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**ENVIRONMENT DIRECTORATE
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Working Party on National Environmental Policy

POLICY CASE STUDIES SERIES

POLICIES TO PROMOTE SUSTAINABLE CONSUMPTION: AN OVERVIEW

For more information, please contact Adriana Zacarias Farah, Environment Directorate, National Policies Division, Tel: (33 1) 45 24 13 80; e-mail adriana.farah@oecd.org

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FOREWORD

This study on *Policies to Promote Sustainable Consumption: an Overview* is one of three policy case studies series of the OECD Environmental Directorate's 1999-2001 Programme on Sustainable Consumption. The study analyses and presents an overview of policies suggested to promote more sustainable consumption patterns. The report identifies the main stakeholders and discusses the appropriate mixes of economic, regulatory and social instruments, based upon the sector and policy case studies, that could be applied in an integrated approach, combining measures both at the supply as the demand side. This Study has been prepared by Bas de Leeuw (on secondment from the Dutch Ministry for Housing, Spatial Planning and Environment) and was submitted to the Working Party on National Environmental Policy. It is published under the responsibility of the Secretary-General of the OECD.

The OECD Programme on Sustainable Consumption

The OECD 1999-2001 Work Programme on Sustainable Consumption provides new data and analysis to help OECD Member countries reduce the environmental impacts from household consumption patterns. The Programme combines empirical studies of consumption trends in OECD Member countries with conceptual and policy analysis. Programme elements include: development of an economic conceptual framework to set out boundaries of analysis and policy to influence household decisions; sector case studies documenting trends, environmental impacts, and policy options in three key areas of household decision-making; policy case studies to deepen analysis of policy instruments that influence household consumption of final goods and services; and refinement of a body of indicators to assess progress towards more sustainable consumption patterns. The results of these 8 elements of work are published separately and drawn together in a Synthesis Report (see below). For more information contact the OECD Environment Directorate: www.oecd.org/env/consumption.

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EXECUTIVE SUMMARY

Policy instruments to achieve the goals of sustainable consumption are what governments and non-governmental organisations have been looking for since the concept was introduced in the international policy arena in the early nineties. Policies to promote sustainable consumption should address both demand and supply side measures influencing both the “software” (how do consumers think and feel) and the “hardware” (what can consumers do) for consumer choice. These policies may also include economic instruments, consumer and product information based instruments as well as regulatory instruments and voluntary approaches.

Various OECD governments have been applying integrated and multi-stakeholder policy packages for promoting sustainable consumption patterns. This study analyses and presents an overview of policies suggested to promote more sustainable consumption patterns. The report identifies the main stakeholders and discusses different mixes of economic, regulatory and social instruments that could be applied in an integrated approach, combining measures both at the supply as the demand side. This study draws lessons from a large number of sector and policy case studies, carried out in the OECD working programmes 1995-1998 and 1999-2001; these included reports on transport, water, paper and government consumption, as well as specific analyses of food, tourism (and travel), housing (energy, water and waste), information and participatory decision-making.

From a micro-economic perspective, the focus of this study is on policies that can influence choices by individual consumers or households, while preferences and incomes are treated as given. The question is ‘how to consume differently’ and what roles governments, business and consumers have in achieving this. In general, it is suggested that influencing decision-making processes of consumers and producers has to be directed at “*knowing, wanting, and being able*”. In other words: the individual should be aware of a problem (*know*), feel involved (*want*) and *be able* to use existing opportunities for change. This will result in a willingness and ability to experiment with new behaviours.

The study’s main message is to develop integrated policies and use a combination of economic, regulatory and social instruments. Social instruments are sometimes seen as having a rather high acceptance but leading to slow or unpredictable results. Regulatory instruments might require intensive research and work for their implementation and enforcement on the government side. Economic instruments are advocated by almost every stakeholder in the debate, but so far are not used to their full potential. In all cases, the trade-off between “paternalism” and consumer sovereignty will have to be addressed.

The sustainable consumption strategy should focus on three main issues: i) to set clear environmental objectives, ii) ensure more upstream intervention in the product chain, and iii) mobilise support. However, the potential of *upstream* application of economic and regulatory instruments might have been underused so far. Merely appealing to consumers and non-governmental organisations to take voluntary actions will probably not be sufficient to generate significant improvements, unless accompanied by changes in the “hardware”. Yet, this “awareness raising” approach will remain important in order to keep the issue of sustainable consumption and production high in the public agenda, which will be necessary for mobilising public support for implementing policy measures aimed at the supply side of the economy.

This report is divided in four chapters. The *Introduction* presents the background. *Chapter two* looks at the goals of sustainable consumption and the major stakeholders. *Chapter three*, presents the main policy instruments suggested so far, drawing lessons learnt from both OECD studies and other sources. *Chapter four* contains general policy conclusions and recommendations for further work.

I. INTRODUCTION

Consumers are increasingly concerned about the environmental and social implications associated with individual products. De-coupling environmental pressures from economic growth, while continuing to satisfy human needs, requires an integrated effort addressing consumption and production patterns, including encouraging more efficient resource use. Policies to promote greater resource productivity should address both supply and demand, and may include economic instruments, such as green tax reform, removal of environmentally harmful subsidies and other market-based instruments, consumer and product information based instruments, as well as regulatory instruments and voluntary approaches.

At the same time it can be observed that the environmental impacts of current consumption patterns remain a peripheral issue in most OECD countries, treated in an ad-hoc fashion. Consumers in OECD countries are concerned about environmental quality, but their concern has often not been translated into behavioural changes. Further stimulating public awareness and action in essence means helping consumers to go beyond current efforts to recycle their waste or make select environmentally preferable purchases and to recognise the broader connections between their lifestyles and associated pressures on the environment and natural resources.

These observations from three major recent OECD reports¹ hold – in a nutshell – the questions addressed in this report. What policy options are available to respond to the increasing interest from the demand side about the “world behind the product” (the environmental and social effect of our current production and consumption patterns)? What is the current status – almost ten years after *Agenda 21* in Rio de Janeiro – of the discussions and analyses about sustainable consumption policies in various international policy arenas? What general policy lessons can be drawn for future work?

The present document is building on the outcomes of almost a decade of work in OECD and other international organisations, individual member states and activities by the business community as well as non-governmental organisations. The report is part of OECD’s current working programme, aiming at refining the conceptual framework for examining household consumption patterns, analysing key trends, refining sustainable consumption indicators and developing a structured overview of government policy instruments for promoting sustainable consumption patterns.

The main starting point for the analysis is the notion that ultimately achieving sustainable consumption and production patterns is about influencing market outcomes. The market apparently does not satisfy deeply rooted or more or less latent desires of an increasing number of consumers for a better quality of life - including respect for the environment and other people. It is clear that the driving forces of supply and demand have not yielded those collectively wanted outcomes. Those driving forces are steered by preferences, income and prices. Transparency - access to relevant information for all market parties – is a vital condition to match supply and demand. Getting the prices and the information right therefore will be among the key conditions for making the market work for sustainability. The present document will build on the theoretical framework that was laid down in the OECD report “*Towards sustainable consumption:*

1. OECD (2001g), para 118, OECD (2001e), para 16-17, and OECD (2001d), para 5.4.

an economic conceptual framework".² It builds upon its analysis of the fundamental forces behind consumption and it follows its choice for taking a microeconomic perspective to the issue: how to affect choices within given levels of aggregate consumption towards more sustainable patterns.

