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PROGRAMME FOR INDUSTRY

A Business Primer

Sustainable Consumption and Production



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Foreword

By Neil Carson, Chief Executive, Johnson Matthey Plc, Chairman, Business Taskforce on Sustainable Consumption and Production.

Business innovation and enterprise provide the fuel for economic growth, employment and social progress. Through increased choice, and the availability of affordable products and services, business plays an essential role in helping people improve their lives.

Yet many companies now recognise this is just one side of the equation. While our activities generate ever more value for customers, employees, shareholders, citizens and consumers, they are also making growing demands on the environment.

As economic growth accelerates, the signals are getting clearer: the Earth's natural resources and ecosystems will not support 'business as usual' for much longer. Climate change and water stress are already having a direct impact on business operations. Similarly, issues around energy security and access to raw materials are affecting competitiveness, as are the rising costs of waste disposal and tackling pollution.

The idea of a 'one planet economy' sums up the challenge. If replicated worldwide, current patterns of Western consumption and production would, it is estimated, need at least three planets' worth of resources¹. So **we need urgently to harness ingenuity, technological innovation and behaviour change in ways that will enable us to make the transition to meeting our economic and social goals within the capacity of our planet.**

For business this means making a shift to deliver new products and services with lower environmental impacts across their life cycle. It's also about making it easy for customers and consumers to make more sustainable choices.

Some companies have started this journey, bringing forward new business models that generate value through the use of less and less resources. However, we recognise that if this is to become the benchmark for future commercial growth and competitiveness, we need to start a dialogue now within the business community, within our companies and with government about the changes we must make and how best to get there.

This report has been compiled to support such dialogue – to provide a map of the context, key issues and questions that business should address. It is intended to guide business people seeking to open up structured conversations with their key stakeholders around the challenge of reaching a 'one planet economy'.

Cambridge Programme for Industry (CPI), through its Business and the Environment Programme and other executive education activities, and the Business Taskforce on Sustainable Consumption and Production, which I chair and for which CPI provides the Secretariat, are actively supporting this process. A programme of events over the coming year will enable business and government to discuss the way forward and the policies needed to foster the necessary transition. We will build an evidence base to showcase the best examples of business models appropriate for a 'one planet economy' and create opportunities for companies to work together across sectors to generate new insights and knowledge around how to make change happen.

I hope this Business Primer gives you an appetite for the challenge and look forward to having the opportunity to work with you in helping to design our 'one planet economy'.

Neil Carson
January 2007

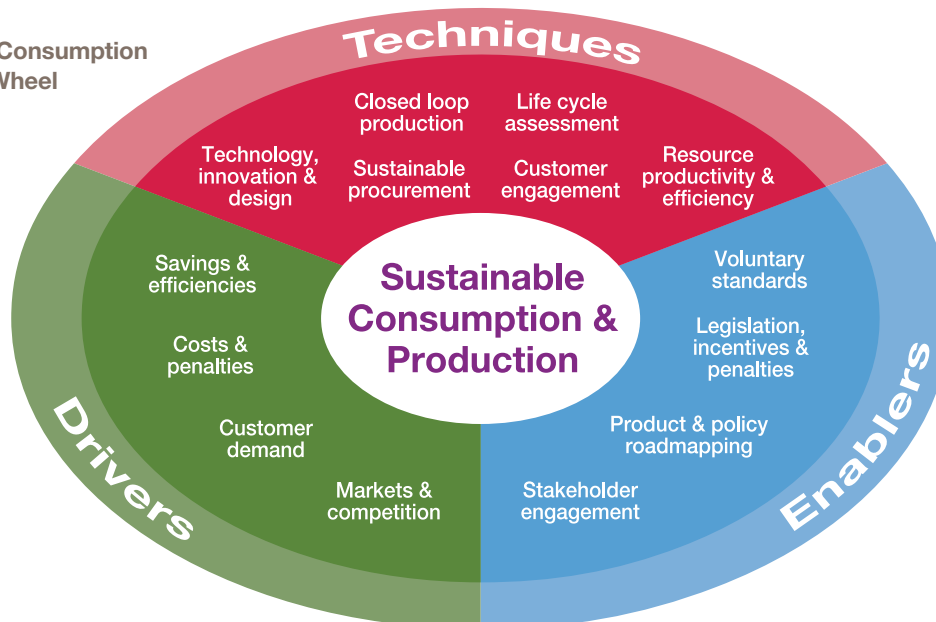
Executive Summary

This Business Primer provides a brief introduction to the growing trend towards Sustainable Consumption and Production, i.e. “continuous economic and social progress that respects the limits of the Earth’s ecosystems, and meets the needs and aspirations of everyone for a better quality of life, now and for future generations to come”.²

The essential challenge of Sustainable Consumption and Production is how to de-link economic development from environmental degradation, in order to operate within the limits of the planet’s ecosystems. Meeting this challenge will require technological innovation, rethinking current business models and political determination.

This report contributes to the debate by raising awareness of the rationale for and current progress towards Sustainable Consumption and Production. After setting the context for the challenge of a ‘one planet economy’, the report explores some of the drivers, techniques and enablers of Sustainable Consumption and Production, as shown in the diagram below. Finally, a list of useful information resources is provided on page 20, together with endnote references on page 22.

