supplies international aid organizations such as UNICEF, AmeriCares and Samaritan's Purse with the product at cost.

General Motors: Efficient processes save money and make money

General Motors (GM) Resource Management program preserves natural resources, reduces environmental impact, and achieves cost savings. Its first priority – reducing and eliminating waste while maintaining regulatory compliance – is delivered at each plant by a single supplier. Resource managers are rewarded for finding innovative ways to eliminate the manufacturing by-products that were formerly disposed of as wastes. As a result, the by-products that were previously sent to landfill, such as cardboard boxes, bulbs, wooden pallets, batteries, tires and plastics, are now directly reused or recycled. Now operating, where economically feasible, in all GM North American manufacturing facilities and many global locations, the program has saved over US$ 30 million and reduced waste volume by 40% since 2000. In 2007, this program resulted in changing former wastes into valued by-products that have realized over US$ 6 million in sales.

Choice influencing

Choice influencing refers to any way in which a company (or, in a broader context, any actor other than the consumer, such as government or NGOs) seeks to influence consumer behavior – for more sustainable consumption. From a business perspective, choice influencing refers to a partnership between business and the consumer, which extends from sustainable production and design of products through to their selection, use and disposal. Leading businesses have already begun to address this increasingly relevant business issue of influencing consumer choice and use of products to promote sustainable consumption. Some examples of approaches beginning to emerge include: responsible marketing, advertising and sponsorship (as with tobacco, alcohol and children's food), partnerships with key opinion formers, such as NGOs and the media, social innovation, and decoupling material consumption from consumer value.

Learning

In order for technological innovations to succeed, companies are often required to spot opportunities at an early stage and to implement effective marketing strategies. Even then, it can take a considerable amount of time for mainstream consumers to adopt new technologies. Toyota says that this was the case with hybrid cars, which enjoyed widespread consumer uptake approximately a full decade after the introduction of the technology. Other industries share similar stories. The challenge ahead then is to narrow the gap between innovation and consumer demand.

"Once upon a time, music lovers needed half a ton of vinyl and several metal boxes full of wires to enjoy their music collections. Nowadays, we use iPods. We consume the same amount of music, but our consumption of music-related vinyl and metal has decreased. From the perspective of marketers, the CSR community has become so transfixed by metal consumption that it has forgotten about the music, which is where the real value lies. Marketing is the key to decoupling material consumption from consumer value; the creation of 'stuff' from the creation of wealth. 'Emotional' aspects of brands offer real value to consumers, without damaging the environment."

WWF, *Let Them Eat Cake: Satisfying the New Consumer Appetite for Responsible Brands*, 2006.

Marketing and advertising

There has been some confusion in the market over the language being used to describe marketing and advertising practices whose approach considers sustainability principles.

Sustainable marketing approaches have included: single-issue focus in corporate and brand campaigns (e.g., "carbon neutral" or product carbon labels), screening and optimization of entire portfolio (e.g., reducing "unhealthy" food ingredients such as salt or sugar, and increasing "healthy" ingredients), "green line" of products to gain mindshare (e.g., hybrid cars and some cosmetic products based on natural ingredients), "social cause" products and campaigns (e.g., innovations addressing social challenges), responsible marketing communications (e.g., encouraging responsible use of the product).[45]

Marketing has a vital role to play in decoupling material consumption from consumer value. It has the ability to facilitate both innovation and choice influencing for sustainable consumption, because it allows products and information to flow between producers and consumers.[46] It can help consumers to find, choose and use sustainable products and services, by providing information, ensuring availability and affordability, and setting the appropriate tone through marketing communications. Sales data and market research provide insights about consumer attitudes, beliefs and behaviors that can then be fed into the planning process, driving innovation and guiding key business decisions, including pricing, packaging and distribution.

Marketing also has a vital role to play in leveraging the company's sustainability credentials to build brand equity. In order to do so, it is vital to ensure consistency with the corporate sustainability strategy; any claims made must be authentic, credible and responsible. As solutions shift from technical to social, marketing also has an increased role in driving innovation.

Brand values are communicated to consumers through all sales and marketing channels, from lead generation and customer support to advertising, sponsorship and point-of-sale activities. These messages provide signals to consumers about social and behavioral norms, and are believed by some to have behavioral effects beyond the product or brand from which they emanate.[47]

"A new paradigm for both brand communications and design innovation is required. This will invite consumers to participate in the creative process within a framework of global core brand concepts. In this way, real communities will grow around the brands. A brand will no longer grow because of how well it is controlled, but because of how well it is shared. Of paramount importance will be the way in which a brand's traditions and practices relate to contemporary concerns such as well-being, work-life balance, community security and environmental protection. Therefore, a brand's social and environmental depth will become an important determinant of its financial value." WWF-UK, *Deeper Luxury*, 2007.

Henkel: Marketing model for sustainable palm kernel oil

Demographic and economic developments have increased the pressure on natural resources worldwide. Renewable raw materials lower the pressure and reduce greenhouse gas emissions. In addition to economic factors, special attention must be paid to the ecological and social aspects of farming and processing. Approximately 35% of the surfactants used in Henkel's laundry detergents, household cleaners and cosmetics are based on these raw materials, namely coconut oil and palm kernel oil. Although Henkel is indirectly using less than 0.2% of the world's palm oil and palm kernel oil by purchasing surfactants based on renewable raw materials from its suppliers, the company is committed to fostering the concepts for their sustainable production.