The present document will furthermore draw lessons from a large number of sector and policy case studies, carried out in the OECD working programmes 1995-1998 and 1999-2001. These included reports on transport, water, paper and government consumption, as well as specific analyses of food, tourism (and travel), housing (energy, water and waste), information and participatory decision-making. An upcoming "synthesis report" will draw overall conclusions and advise on further work in the years to come.³

This report is, including this introduction, divided in four chapters. *Chapter two* looks at the goals of sustainable consumption and the major stakeholders. *Chapter three* presents the main policy instruments suggested so far, drawing lessons learnt from both OECD and other sources. *Chapter four* will hold general policy conclusions and recommendations for further work.

2. OECD (2000*b*). Income is significant in the discussion of sustainable consumption. Policies affecting aggregate consumption, without differentiating for the type of consumption, are however regarded as inefficient as compared to policies that change the ratio of consumption to natural capital (de-coupling of consumption and resources and pollution).

3. See www.oecd.org/env/consumption.

2. INTEGRATED APPROACH OF SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

This introductory chapter will introduce the goals of sustainable consumption, and identify the various stakeholders and strategies as building stones for an integrated approach for sustainable consumption and production.

2.1 Tackling the hidden wiring of demand

Over the years most of the work on sustainable consumption has shifted from discussing concepts and strategies to defining policy options. It should however be noted that the concept itself - as well as the final goals and hence the strategies to get there – so far has not been clearly defined. Sustainable consumption is not unique in this. Its “mother” concept, sustainable *development*, is characterised by the same lack of clarity and this might well explain the popularity of the concept itself. Ever since the world community endorsed the concept of sustainable consumption it has led to an impressive amount of activities by international governmental organisations, governments, business decision-makers, non-governmental organisations and individual people themselves. Apparently, in the real world, policy development and implementation of policy instruments have not waited until the desired outcomes of their efforts were sharply defined, let alone until quantitative targets were set. And there is no reason to assume that this will be different in the years to come.

What is useful though, is to make sure that there is some kind of a common understanding about what the aims of the concept are. For this it is useful to take the most widely quoted definition of sustainable consumption as a starting point:⁴

“The use of services and related products which respond to basic needs and bring a better quality of life while minimising the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life-cycle of the service or product so as not to jeopardise the needs of future generations.”

Over the years various organisations and governments have refined, improved and extended this definition. Expansions included for instance the phase of choosing and purchasing the product or service, because of the indirect impact of product choice through its influence on producers’ decisions⁵. There is now a wide consensus that sustainable consumption is not limited to the consumers’ use of services and products (like energy, water and waste: the so-called direct links between the consumer and the environment). The indirect effects (through the purchasing decision) are considered to be important as well. Final consumption is at the end – or better *beginning* - of each product cycle and hence influencing all resource depletion and pollution. The sustainable consumption agenda has thereby moved on from the green consumerism of the 1980s and early 1990s and is currently seeking to “tackle the ‘hidden wiring’ of

4. UN/DESA (1995).

5. UNEP (1999b).

demand, which ultimately determines the success or failure of micro-level improvements to production processes and to products.⁶

The importance of the social element of sustainable consumption has been increasingly emphasised over the last few years. UNDP formulated the following principles for what consumption should be:

*“shared (ensuring basic needs for all), strengthening (building human capabilities), socially responsible (the consumption of some should not compromise the wellbeing of others) and sustainable (without mortgaging the choices of future generations)”.*⁷

And UNEP observed that ...⁸

“... it is becoming more and more evident that consumers are increasingly interested in the “world behind” the product they buy: they want to know how and where and by whom the product has been produced”.

Sustainable consumption is now seen as part of an integrated life cycle approach, focusing on improving economic, environmental and social goals. With respect to the question of translating this rather broad concept into tangible strategies, it can be observed that the economic and environmental elements have got the most attention. To a large extent inspired by early work of the OECD (notably the *Clarifying the Concepts* element of its work programme, culminating in the so-called *Rosendal* workshop, organised with the Norwegian government and UN/CSD)⁹, the strategy of eco-efficiency has received most recognition. Endorsed by the business community as well, this “doing more with less” approach has led to many activities. The approach is also gradually showing its limitations, whereas it does not necessarily and automatically led to a more equitable international access to natural resources, meant to comply with the “equity” element in sustainability. Furthermore, due to the volume effects of total increases in production and consumption, the approach so far has resulted in net increases in environmental degradation.¹⁰ A debate on whether and how to respond to these failures – for instance by intensifying and implementing efficiency targets and by supplementing distribution policies – is beyond the scope of this report.

The concept of eco-efficiency from the perspective of the consumption side means that the somewhat unworkable goal of “changing consumption patterns” can be rephrased into a little bit more concise and operational target, namely “inspiring consumers to contribute to more efficient consumption patterns”¹¹. In other words, consumers should continue satisfy their needs - not necessarily with fewer products - but with products or services requiring fewer natural resources and causing less pollution. The vast majority of the poor - lacking access to basic needs and predominantly to be found in developing countries - should be supported to become consumers and increase their quality of life by being able to consume more products and services. The role of governments and business is to identify the underlying forces of consumption, so that the substitutes they offer will both satisfy the environmental demands and

6. Robins N. and De Leeuw, B. (2001).

7. UNDP (1998).

8. Töpfer, K. (1999), cited in *Rewiring Global Consumption*, Robins and De Leeuw (2001).

9. OECD (1997a).

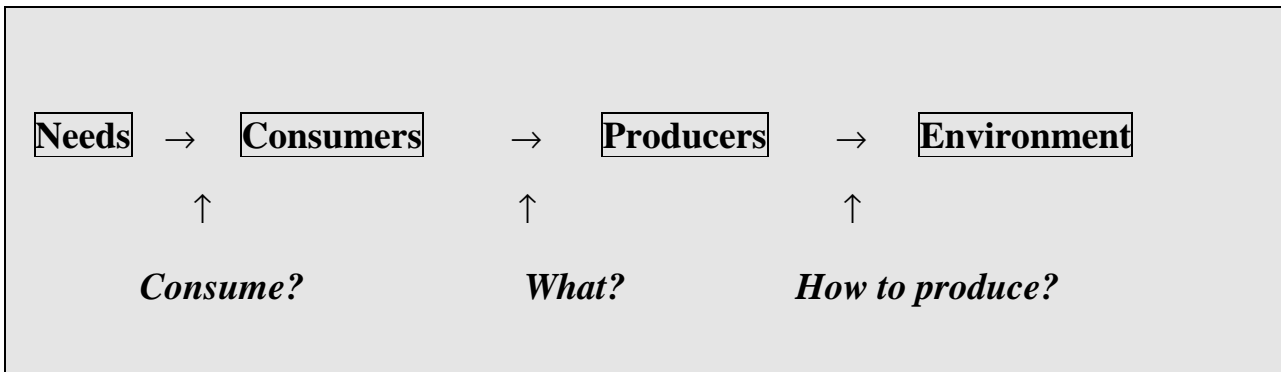
10. OECD (2001e), para 16.

11. Ultimately, this means that, within limits, consumption of more environmentally friendly goods can even increase due to efficiency gains. This would avoid policy measures that entail adjusting consumption relating into decreased wellbeing, see OECD (2000b).

the demands of the consumers. Governments also have to find and implement mechanisms for a re-distribution of natural resources, which should gradually become easier if the goals of eco-efficiency are being met. This is in a nutshell the strategy of sustainable consumption.