The Sustainable Consumption and Production Wheel



The Challenge of the 'One Planet Economy'

WWF has estimated that the UK's current consumption and production patterns, if replicated across the globe, would require the equivalent resources of three Earths, while American lifestyles would require five planets³. Projections like these indicate the scale of the challenge, especially given the aspirations of most developing countries to match the material living standards of the West. The obvious conclusion is that our consumption habits, and the current plethora of products, services and associated production processes designed to feed this appetite, are significantly out of step with the natural resources needed for material production and the ecological 'sinks' available for waste disposal in the medium to long term.

Example: The Real Cost of Consumption and Production

On average a gold wedding ring weighs 6,000 kilograms. The enormous discrepancy between the actual retail product and the remaining weight is explained by accounting for all the materials used and the waste created during the production life cycle of the ring.⁴

The gap between a gold ring's actual, physical weight and its 'resource weight' highlights the scale of physical and financial impacts that are associated with the creation of apparently simple, everyday products. Add to this other potential social and environmental impacts that accrue from the production process and the enormity of the challenge becomes clearer.

However, the difference between the two weights also suggests significant potential rewards from the production of goods in ways that are more resource efficient, environmentally sensitive and socially responsible. This is the path that leads to **sustainable consumption and production**.

However, changing our ingrained patterns of consumption and production to be more sustainable will require fundamental alterations to our behaviour as individuals and organisations. More particularly, **it will require us to challenge and revolutionise prevailing business models that externalise social and environmental costs and pass on the debt of negative impacts to future generations.**

There are three fundamental challenges to current consumption and production systems: energy, resource depletion and ecosystem degradation. Firstly, energy is becoming increasingly problematic, both in terms of security of supply and absolute levels of availability. The 2005/06 dispute between Russia and Ukraine about the transport of gas supplies showed how up to 20% of Europe's supplies could be affected by a political crisis.⁵

Such energy security problems, including those in the Middle East and South America, mean that this is already a strategic issue for businesses – wherever they work. Further, it is likely that demand for energy will double by 2050, especially as Asian economies grow. The UK is already dependent on imported gas and by the end of 2010 it will be a net importer of oil.⁶ Reducing the UK's dependency on oil and gas is the fundamental challenge for our energy security, as the recent UK Energy Review recognised.

Cutting back resource depletion, especially of non-renewable resources, is the second challenge to current modes of consumption and production. The intensive use of resources by the British manufacturing industry alone wastes £2-3 billion a year through resource inefficiency, roughly 7% of its total profit.⁷ Resource depletion does not just mean carbon-based resources such as fossil fuels. Land-use degradation and availability are also a cause for concern, especially in population-dense England. For example, countryside

campaigners have argued that the Barker Review's projections for 120,000 new houses annually could destroy 8,000 hectares of rural land.⁸ Nor does resource depletion apply solely to 'non-renewable' resources. WWF estimates that in the UK, the Mersey, Tyne, and Bristol estuaries and the whole of the South East will face severe water stress in the 2070s based on current trends.⁹

Environmental degradation, the third challenge, is closely linked to the depletion of these non-renewable resources. At a global level, one critical example is climate change linked with our use of fossil fuels. In the UK, the cost of coastal environmental degradation due to climate change is likely to be £10-15 million per year at current levels.¹⁰ Pollution and waste are other examples. For instance, the UK pays more than £140 million annually through charges for agricultural water pollution and its 12% recycling rate compares poorly with Germany's 52%, while household waste continues to increase by 3% annually.¹¹ England's municipal waste going to landfill (80%) also compares poorly with Switzerland's 7%. Half of all UK business waste goes to landfill and at current rates, the UK will run out of landfill space over the next 5-10 years.¹²

The value of the natural environment should not be underestimated. For example, Scotland's natural environment provides services equivalent to almost 30% of its annual output.¹³ De-coupling or de-linking economic growth from environmental degradation is therefore fundamental if we are to create a model for a 'one planet economy'. Such de-coupling will not be easy to achieve since major damage has been done to ecosystems over the last century of economic growth, both in the UK and elsewhere.

The doubling of the world population to 6 billion between 1960 and 2000 also saw water use double, wood harvests triple and food production increase by two and a half times.¹⁴ Looking forward, the Chinese economy is set to move from the sixth biggest world economy to third biggest over the next decade. By 2015, China and India will account for 25% of world output in real terms. This will entail phenomenal rates of growth and economic development.¹⁵

The question is, 'What sort of development?' Economies and societies face two major strategic challenges, one essentially technological, the other political. Firstly, how can we make the necessary technological changes to our modes of production and consumption to de-couple economic growth from environmental degradation? Secondly, **are we willing to challenge prevailing business models in order to make this financially and politically viable?** These will be major tests of our ability to innovate and adapt.

What is Sustainable Consumption and Production?

There has been considerable work over the past 15 years or so by pioneers in business, government and civil society on how consumption and production can be made more sustainable. Much of this thinking was inspired by the concept of sustainable development, simply defined by the 1987 'Brundtland Commission' of the UN as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."¹⁶

The idea of Sustainable Consumption and Production found early expression in concepts like 'eco-efficiency' (promoted by the World Business Council for Sustainable Development), 'cleaner production' (adopted by the United Nations Environment Programme), and 'Factor-4 production' (introduced by Ernst Ulrich von Weizsäcker and Amory and Hunter Lovins). Sustainable Consumption and Production was clarified further by businesses, governments and NGOs at the 1992 Rio de Janeiro Earth Summit and the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg.