In November 2007, the Roundtable on Sustainable Palm Oil approved a certification scheme and three marketing models for palm oil from sustainable plantations: segregation, mass-balance and book & claim. While segregation would ensure a direct link from the final product to the plantation, it is hardly feasible in the short to medium term due to the complexity of the surfactants supply chain within the industry.

Henkel therefore decided early on to focus on the "book & claim" approach where users of products based on palm or palm kernel oil purchase certificates ensure that the appropriate volumes of sustainable oil have entered the market, comparable to "green" electricity. To pilot this mechanism in the marketplace Henkel purchased certificates for its new line of cleaning products that combine top performance with new standards in terms of sustainability.

By pioneering the book & claim approach together with best-in-class partners, Henkel is opening up new markets as the first company worldwide for palm kernel oil and driving forward workable market mechanisms solutions. This approach – which could be quickly implemented across a broad range of industries – has the potential to generate significant incentives for the production and use of sustainable palm and palm kernel oil in the short term.

Sony: Influencing alternative energy use

To address the need for sustainable alternative energies and to help educate consumers to change behavior, Sony has formed a partnership with the Solar-bear Foundation. This partnership aims to encourage consumers to participate in an environmental conservation activity when they buy batteries. Packages of Sony batteries and chargers feature sibling polar bear cubs Sola and Beah and part of the proceeds from their sale are donated to the Solar-bear Foundation to fund the installation of solar panels in kindergartens and nurseries. A picture book featuring the cubs is available to help parents educate their children about climate change and its effects.

Procter & Gamble: Influencing sustainable consumer product choices

Procter & Gamble UK launched the Future Friendly initiative at the end of 2007. Aimed at inspiring consumers to do their bit for the environment, Future Friendly creates partnerships between P&G's leading brands and independent experts in the areas of energy savings, water savings and packaging (see www.futurefriendly.co.uk).

Henkel: Influencing industrial customers

Henkel's Value Calculator was developed to demonstrate process improvements for industrial customers. It helps Henkel to identify potential savings in the consumption of energy, water and raw materials, and to improve customers' processes. Even if customers have to pay more for an innovative Henkel product, the complete solution from Henkel means lower total costs, because it reduces resource consumption, wastewater costs and waste costs, and extends the service life of the end products. The Value Calculator can be used to compare each step of a new process with those of an existing process. The resulting advantages and cost savings are apparent at a glance, and enable sales staff to explain the benefits of Henkel products more clearly to industrial customers.

For example, Figure 28 uses Henkel's Value Calculator to show industrial customers how they can lower their production costs by switching from conventional iron phosphating (the standard method of protecting metal against corrosion) to a new process called New Bonderite NT-1, which Henkel claims is qualitatively, ecologically and economically superior. In this example the Value Calculator reveals an overall cost savings to customers of 14.8%.

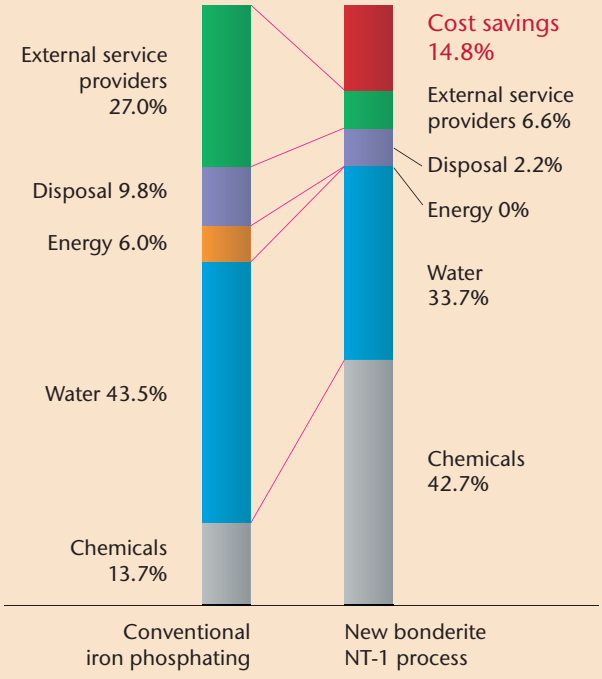


Figure 28: Demonstration of cost savings to industrial clients of Henkel's New Bonderite NT-1 industrial process using the Value Calculator.
Source: Henkel, 2008.

Nokia: Influencing sustainable choice and lifestyle

Nokia's brand mission is to connect people in new and better ways, to help them share life, interests and purpose. But Nokia recognizes that no one person, brand or company can solve today's global environmental challenges alone. It requires the collaboration of people around the world, both within and outside the company, with each person taking small steps that add up to big gains. Nokia calls this concept "The Power of We", and it is giving shape to Nokia's overall attitude to eco business and its approach to more sustainable living.

Nokia users can already download information about their product's environmental attributes including material use, energy consumption, and recycling as well as third-party content including hints and tips on choosing a sustainable lifestyle. Nokia's "we:offset" application is the world's first CO_2 emission offsetting tool for mobile phones, and Nokia's environmental service, MobilEdu, launched in China, is a learning solution that provides individualized content to improve environmental awareness.