2.2 All stakeholders in action

From a micro-economic perspective, the focus of this policy review is on policies that are capable to influence choices by individual consumers or households, while preferences and incomes are treated as given. The question is “how to consume differently” and what roles governments, business and consumers have in achieving this. It is good to realise that the cause-effect chain (showing how environmental degradation is generated through consumption) starts with consumer needs. If and so far these needs are expressed on the market (the consumer demands a product or service to satisfy his or her need), business comes in (by producing and distributing the good). Decisions by business on how and where to produce determine the environmental outcome (pollution and environmental degradation). In this chain between need and environmental outcome various types of decisions can be identified. Decisions by the consumer - given the need, the quantity and (environmental) quality of the good to demand - and decisions by business (quantity and quality of the supply). Decisions by stakeholders serve as potential policy intervention points for governments, which is the topic of the next chapter.



The integrated approach is attractive for two main reasons. Firstly it shows that reaching more sustainable consumption patterns is a joint effort, which politically helps to promote voluntary co-operation of the various stakeholders. Secondly, it widens the number of options available to decrease the environmental impact of consumption.

If the burden of reaching sustainable consumption were to be put solely on the shoulders on individual consumers, then the only intervention point for governments would be the decision-making processes of the consumers. This would mean that policies would be restricted to convincing, asking or forcing consumers to do their part in cutting back their levels of consumption. These levels are determined by factors such as preferences, income and prices, and influenced by all kinds of cultural and demographic elements, together determining whether the needs are considered to be “basic” or not.

However, the integrated approach helps to identify a wider set of options available to influence the final outcomes of the chain, by adding the “production patterns”. Intervention points for influencing choices are now three: consumers choosing whether to satisfy their needs on the market (with goods and services) or not (1) and if so, in what quantities and (environmental) qualities (2) Producers¹² choosing the

12. Local governments and non-governmental organisations can be included in this category as well, in so far they supply goods and services to consumers, e.g. public transport infrastructure, access to natural parks.

quantity and (environmental) quality of goods to supply (3) As a result, the combined impact on the environment is made up by *direct* contributions of consumers (using resources such as water, petrol and electricity, and emitting pollution, like waste) and by *indirect* contributions of consumers caused by their purchasing decisions. Those indirect contributions are the sum total of all pollution and depletion of resources caused by producers, regarded as incorporated in the products and services.

Options available for *individual consumers* to cut down their impact on the environment¹³ can simply be listed as follows:

- purchase and use *fewer resources* (for instance energy and water saving);
- purchase and use *more eco-efficient resources* (for instance solar electricity);
- purchase and use *fewer products* (for instance one television set in stead of three);
- purchase and use *more eco-efficient products and services* (for instance public transport);
- produce *less waste* (avoid packaging and contribute to recycling schemes).

The widening of the options in this integrated approach results from adding policy options to intervene in *producers' decisions*. Producers can choose to:

- supply the *same products* with less environmental damage incorporated (by means of process oriented measures such as good house keeping, pollution control, waste management);
- supply improved and more *eco-efficient products* (eco-design, eco-labelling activities);
- supply new (combinations of) products and services, satisfying underlying needs and eco-efficiency (*demand-driven innovation*). This includes two categories: (1) supplying services directly aimed at reducing the environmental impact (for instance recycling services, deposit/refund schemes); and (2) supplying new services that meet the need that the product fulfilled but using less material and generating more added value to the company (a strategy that is not necessarily only provoked by the environmental agenda).

The category “producers” in this illustration includes local or national governments as well - in so far these supply infrastructure, public transport and other public goods - and non-governmental organisations, for instance offering access to national parks. Over-arching role for governments is to design and implement policies in such a way that both consumers and producers act accordingly.

The combination of all options is another way of describing the agenda for the implementation of sustainable development. It can easily be seen that consumer and producers actions can re-enforce each other. Consumer choices for better products will be more likely if more producers have decided to supply these. Producers' attempts to sell new services will have to be rewarded by consumers. Process-oriented activities on the producers' side are not directly dependent on consumer response, but are increasingly noticed by non-governmental groups. Cost saving or other motives might be drivers as well. On the other side - the consumer side - only choices concerning consuming fewer products are not directly dependent on

13. For reasons of simplicity the environmental impact is highlighted. Social impacts (for instance paying attention to questions such as child-labour and fair trade while shopping) can be analysed similarly.

business action, although advertising can play a major role in influencing desires for material satisfaction of needs.¹⁴

All other strategies require a combination of consumer and producer action. Supplying improved or new goods require not only technical environmental knowledge but also in-depth knowledge of the consumer (is there a potential market demand for the improved or new product) and a strategy to communicate or advertise the alternative goods to the consumer. As such all these activities - although the actors may be businesses, governments or non-governmental organisations - can be regarded as contributing to more sustainable consumption patterns. How to influence consumers and producers decisions in such a way that they get more involved in those activities - in other words the choice of the appropriate policy tools - is the subject of the next chapter.

14. See reports of various experts meetings of the UNEP Advertising Initiative (<http://www.uneptie.org/pc/sustain/advertising/publications.htm>) and CDG/UNEP (1999).

3. POLICY INSTRUMENTS TO INFLUENCE DECISIONS

Policy instruments to achieve the goals of sustainable consumption are what delegates from governments and non-governmental organisations have been looking for since the concept was introduced in the international policy arena in the early nineties. After an initial period of discussing about concepts and goals of the strategy, the focus of the activities at the international level shifted to research on general policy options. Responding to the overall conclusion that blueprints for the best policy could not be identified, this phase was followed by a flow of more specific policy analyses focusing on one particular consumption cluster or one specific sector or one specific type of policy instrument. This chapter will give a brief overview of the various instruments, available to promote the goals of reaching sustainable consumption patterns. The following table provides an overview of some milestones in the debate.

Some milestones in the international arena on Sustainable Consumption¹⁵	
1992	UN's Agenda 21. Chapter 4 on Changing Consumption Patterns aims at "optimisation of resource use and minimisation of waste". Most of the policy recommendations were directed to governments, with supporting roles for industry, "private-sector organisations", households and the public";
1994/95	The Oslo Symposium and Ministerial Roundtable¹⁶ . Widely seen as kick off meetings for vast array of activities by international and national governments, business and non-governmental organisations. Introduction of integrated, life cycle approach. Reform of tax systems played key role in discussions.
1995	The Dutch Facilities for a Sustainable Household expert meeting ¹⁷ . Introduced a clear distinction between behavioural types of policies (aimed at influencing the knowledge and attitude of the consumer, the "software") and policies meant to introduce the necessary substitutes (products, services and infrastructure, the "hardware"). Key areas in household consumption were identified: energy use, water use, product choice, waste generation and "building, location, land use and construction".
1995	Rosendal workshop (OECD/UN CSD/Norway). ¹⁸ Discussions on clarifying the concepts, where <i>eco-efficiency</i> received most recognition.
1995	UN Commission for Sustainable Development (CSD) . International Work Programme on Changing Consumption and Production Patterns adopted, including "policy measures to change consumption and production patterns" and "revision of the UN Guidelines for Consumer Protection".
1997	UN's first review of Agenda 21. ¹⁹ A broad package of policy instruments was recommended, the need for implementing economic and information instruments was reconfirmed and the scope for social instruments was widened (encouraging urban planners, media, advertising industry, youth and women to contribute);
1998	Norwegian Consumption in a Sustainable World workshop. ²⁰ Introducing north-south partnerships and building a network of interested stakeholders.

15. Zacarias-Farah, A. (2000).

16. Norwegian Ministry of Environment (1994), Norwegian Ministry of Environment (1995).

17. Ministry of Housing, Spatial Planning and the Environment of the Netherlands (1995).

18. OECD (1997a).

19. UN General Assembly Resolution, AS/RES/S-19/2.

20. Norwegian Ministry of Environment (1998).

1999 UN **Economic and Social Council (ECOSOC)**.²¹ Extension of the existing UN Guidelines on Consumer Protection with guidelines on sustainable consumption was adopted.