Defining Sustainable Consumption and Production

United Nations World Summit on Sustainable Development

- To promote social and economic development
- Within the carrying capacity of ecosystems
- By addressing and, where appropriate, de-linking economic growth and environmental degradation
- Through improving efficiency and sustainability in the use of resources and production processes
- And reducing resource degradation, pollution and waste.¹⁷

UK Department for Environment, Food & Rural Affairs

Continuous economic and social progress that respects the limits of the Earth's ecosystems, and meets the needs and aspirations of everyone for a better quality of life, now and for future generations to come.¹⁸

This approach to Sustainable Consumption and Production has since been developed and incorporated into many governments' policies and frameworks. In the UK, the government set out its goal to move to a 'one planet economy' in its 2005 Securing the Future sustainable development strategy,¹⁹ and its *Changing Patterns*²⁰ framework on Sustainable Consumption and Production. Many departments are involved, including the Department for the Environment, Food and Rural Affairs (DEFRA), Trade and Industry (DTI), Transport (DfT) and the Treasury. The government's work is gathered together at

www.sustainable-development.gov.uk.

At a European level, the European Council (EC) adopted the 'Lisbon Agenda' in 2000 with the goal to make Europe "the most dynamic and competitive knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion and respect for the environment by 2010". At present the EC's current priority is growth and jobs within this agenda.²¹ The EC's own renewed Sustainable Development Strategy sets out how the EU will relate the 'Lisbon Agenda' to its sustainable development priorities.²²

To understand what Sustainable Consumption and Production would look like we need to apply and deepen such analyses across the entire economy. Only then can we really understand what products 'cost' in terms of the environmental and social impacts they cause. In particular, such understanding will help cost the consumption and production effects on our wider ecosystem through waste disposal or land use, and the costs deferred to the future either because of the energy sources they require or because of unseen health costs.

The increased cost that results from the difference between sustainable and unsustainable production is not good for anyone. It is not sustainable financially – such low resource efficiency is wasteful and inefficient. And it is not sustainable socially or environmentally – hazardous or damaging waste products are produced systematically, and resources are increasingly depleted.

The rest of this Business Primer takes stock of where we are today in responding to this challenge and where we need to get to in the future. It describes the techniques and approaches available to business leaders for implementing Sustainable Consumption and Production, and it sets out an agenda for business to create, with government and others, a new, more supportive, landscape for consumption and production in the future.



Drivers

The trends described above present fundamental challenges for how we produce and consume. They question whether ‘making how we behave today less damaging’ will be a sufficient response – or whether a greater step-change is needed. Some analysts have argued, for instance, that if oil companies were to internalise the carbon dioxide (CO₂) costs they currently produce, they would be heavily indebted, not highly profitable.²³ It is therefore likely that **integrating sustainability will require a more fundamental revision of the values and systems that drive current business models**, and the goods and services produced by such business models.

Action by companies is fundamental to achieving Sustainable Consumption and Production. Individual businesses cannot address the entire agenda, but they can address their own impacts. Business can work on some aspects with a great degree of autonomy, and many are doing so. Other aspects require more collaborative solutions. The rest of this and the following section respectively address where business can take a lead and where more collaborative solutions are needed.

A range of drivers exist that enable and encourage individual business action on Sustainable Consumption and Production. These drivers may affect operating costs, liabilities and market opportunities.

Savings and efficiencies

Resource efficiencies are a source of significant potential gain for the private sector. For example, if businesses and households in the UK were more efficient in their energy use they could save the economy £12 billion annually.²⁴ Similarly, cutting down on waste would save UK industry £3 billion and better water efficiency would reduce bills by 30%.²⁵ Compared on such scales, Britain is far less competitive than major trading partners such as Germany, France or Japan.²⁶ These are costs directly borne by individual businesses.

Case studies: Envirowise, ICI Paints and Autofil

- Envirowise: This Government funded best practice programme has to date helped business save £800m through waste minimisation and resource efficiency.
- ICI Paints: Based on advice from Action Energy, ICI Paints implemented an energy management strategy that cut carbon dioxide emissions by 2,850 tonnes and reduced energy consumption by 16% – savings worth over £100,000 per year.
- Autofil: Having to apply for Pollution Prevention Control (PPC) permits from the Environment Agency is drawing some companies' attention to techniques to improve resource efficiency. For example, yarn dyers Autofil Worldwide Ltd in Nottingham have achieved annual savings of around £90,000 through waste minimisation since applying for their PPC permit.²⁷

Costs and penalties

Likewise, the costs of inefficient or irresponsible behaviour are rising. The Environment Agency is pushing stronger penalties for corporate environmental damage or negligence, such as fly tipping or pollution. 2005 saw both an increase in the level of major environmental incidents and a 16% increase in business fines creating total penalties of over £2.5 million as well as jail sentences and community service orders served on irresponsible employees.²⁸ Reputationally as well as financially such costs provide strong incentives for business to promote sustainable production.