A recent global consumer survey carried out by Nokia showed that 44% of phones people no longer use are simply being kept at home, never used. Responding to the survey, and supporting Nokia's 5,000 collection points for unwanted mobile devices in 85 countries, the largest voluntary scheme in the mobile industry, Nokia is developing a series of campaigns and activities to give people more information on why, how and where to recycle their old and unwanted devices, chargers and mobile accessories.

Cervecería y Maltería Quilmes: Influencing responsible social behavior in Argentina

Let's Live Responsibly (Vivamos Responsablemente) is an educational program lead by Cervecería y Maltería Quilmes, a leading beverage company based in Argentina. Aimed at consumers below the legal drinking age, it is a shared effort with families, schools, the community and the authorities to avoid abusive behavior by promoting healthy values among youths. Vivamos Responsablemente is about coming closer to young people to help them understand the reasons and contexts for many of their actions, encouraging them to behave in a more creative, harmonious and positive manner. The Program's guidelines and content were selected and developed with the advice of two renowned experts in the field. The Program comprises two modules: talks for teenagers and for parents and educators; and a *Guide for Parents of Teenage Children*. Since its inception in October 2004, Vivamos Responsablemente has reached over 23,000 students and over 2,500 parents in cities throughout Argentina.

Choice editing

Choice editing refers to the decisions that directly control the impacts of consumption. Consumer groups and policy-makers tend to prefer choice editing as an effective approach to changing consumer behavior, and achieving goals to have only the most sustainable products available in the market.

Businesses edit choice by controlling elements of their supply chain or by eliminating product components that pose a risk to the environment or human health. Policy-makers may choice-edit by developing legislation that would ban a product or substance. Retailers may choice-edit by deciding to eliminate products from their shelves or by demanding certain standards of their supply chains.

"The role of business is to influence and educate consumers on how to lead sustainable lifestyles. For choice editing to succeed, businesses and stakeholders throughout the value chain must be involved in developing solutions, including processors and retailers.

Transparency is essential in order to win the trust of consumers, so business needs to develop a common, robust set of indicators and a clear, meaningful way of reporting performance on economic, environmental and social performance.

The responsibility for sustainable consumption is shared between business and consumers, so partnerships are vital. Consumers are unwilling to sacrifice price or performance for sustainability, so it is the responsibility of business to provide sustainable goods and services that are also good quality and cost-effective. Industrial customers and suppliers should work together to develop common knowledge, expertise and policies on sustainable consumption."[48]

Learning

There is currently no common understanding of what a sustainable product or lifestyle is. Business may determine the sustainability of a product based on a full life cycle analysis. Retailers, governments and other actors may assess the "sustainability" or "un-sustainability" of a product based on varying disclosure criteria or societal pressure. As a result of this confusion over who determines the sustainability of a product, choices to edit the availability of certain products are often in conflict. Business, governments and society (including consumers) must work together to define sustainable products and lifestyles.

Some examples of collaborative action are starting to emerge: for example, consumer brand owners work with supermarkets to provide opportunities for the return and recycling of waste. (As providers of recycling services, local authorities are also often involved.) Many businesses also partner with non-governmental organizations for the purposes of accreditation (e.g., eco-labels) or to provide expertise on their specialist subjects (such as conservation or human rights).

Teijin: Editing business processes

Japanese chemical company Teijin has shifted the focus of its business model on chemical solutions to global challenges. To address the challenges associated with mounting waste, Teijin has developed closed-loop recycling systems for polyester, so that polyester garments and other products can be turned back into virgin-quality polyester. Compared with the conventional production of polyester from petroleum, these systems save energy and resources, and reduce CO_2 emissions and waste. Teijin manages a global network of companies that voluntarily collect and recycle polyester garments, and advocate the development and marketing of products containing these recycled fibers. Teijin is working with other actors in society to advocate this vision of the components of a sustainable product. As of May 2008, more than 80 manufacturers of apparel and sporting gear had joined the effort in Japan and overseas.

adidas Group: Editing the global supply chain

As a company that operates an extensive supply chain, the adidas Group has limited control over the direct environmental impacts of the manufacturing process and the actions of its suppliers. The adidas Group's approach is to help its suppliers reduce the environmental impacts in their factories through advice and support. To better tailor training programs on environmental issues, the adidas Group conducts needs assessments specific to each supplier and each site. These needs can vary widely according to location, product complexity and production processes. For many suppliers, energy consumption is a primary concern, so the adidas Group runs energy efficiency workshops for suppliers in key sourcing countries. Each product division also has customized training materials and technical guidelines. Adidas is taking proactive steps to control the sustainability of its supply chain.

Henkel: Toluene-free contact adhesives in Latin America

Collaborating with governments, Henkel today takes a pioneering role in Latin America by switching to a new toluene-free formulation in the commercial adhesive segment for the whole product range of “Cascola”.

In 2006, Henkel took over Alba, a Brazilian adhesives producer. Some of its contact adhesives contained toluene as a solvent, and could therefore be misused by young people for glue sniffing. Immediately after completion of the takeover, Henkel developed a strategy tailored specifically to the Brazilian market to replace toluene in the formulations of the contact adhesives. In March 2007, Henkel publicly presented the first Cascola brand contact adhesives in toluene-free varieties – well before the legal deadline set by the Brazilian health authority. Products for the do it yourself market that contain ingredients making them attractive to glue sniffers have been banned since early 2008. Crucial to the success of the new toluene-free formulations is communicating the changes in a positive manner to consumers in order to retain their trust in the performance of the products.