1999/2001 **OECD**.²² Publications on tourism-related travel, food consumption, housing, information and consumer decision-making and participatory decision-making.

1999/2001 **UNEP**.²³ Joint activities with major stakeholders (advertising industry, youth and consumer associations, designers, Cleaner Production and Life Cycle Assessment practitioners), various projects in developing countries (Africa, Asia Pacific, and Latin America) and start of a review of status of implementation of the UN Sustainable Consumption Guidelines.

2002 UN **World Summit on Sustainable Development**, Johannesburg. Review of "ten years Agenda 21".

3.1 Knowing, wanting and being able: conditions for success

Reaching the goals of sustainable consumption implies that sustainability weighs more heavily in the choices of individuals and organisations. As was shown in the previous chapter, individual consumers are expected to consume fewer or better resources and goods. Individual companies, governmental and non-governmental organisations are expected to supply improved or new goods. Some of these changes will come automatically, without any policy interference, simply in response to a changing society. However, there is wide consensus that policy intervention is justified to promote additional activities, although – since quantitative goals are not set – there is no guidance on the intensity of the desired efforts.

Policy intervention to influence decision-making of individuals has to take into account the factors that determine changes in behaviour. In order to make individuals (consumers or business or governmental decision-makers) decide to change their behaviour, three conditions have to be met. They should have:

- adequate knowledge;
- positive attitude to change;
- access to sufficiently attractive alternatives (infrastructure, goods).

In other words: the individual should be aware of a problem (*know*), feel involved (*want*) and *be able* to use existing opportunities for change. This will result in a willingness and ability to experiment with new behaviour. Provided that the new behaviour yields positive effects (in terms of his or her individual utility scheme), the new behaviour will become a more or less automatic factor in his or her daily decisions.

Those three factors can be influenced with various types of policy instruments. In general there are three types of steering mechanisms that governments can use, each in culturally and politically specific ways. Those steering mechanisms are power, transaction and persuasion. The instruments that belong to

21. United Nations (1998).

22. See overview of publications on web-site <http://www.oecd.org/sust/sustain.htm>.

23. For an overview see UNEP (1999b), UNEP (1999a) and the web-site <http://www.unep.org/sustain/home.htm>.

these categories and are most frequently mentioned in the international debate are respectively regulatory, economic and social instruments.²⁴

Knowledge of the consumer can be influenced by social instruments (including awareness raising campaigns, education, product information). His or her *willingness* to change can be influenced by social instruments (e.g. campaigns that stress the importance of individual action), by economic instruments (e.g. resulting in a higher price for the unwanted alternative) and by regulatory instruments (e.g. forbidding the use of water for specific uses in times of scarcity). The *ability* to change can be influenced by supplying the alternatives (infrastructure, public transport, reasonably priced environmentally sound products and services). To put it simply: a clear distinction has to be drawn between the first two categories (aimed at influencing the knowledge and attitude of consumers (called the *software*) and the latter category (products, services, infrastructure: the *hardware*).²⁵ Local governments, business and non-governmental organisations play an important role in supplying the hardware and can be influenced using the same type of instruments (economic, regulatory and social).

It should be remarked that using the steering mechanisms of power or transaction is less different from persuasion than it seems. Sometimes social instruments are referred to as aiming at “voluntary action”, as if breaking or avoiding a law or paying a high fee (in return for the ability to pollute) would be something else than a voluntary choice of the individual. All actions of stakeholders are a result of a personal trade-off of utility and price to pay. Awareness raising, information and education campaigns and provision of “hardware” (products, services, and infrastructure) are equally important in these policies as in social instruments.

The “knowing, wanting and being able” conditions are necessary for persuasion (the successful implementation of social instruments) and will furthermore facilitate the implementation of economic and regulatory instruments. Even so, simply providing the “hardware” (products, infrastructure) without persuading or forcing the consumer to co-operate can be successful as well. Not many car-owners will think about the environment when they fill up their tank with unleaded petrol. This alternative fuel became simply available for a reasonable price (accompanied by the catalytic converter), performing the same function with the same quality, so it became more or less automatic to use it.

This example also illustrates that sustainable consumption does not necessarily imply that consumers consciously change their behaviour “for the sake of the environment”. Although one has on a daily basis in theory an unlimited freedom of choices to behave, the vast majority of those choices are determined by the behaviour in the past (behavioural automatism).²⁶ In other words, past and present consumption are compliments. “Eating cornflakes regularly for breakfast increases the future demand for this cereal ... (...) ... saving becomes habitual, even when people become old and have few years to spend their wealth”.²⁷ Existing infrastructure, existing products and habits play a dominant role in determining one’s actions. Simply changing the “hardware” in an environmentally sound way without asking consumers to change anything – in a direct way - can thus be very effective.

As has been shown in this subsection, the strategy of sustainable consumption asks for behavioural changes. The conditions for success in influencing these are to improve the knowledge, willingness and ability of consumers to change. Policies will either persuade or force consumers to change, sometimes consciously with a call on “the environment” and sometimes more invisibly, the environmental

24. Ministry of Housing, Spatial Planning and the Environment of the Netherlands (1995b).

25. Ministry of Housing, Spatial Planning and the Environment of the Netherlands (1995a).

26. Bartels G., Nelissen W. and Ruelle H. (1998).

27. Becker, Gary S. (1998).

gains being incorporated in the “hardware” that consumers use. The three main types of instruments to accomplish this (economic, regulatory and social) and their current status in respect to sustainable consumption policies will be briefly reviewed below.

3.2 Overview of policy instruments

In the field of changing consumption and production patterns, it can be observed that regulatory instruments are usually applied to producers (pollution control, product standards). Furthermore, many examples of economic instruments (tax reforms, product charges) are directed to consumers. Social instruments are being used for both consumers (awareness raising campaigns, education) and for producers (labelling, voluntary initiatives).

3.2.1 *Economic instruments*

Economic instruments – including full-cost pricing, environmental taxes and charges, green tax reform, and the removal of environmentally harmful subsidies – have an important role to play in influencing consumer behaviour, as was concluded in OECD’s Environmental Outlook.²⁸ Where the prices of energy, road fuels, water, products, services and waste do not fully reflect the associated environmental costs, consumers are encouraged to consume more than they would if they faced the full costs of their consumption patterns. Environmentally related taxes can - depending on the various price elasticities²⁹ - introduce price signals that help ensure that polluters - producers or consumers - take into account the costs of pollution on the environment when they make their decisions. Generally speaking taxes are seen to be flexible policy instruments that can minimise control costs for achieving the targets and provide incentives for technological innovation.