Case study: Robinsons Brothers

West Bromwich-based, chemical manufacturer Robinsons Brothers Ltd was fined £63,000 for seriously polluting the Walsall Canal on several occasions during a three-month period in 2002. The company also had to pay £62,000 prosecution costs and more than £58,000 to cover in clean-up costs. The company's badly maintained drains leaked a mixture of chemicals into the canal, which caused it to turn black and stripped it of oxygen. The pollution killed many fish and caused local houseboat owners to complain of foul, bad-egg smells and other adverse health affects. The canal had to be drained to find the source of the pollution, which was 40 times more polluting than raw sewage.²⁹

Customer demand

Markets themselves demonstrate rising demand for sustainable goods and services. Socially responsible investing – in which Sustainable Consumption and Production is a strong element – has grown 500% over the last decade in the UK, with £5.5 billion invested in such funds in 2004. Likewise, retail consumers' demand for sustainable products continues to rise and was worth £26 billion in 2004.³⁰ The global market for environmental goods and services is \$515 billion pa and is estimated to rise to \$670 billion before the decade is out.³¹ British business is responsible for £25 billion of this market.³² Nor are environmental goods and services just a matter for obvious sectors like energy, transport, or manufacturing. Food processing, construction, distribution services, financial services and design services are just some of the sectors that can benefit from Sustainable Consumption and Production.

Case study: EU Socially Responsible Investment

A recent study by the European Socially Responsible Investment Forum highlights the scale and progress of Socially Responsible Investment (SRI) across nine countries (Austria, Belgium, France, Germany, Italy, the Netherlands, Spain, Switzerland and the United Kingdom). Based on a survey of funds under management, the report reveals that the Broad European SRI market is now estimated to be up to 1 trillion and representing as much as 10-15% of the total European funds under management. This represents 36% in real growth since 2003. SRI is growing in many countries and is particularly booming in Spain and Austria.³³

Markets and competition

To date much of Britain's trade has been with OECD countries such as Germany, the US and France, while future strategic partners such as China and India currently comprise around 4% of UK trade.³⁴ This pattern might appear to correlate with the likely markets for British environmental goods and services. But it is clear that rapidly growing economies such as China and India are well aware of their increasing need for environmental goods and services. For example, the UK now has a strategic agreement with China to develop zero emissions coal fired power plants (see the case study below). India, too, has developed a strategic relationship with the EU for clean development technologies.³⁵ As such substantial markets mature, UK industry has the opportunity to develop services and relationships that respond to the global economy's growing appetite for Sustainable Consumption and Production.

Case study: EU-China Near-Zero Emissions Coal

As a key element of the EU-China Partnership, signed in Beijing on 5th September 2005, the UK is supporting a new initiative on 'Near-Zero Emissions Coal' with Carbon Capture and Storage (CCS) to address the challenge of tackling increasing greenhouse gas (GHG) emissions from the use of coal in China. This is in recognition that carbon dioxide emissions from China's increasing coal use are set to double to more than 5000Mt CO₂/year by 2030. Carbon Capture and Storage offers the opportunity to reduce emissions per unit of electricity by 85–90%. 'Near-Zero Emissions Coal' and large-scale deployment of CCS in China could halve projected emissions by 2030.³⁶

Techniques

Businesses, governments and other groups have developed a variety of techniques and approaches to encourage more Sustainable Consumption and Production. These techniques are at varying stages of development and offer no ready-made or complete answer. Many will develop as businesses themselves apply and improve them. The challenge of Sustainable Consumption and Production for any organisation is therefore how to use these techniques and approaches to resolve the specific sustainability challenges it faces.

Technology, innovation and design

The role of innovation in making these approaches work should not be underestimated. Nor should it be presumed that innovation on Sustainable Consumption and Production is the preserve of large companies with big R&D budgets. Many innovations actually get to market through small or medium sized companies.³⁷

Innovation can simply be a matter of developing and applying a new technology, as illustrated in the case study box right. But product design can also be a focus of innovation. Indeed, it has been estimated that more innovative product design could minimise over 80% of all products' negative environmental by-products.³⁸ Separately, **significant innovations can occur in changing the basis of a business relationship: especially shifting from selling a product to selling a service.**

The US carpet and floor tiling business Interface is a famous example of a company that has moved from selling carpeting, to leasing carpeting and providing cleaning, recycling and upgrading services. Strikingly, Interface has done so on the basis of a business model that is both sustainable as well as a financially viable.³⁹

Case study: Kent Art Printers

Kent Art Printers is a small to medium sized printing business based in Chatham. It is the first UK business to install and market Kodak's brand new Thermal Direct printing technology. This new process for 'writing' images onto printing plates dispenses with all water, chemical and hazardous waste in the pre-printing process. Reducing water usage overall by 31%, and eliminating procurement, transport and storage costs associated with previous chemical usage also removes £2,100 pa worth of costs, while the increased human resource efficiency of the new process saves a further £4,000 pa, meaning that once all costs are factored in the cost per finished plate is 22% lower than previously. Consequently, this new procedure has a significantly lower environmental footprint with a 12% reduction in CO₂ emissions and the elimination of 1,500 litres of hazardous waste annually. Kent Art Printers therefore believe it lets them "steal a march on competitors who have persisted with other more wasteful plate making technology."⁴⁰

Resource productivity and efficiency

Resource productivity looks at how you extract added value from natural resources. Doing this well is resource efficiency. Movement sensitive office lights that switch off when no one is there; water efficient toilets; and recycling – such resource efficiency is common sense. But how productive would companies be if a sustainability charge was levied on all the externalised costs to the environment created by their products and services? Incorporating the environmental cost of natural resources, water, energy, transportation, extraction or pollution would make many companies far less competitive than they currently appear. To seriously drive such 'sustainable competitiveness', deeper changes will be needed: for example, switching from fossil fuel-derived commodity solvents in the

chemical industry to biodegradable natural crop starch derived from bio-ethanol⁴¹; changing company car fleets to more sustainable models; and altering company policy to minimise the most environmentally damaging forms of transport. Many businesses seek to reduce such costs through techniques such as total productive maintenance; but this does not necessarily mean their environmental impacts are addressed in a sustainable way.