For this reason Henkel already launched an initiative in December 2006 under the motto “Commitment to the future” and organized a joint meeting with adhesives industry associations, the press, non-governmental organizations, customers and local authorities.

From the very start Henkel was able to profit from their positive experience in Chile, where Henkel has been successfully marketing toluene-free adhesive products since 1998.

Summary of emerging mainstream business approaches to sustainable consumption

- Increasing the availability of more sustainable products and services through integrating sustainability and life cycle processes into product design innovation that doesn’t compromise on quality, price or performance in the market.
- Creating a market for sustainable products and business models by working in partnership with consumers and other key stakeholders to demonstrate that sustainable products and lifestyles deliver superior performance at the best prices. Using marketing communications to influence consumer choice and behavior.
- Editing out unsustainable products, product components, processes and business models in partnership with other actors in society such as policy-makers and retailers.

Sustainable consumption: A systemic challenge

Sustainable consumption is a systemic challenge. Businesses, governments, civil society and consumers all have the power to affect change, sometimes in ways that are not traditionally perceived to be their role (Figure 29). Consumers may feel a moral responsibility to live sustainably, however they cannot do so without effective support from governments, NGOs and the businesses with which they interact. Businesses, governments and civil society must be aligned with these values since they depend on the spending and votes of individuals.

The systemic challenge of Sustainable Production and Consumption

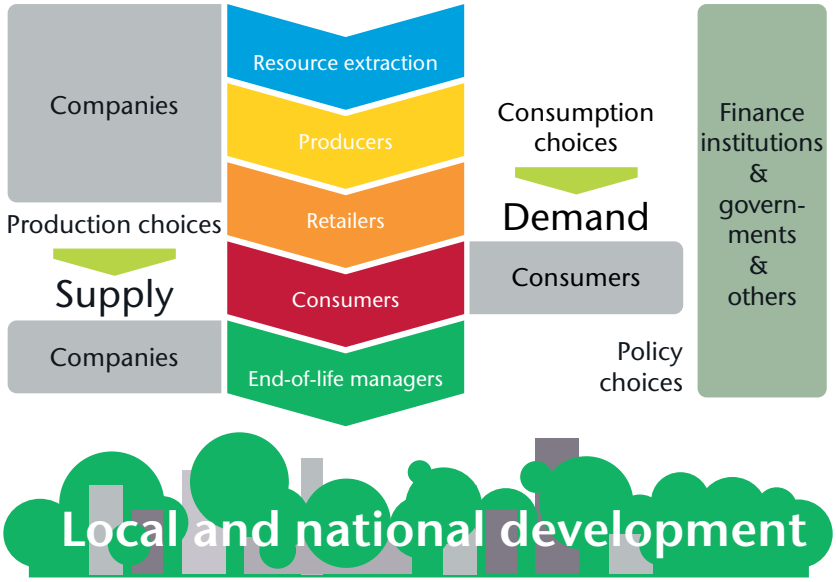


Figure 29: The roles of consumers, lenders and governments in fostering sustainable consumption.
Source: UNEP CSCP, October 2007.

Governments, consumers and business all have important roles to play in fostering sustainable consumption