This message of the importance of economic instruments is consistent with earlier OECD reports on the subject. The first OECD report on taxation and environment³⁰ was published in 1993, as a response to a recommendation to the member countries to “make a greater and more consistent use of economic instruments...” In the years to follow the OECD paid an increasing attention to the use of economic instruments. In part this reflected the fact that all OECD countries had introduced environmental taxes to a varying extent and an increasing number of countries were implementing or considering comprehensive green-tax reforms.³¹

Economic instruments play a major role in the UN discussions as well. Agenda 21 called for a “move towards environmentally sound pricing to influence consumer behaviour” and the “Rio + 5” CSD meeting³² recommended that governments should focus on “promoting measures to internalise environmental costs and benefits in the price of goods and services.” Governments should “consider shifting the burden of taxation onto unsustainable patterns of production and consumption.” Such tax reforms should include a process of reduction and elimination of subsidies to environmentally harmful activities. The Oslo Symposium and Ministerial Roundtable³³ delivered clear messages as well. “Enough

28. OECD (2001*d*).

29. OECD (2000*b*)

30. OECD (1993).

31. OECD (2001).

32. UN General Assembly Resolution, AS/RES/S-19/2.

33. Norwegian Ministry of Environment (1994), Norwegian Ministry of Environment (1995).

experience exist” to increase “green taxes” and the reform of tax systems is “something which governments alone can do”.³⁴

Quantitative comparative analyses to investigate the efficiency of economic instruments as compared to regulatory or social instruments in influencing consumer choices so far has not been referred to in the international debate. The use of economic instruments is generally seen as more cost-effective than regulatory instruments, since enforcement and control seem to be less demanding.³⁵ General conclusions however are difficult to draw, due to the variety in economic instruments, ranging from general “greening of taxes” to very specific product charges or deposit-refund systems. With a proper implementation of economic instruments, governments’ intervention in choices of individuals can be limited as compared to regulatory and social instruments. Legislation directly targeted at the consumer would have to directly influence millions of individual decisions on the household level on a daily basis. The acceptance of governmental interference (and scope of control) on that level is determined by the seriousness (in terms of impact) of the individual “misbehaviour”. The acceptance of social instruments (awareness raising, information and education) will also be limited to the same extent. Using general price incentives prevents that governments might wish to dig too deeply into the lives of its citizens.

Generally speaking, economic instruments are seen as key in influencing people’s choices, since the price of a good, quality and income given, usually dominates all other considerations in a purchasing-decision process. Forcing, convincing or inspiring consumers to make sub-optimal choices (whereby they would have to choose to voluntarily give up some direct benefits of the “unsustainable choice”) has so far not been reported as having yielded significant successes. “Getting the prices right” leaves the consumer with the option to ignore the price signal for specific goods (for which he or she has a stronger than average individual preference) and to possibly compensate this by making other - sustainable - choices in other areas.

This does not imply that there are no limitations to using prices to influence consumer behaviour. Although price is a key factor in people’s choices, it is not the only one. Environmental taxes should also be seen in a wider context because tax policies are subject to a number of constraints – such as efficient raising of revenue and social equity. Environmental policies should therefore – as mentioned before - comprise a mix of different policy instruments that complement each other.³⁶ In other words, increasing environmentally related taxes - leading to higher prices for the end consumer³⁷ - is not a guarantee for success in all cases neither could it be implemented without accompanying measures. Often environmentally related taxes can be usefully implemented in the context of policy packages, *i.e.* in combination with other policy instruments, such as voluntary approaches, command and control regulations, and tradable permits. To mention the most obvious example, it is for acceptance building of vital importance to increase the level of awareness and information among the consumers – simply and clearly - about the objectives of the environmentally related taxes.

3.2.2 *Regulatory instruments*

Regulatory instruments – like excess speed limits, product standards, product bans – have not received much attention over the last decade. Yet, apart from redistribution of income (through taxing and

34. de Boer, H.E. Margaretha (1995).

35. Ministry of Environment, Republic of Korea (1995).

36. OECD (1997b).

37. Or decreasing or abandoning subsidies with detrimental effects on the environment, resulting in the same effect. See OECD (1998a).

subsidising) legislation is among the core business of governments. Legislation directly aimed at the consumer (*"thou shall consume sustainably"*) is not a viable option for obvious reasons of public acceptance, practical implementation and cost of control. Examples include local bans in some countries on using water for watering the garden or washing the car in times of water scarcity, car-free periods in times of energy shortage or for awareness raising reasons and environmental testing obligations for cars of a certain age. Legislation aimed at the other stakeholders in the integrated approach (business and local governments producing the "hardware" for consumption change) has been discussed and implemented to a greater extent. Broadly speaking this type of legislation concerns both the (environmental) quality improvements of the products or infrastructure as the supply of reliable information about the environmental impact, either directed to the consumer or to the regulator.

Agenda 21 spoke in very general terms about "make consumers aware of health and environmental impacts of products through such means as consumer legislation". This was at the occasion of the fifth year review in 1997 followed by a general call to examine the use of a number of policy options, including regulatory instruments.³⁸

Most significant development on the international level in this area - since it helped to create a framework for governments wishing to develop legislation - was the extension of the UN Guidelines on Consumer Protection with elements on sustainable consumption. The General Assembly adopted the final text in 1999.³⁹ UNEP has started a review of the current status of implementation of the UN Guidelines in the context of reviewing ten year's progress in implementing Agenda 21.⁴⁰ This project will show the current status of sustainable consumption legislation and the current "level of protection" in developed and developing countries. The status of consumer legislation will be an important indicator to illustrate the actual level of protection (against environmental disaster) in the various countries, as well as the progress made in implying non-regulatory instruments. The guidelines for sustainable consumption included the following:

- governments should encourage the design, development and use of products and services that are safe and energy and resource efficient, considering their full life-cycle impacts;
- governments are encouraged to create or strengthen effective regulatory mechanisms for the protection of consumers, including aspects of sustainable consumption;
- governments should consider a range of economic instruments;
- governments should develop indicators, methodologies and databases for measuring progress towards sustainable consumption.

Discussions on limiting the choice of consumers through banning certain types of products and or infrastructure have been very scarce. Governments apparently hesitate to intervene in such a drastic way, except in cases where hazardous substances (for example in children's toys) pose direct health dangers. Restricting consumer choice for the sake of the environment apparently is widely observed as hardly acceptable. Yet, well-planned government policies that effectively limit choices for individual consumers might not be as controversial as it would appear. The public can well accept these, provided that the functionality of the infrastructure or products remains the same or even increases. Not many consumers will complain about not having the choice anymore between leaded and unleaded petrol. Not many

38. UN General Assembly Resolution, AS/RES/S-19/2.

39. United Nations (1998).

40. See <http://www.uneptie.org/pc/sustain/guidelines/guidelines.htm> and UNEP (2001).

consumers would complain about only being able to buy “clean” - emission efficient - television sets (provided that price and performance would remain acceptable). Not many consumers would insist on industrial food products if the alternative organic alternative were affordable, accessible and attractive. In all these cases the limitations appear to be more set by what governments perceive as business freedom of production.

The Dutch Ministry of Housing, Spatial Planning and the Environment has formulated five precepts for bringing the citizen and the environment together. These include: “intervene where the citizen expects government to do so”. Careful analysis of social relationships and trends shows that in certain cases solutions can be found without government intervention. “There are other cases where all the parties involved feel a need for government to set clear ground-rules. Like football-teams who, no matter how tough the match gets, fully realise that they need a referee”.⁴¹

3.2.3 *Social instruments*

Social instruments have for long been identified as most promising for sustainable consumption. Agenda 21 recommended “assisting individuals and households to make environmentally sound purchasing decisions by developing criteria and methodologies for the assessment of environmental impacts and resource requirements throughout the full life cycle of products”. Also “to promote more positive attitudes towards sustainable consumption through education, public awareness programmes, and other means, such as positive advertising of products that utilise environmentally sound technologies”. In the five years review⁴², the call on the “media, advertising and marketing sectors” to “help shape sustainable consumption patterns” was repeated. It was also recommended to improve the quality of information regarding the environmental impact of products and services and, to that end, to encourage the voluntary and transparent use of eco-labelling. Information, supplying accessible and reliable information about environmental aspects of consumption patterns or products, is usually seen as the key instrument among the various social instruments.