Case study: British Telecom

Over the last 15 years British Telecom has developed a range of measures to increase its resource efficiency. In 1991, BT has rolled out employee energy awareness programmes, which saved more than £16 million over five years. BT also began an extended review into its infrastructure and energy procurement. Most ambitiously, after years of development, BT became the world's biggest company to source all its electricity from sustainable sources. As a result, CO₂ emissions are down by 325,000 tonnes annually. But it is accumulated small actions that make the big differences, BT says. Independent estimates suggest the company has saved £119 million since 1991 through all such measures, plus £421 million through greener transport.⁴²

Life cycle assessment

Life cycle assessment is used to help understand the environmental impacts of goods and services through all stages of a life cycle. It seeks to identify what raw materials are used; what other products and processes are needed for manufacture; how the product or service is used; how it is disposed of; and whether the associated transport or storage costs are environmentally significant? The ISO 14040 series on life cycle assessment provides guidance on the methodology.

Knowing this product life cycle ensures that improvements made at one point in the life cycle do not create problems in others. It gives a clear picture of the overall environmental 'footprint'. For example, altering the chemicals used in a production process may make that aspect of the product's life cycle more eco-friendly, but only by evaluating the new end product can we determine whether the result is a more (or less) biodegradable product and whether the product is more sustainable over its whole life. Similarly, an organic catering procurement policy may appear sustainable, but adding together the 'food miles' that the ingredients have travelled could outweigh the benefit of being organic. Weighed up against alternatives this might make sense, but without a life cycle assessment, it would be impossible to know.

Case study: adidas

In 2006, the adidas Group developed a new football boot, but one whose entire environmental life cycle has been evaluated – from natural resources to disposal or re-use. Having this complete picture will allow adidas to intervene more effectively in the future to reduce the environmental impacts of its footwear. This is significant since each pair of boots produces 0.057m³ of wastewater, needs 20.5g of volatile organic compounds, 2.93 kWh of energy and creates a waste ratio of leather and synthetic materials of 10% and 12% respectively.⁴³

Closed loop production

Any picture of where the materials for goods and services come from and where their environmental impacts go to will be complex. The sugar we put in our tea is as likely to come from imported cane sugar as British sugar beet. But compare, say, Swazi and British production processes. Processing British sugar beet turns out to use twice as much fertiliser, be less productive per hectare and needs to buy in all the energy it uses. In contrast, Swazi sugar cane processing can use its own by-products to fuel 100% of its production process.⁴⁴

Trying to intervene in a global supply chain to make it more sustainable is a complex business. How many components make up your computer and where were they sourced from? They might be designed and assembled in California, but are more likely to be produced in China or India. So asking “How can British businesses be more sustainable?” poses a simple but not very helpful question. Asking, “How can British businesses contribute to sustainable global supply chains?” is far more helpful. Doing this means that we can create ‘closed loop production’ that takes responsibility for all the aspects of a product’s life cycle. And answering “Who does UK business need to be sustainable if it is to be sustainable?”, enables us to address the challenge of Sustainable Consumption and Production in global supply chains. Business can act on this. In addition, it is likely that European governments will increasingly provide incentives for greater producer responsibility on closed loop production: meaning that companies would be liable in the future for internalising the costs of their waste disposal.

Case study: Fonebak

Fonebak was launched in 2002 to deal with the growing mobile phone ‘mountain’ created by consumers disposing of obsolete phones every 18 months while leaving the lithium ion, platinum, gold, silver, copper and reusable plastics in every phone. Fonebak takes the returned old phones and extracts such material for reuse and recycling as well as refurbishing the phones for on-sale. In its first three years the company prevented 1,800 tonnes of electrical waste from 18 million mobile phones going to landfill. As a result the company has a turnover of £27 million, having increased overseas sales by 127% over these three years. Such a service closes the loop at the end of production which would otherwise waste valuable mineral resources and contribute to completely unnecessary landfill.⁴⁵

Sustainable procurement

One of the biggest tools companies possess in promoting Sustainable Consumption and Production is discriminating what they buy and who they buy it from. Many assume that including sustainability as a factor in making procurement decisions must make more sustainable solutions more expensive ones. But **experience shows that sustainability versus efficiency presents a false choice.**⁴⁶ For instance, video conferencing facilities may be more expensive in the short-term, but how many person-hours and associated transport costs do they save for companies and their clients? Purchasers buying in bulk or partnering with other companies in their sector can make big differences in supply chains. The difference B&Q made when it decided to stop sourcing timber from unsustainable sources was substantial. Incorporating Sustainable Consumption and Production into procurement practices can also be a source of competitive differentiation, as it has for The Beacon Press, a small company who have developed a carbon neutral, waterless method of printing.⁴⁷

Case study: Marine Stewardship Council

It is not easy for 'ethical consumers' to factor into their purchasing decisions which species of fish are over exploited or endangered. Over time, in any case, fish stocks rise and fall, meaning what was sustainable six months ago may not be now. In 2005 Unilever was one of the world's largest buyers of whitefish. The company was instrumental in setting up the Marine Stewardship Council (MSC) in order to certify sustainable fisheries. The company's use of certified Pollock in its products increased the volume of MSC-certified fish in Europe from 4% in 2004 to 46% in 2005. Through a mixture of MSC-certified procurement as well as its own supplementary certification programme, Unilever was able in 2005 to buy 56% of its fish from sustainable sources.⁴⁸

Customer engagement

Retailers' relationships with their customers are just as crucial for Sustainable Consumption and Production as for any other area of business. But do consumer demographics suggest this will be something they care about? Some companies treat sustainability as a premium product, charging more and targeting only the more affluent of their consumer base. For instance, supermarkets' organic food stocking policies vary from store to store depending on their socio-economic base. But sustainable products do not have to follow this premium-price model. Retailers' relationships with their suppliers, rather than their customers, can be a crucial catalyst to helping consumers make more sustainable choices.