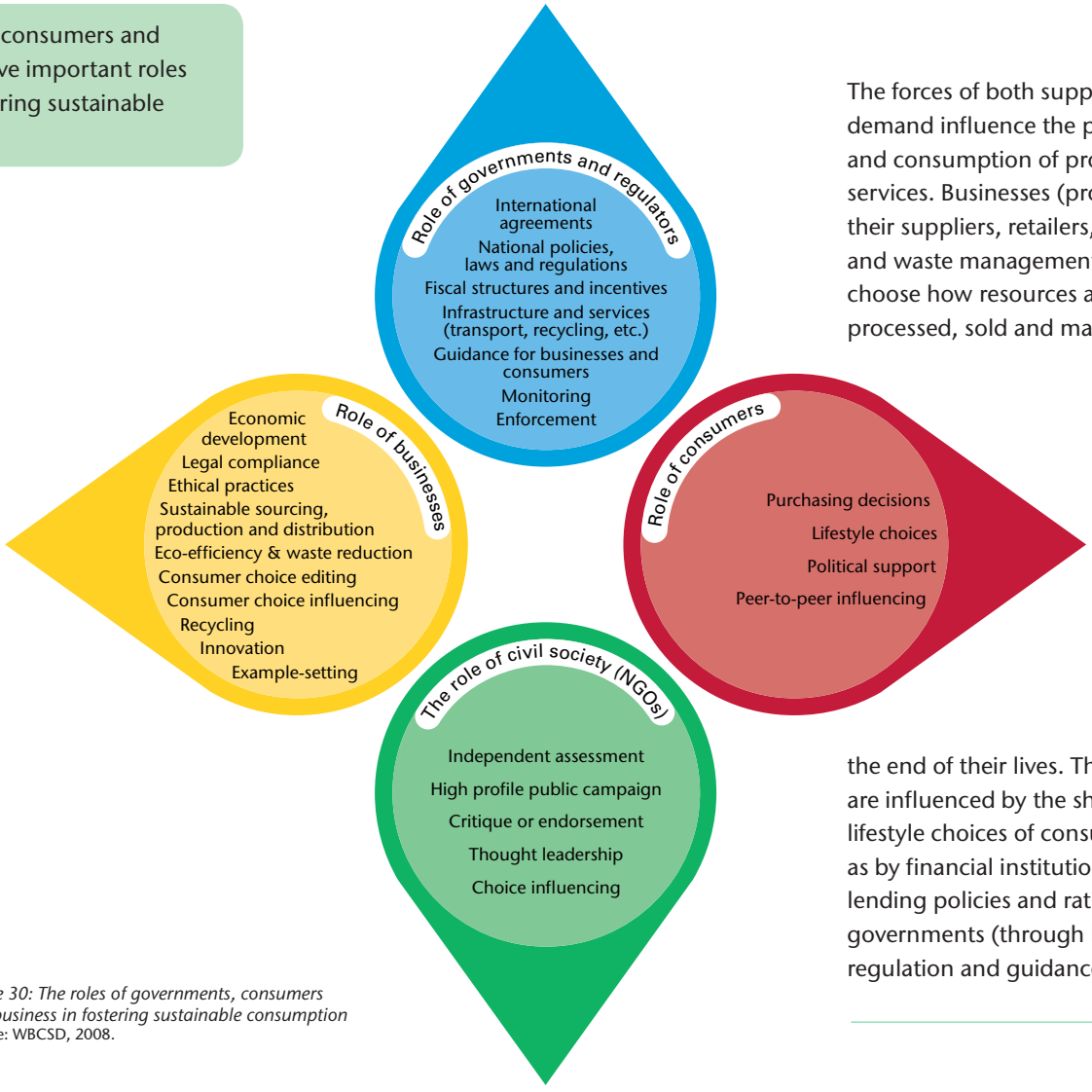


Figure 30: The roles of governments, consumers and business in fostering sustainable consumption
Source: WBCSD, 2008.

The forces of both supply and demand influence the production and consumption of products and services. Businesses (producers and their suppliers, retailers, recyclers and waste management companies) choose how resources are extracted, processed, sold and managed at the end of their lives. These choices are influenced by the shopping and lifestyle choices of consumers, as well as by financial institutions (through lending policies and ratings) and governments (through laws, taxes, regulation and guidance).

A manifesto for tomorrow's global business:

"We believe that the leading global companies of 2020 will be those that provide goods and services and reach new customers in ways that address the world's major challenges – including poverty, climate change, resource depletion, globalization, and demographic shifts."

WBCSD, *From Challenge to Opportunity: The role of business in tomorrow's society*, 2006.

To realize the manifesto set out by business leaders of the WBCSD, companies and stakeholders contributing to this work offer the following considerations for next steps in accelerating progress towards sustainable consumption.

Key insights from leading businesses

We need to change current habitual consumption behaviors that are unsustainable. For example, despite all the collection schemes and incentives, it is still easier and more natural for many consumers to throw their valuable metals away after use rather than return them for recycling. **Umicore**

When we believe in the premise that free and unbiased market forces are the globally effective mechanism that can help balance supply and demand in the long-term, then change can happen. Business can show leadership by adjusting business models to the real costs of goods and services and unequivocally communicating this to their customers. **adidas Group**

Nokia is fortunate to be operating in an industry with a relatively small ecological footprint. But leadership calls for responsibility; our strong market position and global reach enable us to drive best practice, both within the industry and among consumers. Our business focus is shifting towards software and services, opening up new opportunities for sustainability gains. Consumers are increasingly conscious of the need to make sustainable lifestyle choices, so we regard green innovation as a means of both reducing our environmental footprint and increasing the value of our brand. We believe that only responsible companies and brands will be successful in the long run. **Nokia**

It is essential that all stakeholders – including business – recognize the real benefits of ecosystems and that the true value of ecosystem services be attributed and internalized. The value and sustainable management of ecosystems must become a more integral part of economic planning and decision-making by society; otherwise nature will always be treated as a second priority compared with social and economic development. **WBCSD Ecosystems Focus Area**

In the Energy Efficiency in Buildings project we started to talk about "the inertia of business as usual". It has become increasingly clear that "business as usual", or incremental change, will not lead to the necessary transformation of the building sector in achieving a radical decrease in global energy use in buildings. Market forces are not likely to take the lead yet, and today's building policies are not strong enough or not sufficiently enforced to have a real impact.

The fact is that we all need to change our energy behavior – at home and at work, including the professionals who finance, design, build and maintain the places where we live and work. **WBCSD Energy Efficiency in Buildings Project**

Key insights from stakeholders

Consumer groups

Consumer groups say that business has a key role to play in providing the most sustainable products and editing out "unsustainable" ones. Studies over time have shown that there is a limit to how much we can expect from consumer choice alone. Consumers are not willing to pay significantly more for "green" products (sustainable products currently come at a premium price). Consumers currently lack useful guidance on which products and services are more sustainable.[49]

Government & intergovernmental organizations

Policy-makers rely on (and often partner with) businesses to deliver innovative, economically viable and sustainable solutions to market. Retailers have a particularly important role to play in driving behavior change through the delivery of more sustainable products and services that also carry environmental dividends. Transparency and clarity are essential to this process, as is the support of non-governmental organizations. Like all products and services, sustainable ones must provide good value for money, excellent performance and strong appeal.[50]