Awareness raising campaigns and education schemes have been numerous in all countries.⁴³ Those have generally speaking resulted in increases in awareness and knowledge. Significant changes in behaviour were however limited to the so-called “easy choices”. These are alternative actions that individuals are prepared to do for the sake of the environment, because the costs of the new behaviour (in monetary terms as well as in terms of convenience and time spent) are relatively low. This explains the successes of many recycling schemes and the problems encountered by persuading consumers to use public transport in stead of a private car.

A remarkable observation in the OECD case study report on *Information and Consumer Decision-Making for Sustainable Consumption*⁴⁴ is the existence of an “information dilemma”. On the one hand there seems to be a wealth of environmental information available in the media, on the other hand consumers are often reported to complain about a lack of information. It seems that the problem lies less in the quantity of the information than in the quality: its reliability (too many green claims) and its format (not at the right time, not at the right place and not speaking the same convincing language as other product information - like advertising - does).

41. Ministry of Housing, Spatial Planning and the Environment (2001).

42. UN General Assembly Resolution, AS/RES/S-19/2.

43. See The Environmental Home Guard (Norway), “Are You Doing Your Bit” (UK) and OECD (1998b).

44. OECD (2001f).

The use of information and awareness-raising instruments has to go hand-in-hand with the provision of the “hardware” and proper price incentives, as stated in Section 3.1. Although information might well be the key in all decision-making processes, it is not the only factor that is important. As shown, attitude and ability are important as well.⁴⁵ One of the many illustrations is provided by a US study that showed that energy-saving technological change (for room air conditioners, gas water heaters and central air conditioners) could be attributed to overall technological advance, increasing energy prices, product-labelling requirements and the introduction of government energy efficiency standards.⁴⁶

“In general, dissemination of information on environmental issues is not enough if we want to improve the state of our environment or prevent pollution, because consumption habits are determined by structural factors, such as existing transport and housing systems for the distribution of energy as well as economic realities. Therefore, preconditions for making sustainable consumption choices must be improved.”

(Cantell, I. and Jalkanen, R. background paper on Public Information Campaigns to Support Household Action for the Environment: Lessons and Best Practice, prepared for OECD experts workshop on Information and Consumer Decision-Making for Sustainable Consumption, January, 2001).

Another type of social instruments is the so-called voluntary approach; schemes whereby firms make commitments to improve their environmental performance beyond legal requirements.⁴⁷ The voluntary action can either be providing more or better information than legally required or taking process or product oriented technical measures. Voluntary agreements can involve commitments devised by the environmental agency and in which individual firms are invited to participate. They can also involve commitments as a result of bargaining between a public authority and industry (negotiated agreements). Unilateral commitments are set by industry itself, acting independently without any involvement of a public authority.

In the field of sustainable consumption there is little experience with voluntary initiatives by companies, except for voluntary eco-labelling schemes. A recent example is UNEP’s “Advertising Initiative”, going beyond the voluntary codes of conduct about the reliability of the information and inviting the advertising industry to share its experiences on communication. As a result governments and business world-wide will be better able to raise awareness, mobilise support and inform consumers about the sustainable aspect of their consumption patterns.⁴⁸

Reasons for firms to join these initiatives are different. Corporate image and “shareholder value” are often mentioned as important drivers. In business sectors with important public concerns about its environmental record (like mining, chemical industry) joining voluntary initiatives with public authorities can be seen as long-term defensive strategies. In other sectors the decision to “go beyond” regulation can also be regarded as offensive strategies, as long as new business opportunities (products, services) can be expected as a result of successfully detecting new trends and solutions.⁴⁹

On a micro-level – within the firm – it can sometimes be observed that personal commitments of managers play a decisive role, whereby individuals feel a responsibility for nature, environment or social

45. See also Fishbein, M. and Ajzen, I. (1975).

46. Newell, Richard G., Jaffe, Adam B. and Stavins, Robert N. (1999).

47. OECD (1999).

48. For an overview of background and resources see <http://www.uneptie.org/pc/sustain/advertising/publications.htm>.

49. CDG/UNEP (1999).

issues. This leads them to be first-movers in terms of responsible entrepreneurship without necessarily wanting to directly benefit from it in economic terms. However, to get in the long term lasting support from other decision-makers it is important that economic benefits follow (be it cost savings or new business opportunities or competitive advantages resulting from complying with new regulations). In recent years experimental economists have gathered evidence that refutes the self-interest hypothesis (on which most economic models are based) and suggest that many people are not exclusively motivated by their material self-interest but also by concerns for fairness and reciprocity.⁵⁰

Voluntary initiatives with other stakeholders than the business sector are numerous, for instance activities of environmental organisations, consumer organisations and individuals. These clearly are almost by nature motivated by non-material concerns. Examples include Global Action Plan, the Centre for a New American Dream's *Turn the Tide Project* ("9 actions for the planet, based upon the power of individual action"⁵¹) and many others. Experiences usually show that mainstreaming the activities to a broader public than the pioneering individuals - who normally belong to the category of highly-involved⁵² - would require price incentives or improvements in products, services or infrastructure.

Voluntary agreements, involving commitments devised by the environmental agency and in which individual groups of consumers are invited to participate, are scarce. One could think about agreements with groups of professional consumers, like restaurant owners or retailers, to purchase an agreed amount (in percentages of total purchases) of environmentally friendly vegetables, supported by labelling schemes. Green public procurement policies, which fall beyond the scope of this report, are other examples of demand-driven incentives.

3.3 Multiple influences on demand: other policy areas

The policy instruments mentioned before are all influencing individual choices. Choices of the consumer to consume fewer resources or better products, choices of producers to supply better goods, services and information. By means of using steering mechanisms such as power, transaction and persuasion those decisions are being influenced. Consumers and producers may thereby have to overcome certain barriers for change (like lack of appropriate technology, infrastructure and institutional arrangements)⁵³ and they are being influenced by a multitude of other influences as well, including governmental policies originating from other areas of public planning. These can create obstacles for more sustainable behaviour or even work in the opposite direction (resulting in more and less environmentally sound consumption).

Some of those other influences have their impact on the level of aggregate consumption, like *fiscal or monetary policies*. In so far these other policies effect available income to spend, the theoretical impact is clear: less available income to spend (except in case of de-saving) means less consumption. Overall impact on the level of pollution varies of course to the extent how other actors invest or spend the income that the consumers did not spend. In the case of increased savings the same holds true, final impact depends to how the money is re-allocated and used by other actors in the present or the same actors in the future. As was already stated, policies affecting aggregate consumption, without differentiating for the type

50. Fehr, E. and Schidt, Klaus M. (2001).

51. See www.newdream.org.

52. Usually it is estimated that the high-involved sector of consumers in the developed world is not more than 5-10% of the general public.

53. Together referred to as "framework conditions", see OECD (2000b).

of consumption, can be regarded as inefficient as compared to policies that change the ratio of consumption to resources and pollution.⁵⁴

Other areas of governmental intervention can influence consumer choice and the volume and type of products or services that are being bought to satisfy consumers' needs. Preferences⁵⁵ - which determine individual consumer choices - are determined by a wide variety of factors, including biological needs (food, drink, shelter), habits, culture and traditions. The process of translating preferences into consumer choices is highly individual and includes both rational and irrational elements. It will be clear that *cultural policies*, resulting for instance in a more attractive package of museums in a certain country, will surely as such limit the needs of some consumers to travel abroad (and thereby reduce pollution caused by long-distance transport). *Media policies, communication technology policies* (for example leading to access to Internet for all), *health regulations* and virtually all other policies in the public and local domain, can have their impact on the level and structure of consumption patterns. It is quite illusory to demand that policy-makers in all those areas should take the sustainable consumption element into account in their decision-making processes, however, environmental considerations are - and should be - increasingly involved in major decisions.