B&Q's 'only-sustainable' timber sourcing policy meant their customers didn't need to know they were buying timber certified by the Forest Stewardship Council: they just bought it. By working with their suppliers, B&Q reduced consumers' chance to make less sustainable decisions. Sometimes called

'choice editing' this can make a real difference to Sustainable Consumption and Production. Sometimes it has occurred through regulation, as when CFCs were phased out or leaded petrol banned, but voluntary action is also critical and can be highly effective.

As previously mentioned, a different strategy that can promote Sustainable Consumption and Production and better consumer and customer relationships is shifting from selling products to selling services. Some sectors already offer ongoing service relationships, as with energy or telecommunications, but in general this is an under developed area.⁴⁹ Sustainable Consumption and Production provides a model for taking such strategies further, by moving consumers from a product to a service relationship. Instead of buying a computer which is depreciated and disposed of every five years, a consumer buys or leases a computer service, with hardware and software upgrades included.

Case study: London

Access to and availability of water is fast becoming a major challenge for developed economies. London is the biggest city in the world that depends on groundwater reserves. These have declined in South-East England over the last 70 years to all-time lows. In Summer 2006, water availability became a controversial issue as UK water companies, regulators, government and consumers battled to allocate blame for wastefulness. Many of the major water companies have a range of consumer engagement strategies in place to promote water conservation, but the drought challenged the extent to which such consumer engagement is 'fit for purpose' in a century that will face major problems associated with water related conflict, water contamination, degraded landscapes, and the exhaustion of water supplies.⁵⁰

Enablers

Cumulatively, all of these actions will gradually shift markets to recognise and reward sustainable business behaviour more than they do at present. This will create significant sustainability effects. However, companies often find that their wider business environment does not always encourage them to take sustainable decisions; indeed it may even create disincentives. A company adapting its diesel fleet of cars to use biofuels may be responding to one government department's policy encouraging this, but it is unlikely to persist if another department wishes to tax these vehicles at a higher rate.⁵¹

In many areas of sustainable development, the problems are too complex and intractable for a single company to be able to act alone. To deal with these problems, businesses need to work more collaboratively with governments, other businesses and civil society. For businesses thinking about doing so there are two principle questions:

- How far are they prepared to (publicly) back incentives and penalties on Sustainable Consumption and Production?
- And
- How, and how far, should they come together to develop and back standards on Sustainable Consumption and Production?

Below we introduce and illustrate the key forms of collaborative action and engagement.

Voluntary standards

Aside from legally binding requirements, a range of voluntary standards have been developed to define business performance in specific areas of impact. For example, ISO14001 is the international environmental management system standard widely used by organisations to improve the sustainability of their processes and systems. There are also

standards for more complex aspects of Sustainable Consumption and Production, such as ISO14040 on the environmental life cycle of goods, services, installations and technologies.

Specific product standards have also been developed to manage and communicate sustainability, especially when facing complex global supply chains. The Forest Stewardship Council label communicates to companies and consumers that they are buying sustainably sourced timber,⁵² as does the Marine Stewardship Council's brand on fish products.⁵³ Other standards are at earlier stages of development, such as the Sustainable Palm Oil Roundtable featured as a case study below. In this latter initiative, as in most collaborative programmes, the involvement of companies at all points of the value chain, from producers to retailers, is crucial in developing realistic and effective standards. This makes sense: often the most important 'user' of such standards or labels is not an individual consumer, but another retailer or manufacturer.⁵⁴

Case study: Sustainable Palm Oil Roundtable

Vegetable oil production worldwide totals 95 million tonnes per year, of which over 28 million tonnes is palm oil, the world's second largest oil crop after soy oil. Although palm oil is entirely GM free and has the highest yield per hectare of any oil or oilseed crop, it is recognised that there are environmental pressures on its expansion to eco-sensitive areas, particularly as oil palm can only be cultivated in tropical areas of Asia, Africa and South America. The Sustainable Palm Oil Roundtable is developing standards for sourcing sustainable palm oil in what is both a highly important industry for developing economies and, currently, one that is highly destructive of tropical forests.⁵⁵

Legislation, incentives and penalties

In some high impact areas, legislation has been the most effective intervention, but its interaction with market forces is complex. For example, the EU introduced mandatory A-G energy efficient labelling for fridges and freezers in 1995, but energy efficient models stayed stuck at 3% of market share until sub-C models were banned in 1999. In 2001 price incentives through energy suppliers led to energy efficient models taking 70% of market share. This prompted a voluntary agreement between industry and government in 2004 when the former agreed to cut out C-rated models.⁵⁶ This interaction between government and industry with different penalties, bans and incentives introduced at different times shows the complexity of the process and the collaboration needed to generate successful regulatory approaches to Sustainable Consumption and Production.