The debate on sustainable consumption has been largely restricted to within the European Union, and now needs to be extended and accelerated across the globe. More dialogue is needed between business and governments to develop solutions. Retailers must recognize their potential roles and responsibilities as gatekeepers. Careful attention must be paid to avoid the rebound effect (more on the rebound effect on page 18).[51]

Marketing and advertising industry

The world of advertising and marketing is undergoing significant transition. At the same time there is a belief that sustainability is of great and growing relevance to consumers. The marketing and advertising community would welcome new mandates from client companies to help solve new business problems related to sustainability through effective communications. This mandate would need to been applied broadly to all communications needs, strengthened and lent greater financial support.[52]

Retailers

Retailers understand their unique opportunities and responsibilities in the area of sustainable consumption, but differ in their approaches. For example, some take a choice editing approach, eliminating products considered to be unsustainable and, where possible, offering only sustainable choices. Others offer a range of both sustainable and unsustainable choices at a range of prices, in order not to exclude consumers with more limited budgets.

Some large global retailers are starting to create minimum sustainability standards for the products that they offer and from their supply chains, but are not yet ready to engage consumers in discussions about impacts across the full product life cycle. Retailers will seek more product contents disclosure from product suppliers in the future in order to determine the sustainability of the product.[53]

Resources

We have compiled a list of resources for further reference on the sustainable consumption challenges, consumers and business approaches.

Consumption challenges

World Bank, Online database for global population trends. www.worldbank.org

World Resources Institute, Earthtrends online database for global environmental, social, and economic trends. http://earthtrends.wri.org

Sustainable Consumption Research Exchanges (SCORE!), *System Innovation for Sustainability 1*, 2008.

WWF-UK, *Deeper Luxury: Quality and Style When the World Matters*, 2007.

WBCSD/Young Managers Team 2006, The business of sustainable consumption: Scenario snapshots 2050, 2007.

WWF-UK, *Let Them Eat Cake: Satisfying the New Consumer Appetite for Responsible Brands*, 2006.

Sustainable Development Commission (SDC), *I Will if You Will*, 2005.

MIT Press, *Journal of Industrial Ecology* 9-1/2: Societal change and consumption patterns, Winter/Spring 2005.

Worldwatch Institute, State of the World 2004 – Special Focus: The Consumer Society, 2004.

UNEP, Resource Kit on Sustainable Consumption and Production, 2004.

UNEP/UNESCO, youthXchange, 2004.

UNEP, *Sustainable Consumption: A Global Status Report*, 2002.

WBCSD, *Tomorrow's Markets*, 2002.

UNDP, *Human Development Report – Special Report on Sustainable Consumption*, 1998.

WBCSD, *Sustainable Production & Consumption from a business perspective*, 1997.

UN Commission on Sustainable Development (UNCSD), Symposium on sustainable consumption, Oslo, 1994.

UNEP/Wuppertal Institute Collaborating Centre on Sustainable Consumption and Production. www.scp-centre.org

Environmental challenges

IUCN/WBCSD, *Business and Ecosystems*, 2007.

WBCSD/WRI, *Sustainable Procurement of Wood and Paper-based Products*, 2007. www.sustainableforestprods.org

WBCSD, *Energy Efficiency in Buildings: Business Realities and Opportunities*, 2007.

WBCSD, *Powering a sustainable future*, 2007.

WBCSD, *Global Water Scenarios*, 2006.

WWF-UK, *One Planet Business*, 2006.

WRI/World Bank, *Millennium Ecosystem Assessment*, 2005.

WBCSD, *Facts & Trends to 2050: Water*, 2005.

WBCSD, *Facts & Trends to 2050: Energy & Climate*, 2004.

Social challenges

WBCSD, *Doing Business with the World*, 2007.

IFC/WRI, *The Next Four Billion*, 2007.

The New Economics Foundation's Happy Planet Index at http://www.happyplanetindex.org

WBCSD, *Facts & Trends: Health*, 2005.

Consumers: Lifestyles, attitudes, and behaviors

Young & Rubicam, *Greening Consumers study*, 2008.

European Commission Directorate General Environment/ Eurobarometer 295, *Attitudes of European Citizens towards the Environment*, 2008.

WBCSD, Future Leaders Team Business Role Workstream – Dialogue on Sustainable Consumption in India, 2008.

National Geographic Society/GlobeScan, Greendex 2008: Consumer Choice and the Environment – A Worldwide Tracking Survey, 2008.

Mintel, *Green Living*, February 2008.

Survey of consumers in Brazil, Canada, China, France Germany, India, the UK and the US (Source: The McKinsey Quarterly, March, 2008).

BSR/Forum for the Future, *Eco-promising: communicating the environmental and social credentials of your products and services*, 2008.

www.scienceinthebox.com – Website to help consumers understand ingredients in products.

WBCSD/GlobeScan, Survey of Sustainability Experts, 2007-2, 2007.

Defra, A Framework for Pro-Environmental Behaviours, 2007.

Tandberg, Global retail consumers segmented by willingness to pay for products with environmental & social benefits, 2007.

Sussex Energy Group/UK Energy Research Centre, *The Rebound Effect: an assessment of the evidence for economy-wide energy savings from improved energy efficiency*, 2007.