Most significant other governmental policy areas are *land-use planning, construction, energy, water, agricultural and transport policies*, since these have a long-term impact on the infrastructure and hence determine to a large extent what choices can be made at the household level. For example, land use and transport policies in many countries have tended to encourage "satellite" communities and dependence on private cars. Efficient and integrated policy implementation would require a systematic review of the effects of sectoral policies on the sustainability of households by national and local authorities.

This was confirmed by reports of individual OECD governments, as was shown in a survey, published in 1998. This "*progress report on member country initiatives*"⁵⁶ was made as a response to a request of member countries to "make an examination of the policy instruments currently used by governments across the OECD to modify unsustainable patterns of consumption and the behaviour of individual consumers". The report grouped the initiatives into four categories: regulation, economic instruments, social instruments and "other government action".

This last category included initiatives such as:

- integrate consumer related environmental considerations in land-use planning;
- invest in housing, public transport, energy use, clearing polluted ground and related education activities;
- remove administrative and other obstacles to more sustainable consumption (for example liberalisation of electricity markets).

It was concluded that many policy instruments were complementary and, in practice, many initiatives to influence consumption patterns by member countries involved a package of measures. An integrated approach was recommended, in which the packages of policy options had to be different for the different sectors reviewed, see the next subsection.

54. See introduction.

55. Preferences seen as deep-rooted, underlying driving forces of consumption (e.g. "mobility" as compared to "car").

56. OECD (1998b).

3.4 Different policy packages for different cases

The multitude of instruments is truly overwhelming. To give an impression: one of the concrete outputs of the CSD working programme on sustainable consumption was an - internet based - resource database of examples of policy instruments. This database includes more than 100 different types of regulatory, market-based, social, and other types of instruments in various countries. For each policy instrument, the compendium includes information on the implementing country and agency, the economic sector, target groups, and stakeholders of the policy measure. It also includes information on the environmental and development objective, the implementation date, a detailed description and - if available - evaluation of the policy measure, related policy targets and instrument mixes, and a source of further information.⁵⁷

Various policy case studies have been undertaken by various organisations, including the World Bank, UNEP, OECD and the International Institute for Sustainable Development (IISD). These projects included a wide variety of sectors and items, like the transport sector in Denmark, the forestry sector in Finland, the real estate sector and building sector in Norway, the food supply chain sector in Sweden, acid rain reduction in the United States, leaded gasoline phase-out in Slovakia and the United States, palm oil effluent reduction in Malaysia, tradable carbon offset instruments in Costa Rica, and tradable water rights in Chile.⁵⁸

Under the umbrella of OECD's sustainable consumption programme studies on transport, water, paper and government consumption were published during the implementation of the 1995-998 work programme. Studies on food, tourism (and travel), housing (energy, water and waste), information and participatory decision-making have been published in the current 1999-2001 work programme. All indicated the value of integrated sector-specific approaches: different policy packages for different sectors.

For example, the policy options recommended for reducing the environmental impact from *tourism-related travel*,⁵⁹ included:

- the use of social instruments targeted at households (providing information on the environmental impacts of travel and promoting longer stays, other destinations and other forms of leisure activities);
- the use of a range of regulatory and economic instruments targeted at the transport sector and aimed at technological improvements to reduce the environmental impact of its activities;
- the use of location specific packages of organisational and infra-structural measures, targeted at authorities and the tourism sector itself.

The "demand management" approach - meaning that services are supplied on the basis of an analysis of the underlying needs of the consumer - was introduced. In the aforementioned case study the various demands for "access" are used as a starting point in stead of demands for "mobility". This approach widens up the number of options available to both satisfy demand and minimise environmental impacts. It requires extensive consumer research and multi-stakeholder planning and co-operation. The resulting combination of products and services, all aiming at fulfil the given need, potentially allows an

57. See <http://iisd.ca/susprod/>.

58. UN/DESA (1998).

59. OECD (2000a).

optimisation in terms of level of inputs (and pollution) per unity of output, which is the “doing more with less” approach, steered by the demand side.⁶⁰

The policy options recommended for reducing the environmental impact from *food consumption*⁶¹ are of a similar nature. The recommendations include social instruments to influence household behaviour (both directly by processing and transporting the food as indirectly through the purchasing decisions) and they offer a wide range of economic and regulatory measures to promote energy efficiency, waste minimisation and pollution control at the level of the industry. Demand management type of strategies - in this case investigating underlying needs of consumers for food (which are determined by more than the nutritional intake) and on that basis define options for product and service innovations - were not considered.

Economic instruments, social instruments, regulation and “framework conditions” are among the main findings of the *housing* case studies as well.⁶² This case study concentrates on the more direct impact of consumers/households on the environment through their use of water and energy and their disposal of waste.

Another OECD case study report concentrated on *Trends and issues in participatory decision making for sustainable consumption*.⁶³ It was concluded that participatory decision-making in certain circumstances can yield greater consumer awareness and behaviour change. The approach would probably have the best use in situations where citizens can be involved in clear, concrete and operational problems at the local and regional level.

A summary of the current insights on the use of policy instruments, provided in the OECD and other work so far, would - in one sentence - be that a mix of instruments (economic, regulation and social) is recommended, to be designed differently for different clusters of household activities. By its self all instruments have their weaknesses and limits and on their own all stakeholders can only influence the outcomes of current production and consumption patterns to a limited extent. Or, like it was very well put in the conclusions of the Seoul workshop:

*“Workshop participants strongly encouraged citizens to take the environment into account in their day-to-day decisions, a process which should gradually become easier and more automatic if governments, business, and other actors in society implement the policy measures according to their responsibilities”.*⁶⁴

Therefore, policies should focus on designing in “sustainability” to existing socio-economic structures, which implies making more sustainable behaviour a rational and easy choice.⁶⁵ Those structures are the result of decisions by governments on all levels, business and non-governmental organisations, which means that they are target groups for sustainable consumption policy development and implementation as well, as the next summarising table of actions and instruments will indicate.

60. Also see preliminary work in UNEP (2000) and Charter M. and Tischner U. (2001).

61. OECD (2001*b*).

62. OECD (2001*c*).

63. OECD (2001*i*).

64. Ministry of Environment, Republic of Korea (1995).

65. Ministry of Housing, Spatial Planning and the Environment (1995*a*).

3.5 Summary matrix of actions and instruments

The following table shows that the toolkit of governments wanting to influence consumption patterns is well filled. The wide variety of stakeholders, their respective strategies and policy instruments also indicates how much consumption is in the core of society and hence in the heart of environmental policy making. In turn, one has to realise, as was also mentioned before, that consumers are being influenced by all sorts of influences. Messages from environmental policymakers usually do not make up the most important portion in that flow and there is a need for a consistent overall public planning policy.

The table also shows that policy instruments can be aimed either directly at consumers (influencing the *software*: knowledge and attitude) or indirectly, through intermediaries such as producers, retailers and local governments (influencing the *hardware*: products, services and infrastructure). General conclusions about the strength of impact of the various instruments can not be given, since sector-specific conditions differ for different packages, as discussed in the previous section. Furthermore, examples are given of the influence of other policy areas that can work in parallel with or - on the contrary - in the opposite direction as the most-favoured action in terms of sustainability.