Businesses' willingness to engage constructively in such debates makes a huge difference. Effective business engagement with government encourages certainty about future market frameworks. Lack of such certainty is one of businesses' greatest complaints about Sustainable Consumption and Production.⁵⁷



Case study: The Corporate Leaders Group on Climate Change

The Corporate Leaders Group on Climate Change, facilitated by Cambridge Programme for Industry, brings together business leaders from major UK and international companies who believe that there is an urgent need to develop new and longer-term policies for tackling climate change. The first output from the group was a letter to the UK Prime Minister in the run up to the G8 Summit in Gleneagles in 2005. The letter argued that investing in a low-carbon future should be "a strategic business objective for UK plc as a whole". In June 2006, the Group wrote a second letter to the Prime Minister, offering further support in taking bold steps to prevent climate change.⁵⁸

Product & policy roadmapping

More structured approaches to particular high impact policies are being developed by government in collaboration with business. Such **'product roadmapping' is a way of systematising what might otherwise be a more organic, haphazard approach**. Such roadmaps therefore require an understanding of a product's life cycle. 'Integrated Product Policy' (IPP) is how government describes conducting life cycle assessments with a view to potential policy interventions. The IPP of the EU, adopted in 2003, aims at reducing the environmental impact of products, instead of specific industries or processes. Two familiar products with diverse impacts were chosen by the EU to demonstrate IPP. One was a mobile phone, put forward by Nokia; the second, a teak garden chair proposed by Europe's largest retailer, Carrefour.⁵⁹

Key to turning this assessment into a useable product roadmap is a realistic identification of the sequence and type of interventions needed in a particular product area. As the Sustainable Consumption Roundtable has pointed out, reducing VAT on loft insulation will not lead to more energy efficient houses. Joining up such an approach with stamp duty or council tax rebates that reward greater energy efficiency, however, is more likely to make a difference. In such cases, the key role that business plays is both to identify barriers and thresholds to action and to support the roll out of such policy roadmaps.

Case study: Integrated Product Policy for Nokia

In 2004, a Nokia phone was chosen to demonstrate the principles of IPP. In 2005, there were over 2.2 billion mobile phone subscriptions globally. The sheer quantity magnifies any environmental impact of this product. The life cycle analysis showed energy consumption is the greatest impact, both during manufacture of components and during use – when chargers left on ‘no-load’ consume electricity constantly. One outcome is that, by the middle of next year, new phones should have on-screen reminders to unplug the charger once charging is complete. It is estimated that, if 10% of worldwide subscribers unplug their chargers once their phone is fully charged, enough energy would be saved to supply 60,000 European homes for one year.⁶⁰

Stakeholder engagement

The role that businesses play as a whole in communicating to consumers and markets and government is more complex still. In some cases, it requires businesses to ask very difficult questions of themselves. How do privatised water companies promote Sustainable Consumption and Production when their principal revenue stream comes from the maximisation, not minimisation, of water flows? The same question can be

asked for energy companies. More generally, businesses-consumer relationships cannot always encourage consumer thrift or resourcefulness. Or rather, they cannot do so easily within current business models.

Engaging consumers, markets and governments then becomes a crucial part of changing these markets to maximise the value for business of Sustainable Consumption and Production. At present, Sustainable Consumption and Production does not always make business sense. However, engaging with financial service providers has led to a huge growth in sustainable investment vehicles in a market that is crucial for Sustainable Consumption and Production. The Carbon Disclosure Project, for example, represents a major milestone in mainstream investor recognition of the implications of climate change for the value of investments in companies worldwide.

Engaging consumers in sustainable behaviour is more difficult, but recent research shows that **the overwhelming response of individuals asked to be more ‘sustainable’ is ‘I will if you will.’**⁶¹ Engaging with government on sustainability issues may be more familiar territory, but businesses have not always been a progressive force in such conversations, despite what leading companies may have been doing. In part this has resulted in a view that Sustainable Consumption and Production is an area where minimum standards should be enforced, rather than just encouraging voluntary leadership.⁶²

Case study: Sustainable Consumption Business Dialogue

Through a Business Dialogue event, convened on behalf of the UK's Sustainable Consumption Roundtable by Cambridge Programme for Industry, more than 30 senior managers from retailers and big brand manufacturers gave their views about what business and government could do to mainstream sustainable products. The dialogue reached two major conclusions: 1) Take a consumption-based view: products matter, i.e. businesses need to take responsibility for aligning their innovation strategies with the imperatives of sustainable consumption, and working with government to rule out high impact products; and 2) Choice edit for sustainability, i.e. retailers need to take responsibility for editing out the least sustainable options to lift the burden from their customers.⁸³

It is a major claim of this Business Primer that Sustainable Consumption and Production is an area in which innovation and leadership is possible. It is a further claim that for such innovation and leadership to be enabled, significant changes to prevailing business models are needed. Businesses themselves can take up much of this agenda, but it will only be fully effective if they work with others to implement these reforms.



The Business Taskforce on Sustainable Consumption and Production

The SCP Taskforce has been convened by Defra and DTI, following through on a commitment in the UK Government's sustainable development strategy. The aim of the Taskforce is to bring forward practical proposals that enable companies to move to more sustainable patterns of consumption and production (SCP) in ways that boost competitiveness and contribute to economic growth.