Nielsen, *Trust in Advertising*, a global Nielsen consumer report, October 2007.

Guardian News & Media, *Living our values – Social, ethical and environmental audit 2006,* 2006.

MPG International, *Sustainable Motivation: Attitudinal and Behavioural Drivers for Action*, 2004.

Paul Ray/Sherry Anderson,Three Rivers Press, The Cultural Creatives: How 50 Million People Are Changing the World, 2001.

Business Approaches

WBCSD, *Corporate Ecosystems Services Review*, 2008.

John Grant, Wiley, *The Green Marketing Manifesto*, 2008.

Forum for the Future. Leader Business Practices, 2008.

WBCSD, Meeting report, *WBCSD dialogue on Sustainability & Marketing*, 2007.

WBCSD/Young Managers Team 2006, The business of sustainable consumption: Scenario snapshots 2050, 2007.

WBCSD, *Policy Directions to 2050: A business contribution to the dialogues on cooperative action*, 2007.

WBCSD, *From Challenge to Opportunity: The role of business in tomorrow's society*, 2006.

WBCSD, Eco-efficiency learning module, 2006.

WBCSD, Cambridge Program for Industry, *Marketing and sustainable development*, 2005.

SustainAbility, *The Changing Landscape of Liability: A Director's Guide to Trends in Corporate Environmental, Social and Economic Liability*, 2004.

UNEP, Meeting Report of the Global Compact Policy Dialogue on Sustainable Consumption, Marketing and Communications, 2004.

SustainAbility/EACA/UNEP, *Opportunity Space: How Communications Agencies Can Turn Corporate Social Responsibility into Business*, 2003.

MORI, *Corporate Brand and Corporate Responsibility – Market and Opinion Research International,* 2003.

McCann-Erickson Worldgroup/UNEP, *Can sustainability sell*, 2002.

EACA/WFA/UNEP, *Industry as a Partner for Sustainable Development*, 2002.

WBCSD, *Sustainability through the Market*, 2001.

WBCSD, *Sustainable Consumption & Production from a business perspective*, 1997.

Notes

1. WBCSD, *From Challenge to Opportunity: The role of business in tomorrow's society*, 2006.
2. UN Commission on Sustainable Development (UNCSD), Symposium on Sustainable Consumption, Oslo, 1994.
3. WBCSD, *Policy Directions to 2050: A business contribution to the dialogues on cooperative action*, 2007.
4. UNDP, Source data from Earthtrends, 2008.
5. WWF, *Living Planet Report*, 2006.
6. WRI/Earthtrends, Source data, 2008. From United Nations Department of Economic and Social Affairs Population Division, 2006.
7. PricewaterhouseCoopers, from World Bank Source data, 2008.
8. Ibid.
9. *Financial Times*, "Boom time for the global bourgeoisie", July 15, 2008.
10. World Bank database, Global Population Trends, 2008.
11. IFC/WRI, *The Next Four Billion: Market Size and Business Strategy at the Base of the Pyramid*, 2007; and WBCSD, *Doing Business with the Poor*, 2005.
12. WWF, *Living Planet Report*, 2006.
13. World Bank/WRI, *Millennium Ecosystem Assessment*, 2005.
14. IUCN, Red List 1996-2007 at http://www.iucnredlist.org/info/2007RL_Stats_Table%201.pdf
15. WBCSD/Earthwatch Institute/World Resources Institute/IUCN, *Business and Ecosystems*, 2006.
16. WWF, *Living Planet Report*, 2006.
17. World Bank/WRI, *Millennium Ecosystem Assessment*, 2005.
18. WBCSD/IUCN, *Business and Ecosystems*, 2007.
19. WWF, *Living Planet Report*, 2006.
20. World Bank/WRI, *Millennium Ecosystem Assessment*, 2005.
21. WWF-UK, *One Planet Business*, 2006.
22. Ibid.
23. New Economics Foundation: Happy Planet Index, 2006.
24. European Commission, Directorate General Environment/ Eurobarometer 295, *Attitudes of European Citizens towards the Environment*, March 2008.
25. Green Living, US, 2005.
26. Consumers International, Based on data from GlobeScan/CSR Monitor, 2007.
27. National Geographic Society/GlobeScan, Greendex 2008: Consumer Choice and the Environment – A Worldwide Tracking Survey, 2008.
28. Synovate/Aegis, 2007; Synovate/BBC World, 2008.
29. Directorate of the Environment, European Commission/ Eurobarometer 295, Attitudes of European Citizens towards the Environment, 2008.
30. Jackson, T. What Motivates Consumers, 2005.
31. WBCSD, Future Leaders Team Business Role Workstream – Dialogue on Sustainable Consumption in India, 2008.
32. WBCSD/GlobeScan, Survey of Sustainability Experts, 2007-2, 2007.
33. Sussex Energy Group/UK Energy Research Centre, *The Rebound Effect: an assessment of the evidence for economy-wide energy savings from improved energy efficiency*, 2007.
34. BSR/Forum for the Future, *Eco-promising: Communicating the Environmental and Social Credentials of Your Products and Services*, 2008.
35. Nielsen, *Trust in Advertising, a global Nielsen consumer report*, 2007.
36. GlobeScan/CSR Monitor.
37. Gartner, *Green IT: A New Industry Shock Wave*, 2007.
38. Research provided by Procter & Gamble, July 2008.
39. Eyefortransport, *Green Transportation & Logistics Report*, July 2008.
40. From presentation, EMEA 2008 Supply Chain, Top 10 Predictions, February 19, 2008, IDC Manufacturing insights.
41. Ethical Sourcing, *Awareness Trickling Down Global Supply Chain: Ethical Sourcing Report 2008*.
42. WBCSD, *From Challenge to Opportunity: The role of business in tomorrow's society*, 2006.
43. WBCSD, Sustainable Value Chain Initiative, 2007.
44. *Financial Times*, " 'Green lighting' bolsters Philips" July 15, 2008.
45. Insights provided by Henkel, 2008.
46. WWF-UK, *Let Them Eat Cake: Satisfying the new consumer demand for responsible brands*, 2006.
47. WWF-UK, *Deeper Luxury*, 2007.
48. Ibid.
49. Insights from dialogue with the National Consumer Council UK and Consumers International, June 2008.
50. Insights from dialogue with the UK Government Department for the Environment, Food and Rural Affairs (UK DEFRA), June 2008.
51. Insights from dialogue with the UNEP/Wuppertal Institute CSCP, May 2008.
52. Insights from dialogue with Young & Rubicam advertising, Geneva, May 2008, and delegates of the *Marketing Trends* conference, London, June 2008.
53. Insights from dialogue with Migros, Switzerland, May 2008 and retail industry specialist, PricewaterhouseCoopers, June 2008.

Acknowledgements

The Business Role Focus Area co-chairs would like to extend our appreciation to all the members of the Business Role Focus Area's Sustainable Consumption & Consumers workstream for their dedicated efforts and contributions to this publication – with special thanks to Christine Schneider and Uwe Bergmann (Henkel), Kirsi Sormunen, Anastasia Orkina, and Outi Mikkonen (Nokia), Peter White (P&G), Geoff Lane (PwC), Frank Henke (adidas), Andrew Griffiths (Umicore), and Shannon Hughes (Weyerhaeuser), for their leadership and added guidance.

We express our gratitude to Anthony Kleanthous, our writer and consultant for this publication. Anthony's deep knowledge of sustainable consumption issues, as both a marketer and as an advisor to the WWF, brought a robust and balanced view to the work.

The FACT (Focus Area Core Team) provides the CEO-leadership and vision so instrumental to the WBCSD's success.

The Business Role Focus Area
Core Team

Co-Chairs
Samuel A. DiPiazza, Jr, PricewaterhouseCoopers, USA
Idar Kreutzer, Storebrand, Norway

FACT members:
Mohammad A. Zaidi, Alcoa, USA
Michael Diekmann, Allianz, Germany
Michael Hastings, KPMG, UK
Kalim A. Siddiqui, Pakistan State Oil, Pakistan
Ryoji Chubachi, Sony, Japan
Valérie Bernis, GDF Suez, France

Secretariat:
Per Sandberg, Focus Area Managing Director
Cheryl Hicks, Focus Area Assistant Manager

The World Business Council for Sustainable Development (WBCSD) brings together some 200 international companies in a shared commitment to sustainable development through economic growth, ecological balance and social progress. Our members are drawn from more than 30 countries and 20 major industrial sectors. We also benefit from a global network of about 60 national and regional business councils and partner organizations.

Our mission is to provide business leadership as a catalyst for change toward sustainable development, and to support the business license to operate, innovate and grow in a world increasingly shaped by sustainable development issues.

Our objectives include:

Business Leadership – to be a leading business advocate on sustainable development;

Policy Development – to help develop policies that create framework conditions for the business contribution to sustainable development;

The Business Case – to develop and promote the business case for sustainable development;

Best Practice – to demonstrate the business contribution to sustainable development and share best practices among members;

Global Outreach – to contribute to a sustainable future for developing nations and nations in transition.

www.wbcsd.org

Disclaimer

This report is released in the name of the WBCSD. Like other WBCSD reports, it is the result of a collaborative effort by members of the secretariat and executives from several member companies. A wide range of members reviewed drafts, thereby ensuring that the document broadly represents the majority view of the WBCSD membership. It does not mean, however, that every member company agrees with every word.

Design	Art direction: Eddy Hill Design Graphic design: MH&Cie
Photo credits	flickr, Google images, Henkel, istockphoto, NASA, PSI, Reuters/Corbis, Sephora Dudouit, tomat3.
Copyright	© World Business Council for Sustainable Development, November 2008.
ISBN	978-3-940388-30-8
Printer	Atar Roto Presse SA, Switzerland. Printed on paper containing 50% recycled content and 50% from mainly certified forests (FSC and PEFC) 100% chlorine free. ISO 14001 certified mill.

Secretariat
4, chemin de Conches
CH-1231 Conches-Geneva
Switzerland

Tel: +41 (0)22 839 31 00
Fax: +41 (0)22 839 31 31

E-mail: info@wbcsd.org
Web: www.wbcsd.org

WBCSD North America Office
1744 R Street NW
Washington, DC 20009

Tel: +1 202 420 77 45
Fax +1 202 265 16 62

E-mail: washington@wbcsd.org

WBCSD Brussels Office
c/o Umicore
Broekstraat 31
B-1000 Brussels
Belgium

E-mail: brussels@wbcsd.org