The Taskforce is approaching this by:

- looking at how government policy can shape the context in which a move to more sustainable production and consumption can be made
- examining evidence from business of the most effective ways to deliver SCP
- identifying tools and skills that will enable business to implement SCP initiatives.

Led by a small Steering Group chaired, the Taskforce has a two-year life span. Members of the Steering Group are:

Neil Carson,
Chief Executive, Johnson Matthey Plc – Taskforce Chairman

Trudy Norris Grey,
Managing Director UK and Ireland, Sun Microsystems

Stewart Davies,
Business Commissioner, Sustainable Development Commission

Gordon Shields,
Chairman, Shields Environmental Plc

Peter Jones,
Director, Development and External Relations,
Biffa Waste Services Ltd

Tristan Hillgarth,
Business Development Director, Jupiter International Plc

The main activities of the Taskforce are being undertaken by a number of Working Groups. Each Working Group brings together cross-sectoral business representation to address a theme and come forward with practical recommendations on steps that can be taken by government, business and consumers.

The Taskforce Steering Group has agreed that priority themes to be addressed are to:

- Bring fresh insight into how to unlock barriers to adoption of SCP inside companies
- Address the potential for business to contribute to uptake of distributed energy
- Investigate the product roadmap approach to SCP
- Reassess the implications of globalisation for the business agenda on SCP
- Show how forward procurement can accelerate innovation and advanced technology solutions for SCP.

For further information about the SCP taskforce visit
<http://www.cpi.cam.ac.uk/scptaskforce/>
or email: scptaskforce@cpi.cam.ac.uk

Key Resources

This Business Primer draws on a wide range of important analyses of Sustainable Consumption and Production produced over the last few years. Particularly important are the touchstone documents and web resources listed below. Our key messages and examples are taken from them.

Principle UK government strategies, frameworks and initiatives

Sustainable Consumption and Production Taskforce:

An independent government initiative to encourage greater Sustainable Consumption and Production amongst business. The Secretariat is hosted by Cambridge Programme for Industry:

www.cpi.cam.ac.uk/scptaskforce/

Clearing House for Sustainable Development:

The Government's cross-departmental site:

www.sustainable-development.gov.uk

Securing the Future (2005):

The Government's overarching strategy for Sustainable Development, with chapter 3 focused on Sustainable Consumption and Production:

www.sustainable-development.gov.uk/publications/uk-strategy/index.htm

Changing Patterns (2003):

The Government's framework for Sustainable Consumption and Production:

www.defra.gov.uk/environment/business/scp/pdf/changing-patterns.pdf

Procuring the Future (2006):

The Government's proposed action-plan for sustainable public sector procurement:

www.sustainable-development.gov.uk/publications/procurement-action-plan/index.htm

Business Resource Efficiency and Waste Programme (BREW):

The Government funding stream for a range of initiatives supporting greater business resource efficiency and waste minimisation:

www.defra.gov.uk/Environment/waste/brew/background.htm

Small Business Service:

The DTI agency supporting small businesses:

www.sbs.gov.uk

Other key documents

I Will If You Will:

Towards Sustainable Consumption (2006):

A crucial report produced through the Sustainable Consumption Roundtable aimed at business, government and consumers and coordinated by the Sustainable Development Commission and the National Consumer Council:

www.sd-commission.org.uk/pages/020506.html

The Environment:

What's In It For You? Spotlight On Business Environmental Performance In 2005 (2006):

A survey report from the Environment Agency on business's current environmental practice:

<http://publications.environment-agency.gov.uk/pdf/GEHO0706BLBM-e-e.pdf>

Millennium Ecosystem Assessment (2005):

A very broad-based coalition responsible for pulling together an exhaustive assessment into human impacts on global ecosystems:

www.maweb.org/en/index.aspx

Living Planet Report (2004) World Wildlife Fund (WWF):

A report on key global environmental trends:

www.panda.org/news_facts/publications/living_planet_report/index.cfm

Other initiatives and resources

Sustainable Development Commission:

An independent, UK government supported commission promoting sustainable development:

www.sd-commission.org.uk/

The Environment Agency:

A UK national body responsible for regulating and inspecting businesses in relation to environmental legislation and responding to environmental emergencies:

www.environment-agency.gov.uk/

One Planet Living:

A WWF sponsored initiative promoting approaches to One Planet Living:

www.oneplanetliving.org/

Centre for Sustainable Design:

A UK based institute promoting and researching approaches to sustainable design:

www.cfsd.org.uk/

WRAP:

A UK government supported initiative stimulating markets for recycled materials and products and better waste minimisation:

www.wrap.org.uk/

The Carbon Trust:

A UK government supported initiative helping business to reduce carbon emissions and promoting low carbon technologies:

www.carbontrust.co.uk/default.ct

Envirowise:

A UK government supported agency offering business free practical environmental advice:

www.envirowise.gov.uk/

Prince of Wales's Business and the Environment Programme:

A learning programme run by Cambridge Programme for Industry to help senior leaders to integrate sustainability principles into their organisations:

www.cpi.cam.ac.uk/bep/

World Business Council for Sustainable Development:

An international organisation bringing together business leaders and other professionals to share practical knowledge and promote sustainable development amongst its members:

www.wbcsd.org/

UK Chapter: www.bcsd-uk.co.uk/

Business in the Community:

A UK business membership organisation committed to improving business's positive impact on society,

www.bitc.org.uk/index.html

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