The table lists the various stakeholders and their respective actions (as presented in Chapter 2) and the four types of instruments or influences (as presented in Chapter 3) accompanied by some examples. The length of the matrix (and knowing that due to practical reasons only a few examples are being given) indicates the complexity of the issue from a governmental steering point of view. It raises the question as to where policies might be most effective: up or down in the production-consumption chain? This issue will be discussed in the next chapter.

Sustainable Consumption Policy Instrument Indicative Matrix

ACTOR	ACTION*	POLICY INSTRUMENT	EXAMPLE
CONSUMERS⁶⁶	Use fewer resources	Economic	Energy tax
		Regulatory	Speed limits in air polluted areas
		Social	Water saving campaign
		Other policy influences	Public health campaigns
CONSUMERS	Use better resources	Economic	Solar power subsidy
		Regulatory	Temporary bans on using drinking water for gardens
		Social	Green electricity schemes
		Other policy influences	Physical planning regulations for local windmills
CONSUMERS	Use fewer goods	Economic	Motor vehicle tax
		Regulatory	Free motorway zones for car sharing
		Social	Promotion of library
		Other policy influences	Tax incentives influencing household size
CONSUMERS	Use better goods	Economic	Leaded-petrol taxes
		Regulatory	Environmental standards in car maintenance schemes
		Social	Promotion campaigns for fair trade coffee
		Other policy influences	Agricultural policies promoting industrial food products
CONSUMERS	Produce less waste	Economic	Recycle premiums
		Regulatory	Local waste separation regulations
		Social	Awareness campaigns on avoiding packaging
		Other policy influences	Safety and hygiene regulations
PRODUCERS	Improve production process	Economic	Tradable permits
		Regulatory	Emission standards
		Social	Codes of conduct
		Other policy influences	Social legislation
PRODUCERS	Supply better goods and info	Economic	Research grants
		Regulatory	Construction standards for e-efficient houses
		Social	Voluntary Reporting Initiatives
		Other policy influences	Information technology leading to greater transparency
PRODUCERS	Supply new goods or services	Economic	Taxes/subsidies
		Regulatory	Product standards
		Social	Network building of pioneers
		Other policy influences	Labour cost policies

66. For more detail and focus consumer actions can of course be subdivided in clusters food, housing, travel and transport, education and leisure.

ACTOR	ACTION*	POLICY INSTRUMENT	EXAMPLE
RETAILERS	Practice good housekeeping (water, energy, waste)	Economic	Taxes/subsidies
		Regulatory	Waste regulations
		Social	Voluntary initiative (for instance green supermarkets)
		Other policy influences	Physical planning
RETAILERS	Supply better goods and info	Economic	Added value tax exceptions
		Regulatory	Information standards
		Social	Voluntary initiatives for subscription schemes for organic food
		Other policy influences	Media policies
RETAILERS	Provide facilities for recycling & repair services	Economic	Local subsidies
		Regulatory	N/A
		Social	Promotional events such as local "recycling" weeks
		Other policy influences	National labour cost policies
PUBLIC AUTHORITIES	Green procurement	Economic	Temporary economic incentives for "buying green"
		Regulatory	Procurement standards
		Social	Awareness campaigns
		Other policy influences	International harmonisation and competition policies
PUBLIC AUTHORITIES	Supply better infrastructure and information	Economic	Budget grants for innovative projects
		Regulatory	Environmental standards for use of materials
		Social	Consumer lobbying
		Other policy influences	General budget policies
NGO'S, RESEARCHERS	Information and advice, lobbying, research	Economic	Subsistence subsidies
		Regulatory	N/A
		Social	Research pioneers networks
		Other policy influences	Curricula development

*Actions are abbreviated. "Goods" refers to products and services. "Better" refers to more eco-efficient (more sustainable).

4. GENERAL POLICY CONCLUSIONS

After taking a look at a decade of policy development in the sustainable consumption area and identifying a large number of policy options, it is surprised that the results so far appear to have been modest. Compared to the end of the 1980s the flow of information about the environmental aspects of consumption must have increased by a factor ten or more. The level of awareness about the “world behind the product” probably has never been as high as today. Although eco-efficient progress is hidden in many of the products and appliances consumers use, the volume aspect more than compensates the gains. Apparently, the conditions to turn awareness into real action have not yet sufficiently been met. Consumers, business and governmental decision-makers alike still have a long way to go before sustainability is integrated into their day-to-day decision-making processes.

The starting point of this report was that of sustainable consumption policies as a market problem: the failure of the driving forces to yield sustainable outcomes. In theory the market and its driving forces are capable to not only match the short-term supply and demands of goods and services, but also the long term collectively wanted outcomes in terms of sustainability. If the prices and information are right in a perfectly transparent market then consumers will choose for the “right” product, simply because there would not be another way to maximise their satisfaction. The price of an unsustainable product would be as high as the costs of compensating the adverse effects to society. The difficulty lies in defining “right”, since individuals may judge the desirability of the collective environmental gains differently. Furthermore, perfect information is virtually impossible and information asymmetries or even misinformation are too common. It is clear that in an imperfect world (in which the prices or information probably never will be absolutely “right”), market intervention by governments is needed. The same holds true if the market takes too long to signal socially efficient solutions - the limits being defined by physical and political laws - or if it may not signal them at all.

In other words: *institutional failures* - governments’ lack of adequately correcting the market outcomes – is ultimately why currently consumers have to reflect on the sustainability of their day-to-day decisions. The situation might be compared - for explanatory reasons only - with the recent regulatory cases against tobacco companies in the United States. With some success it was put there that in the 1960s companies could have known the negative health effects of smoking tobacco, yet, they did not improve their products nor did they sufficiently warn their consumers. Governments could have been aware too, but also failed to take drastic action.

Striking similarity is that consumers - with for instance health problems caused by pollution or without adequate access to natural resources to survive - might also want to ask about whether governments and business had sufficient knowledge in, say, the 1980s or 1990s. And why he or she was not better informed and whether - technologically speaking - there were no better products and infrastructure available (less polluting and less depleting the natural resource base). An important difference of course is that the negative side effects of unsustainable consumption and production patterns are in vast majority of a collective nature. Legal cases will not be likely. The example was only given to make the point that from a view point of *consumer protection* governments could play a more active role in the debate than they are currently doing and should develop and implement firmer policies than before. Where should the focus of those policies be? Some general suggestions follow in this chapter.

4.1 Focusing on the role of governments

A firmer government's role to protect its citizens from environmental disasters and (future and current) poverty and health-related effects is recommended, since, as concluded in the previous section, the market alone can not be expected to deliver the desired results. Decisions of market parties have to be influenced. As has been illustrated throughout this report, based upon many general and sectoral policy studies, an integrated approach is recommended, resulting in different policy mixes for different cases. Demand and supply side measures influencing both the software (how do consumers think and feel) and the hardware (what can consumers do) for consumer choice.

Yet, some general observations can be made with regard to focusing on the "policy intervention points in the product chain where these are the most effective".⁶⁷ Assessing the most effective action and stakeholder in each phase requires "life cycle thinking".⁶⁸ Quantitative studies are limited, partly because in many Life Cycle Assessments (LCA's) the user phase (the phase in which the consumer uses the product) is not yet well understood. The well-known example of detergents suggests that there are indeed products where the way that consumers use the product (in this case the choice of quantity of washing powder as well as the water temperature) affects the overall environmental record to a great extent. For many others the opposite holds true.

In all cases, be it demand side oriented or supply side oriented policies, there will have to be a government wanting to influence decisions of individuals. This requires, as discussed in Section 3.1 ("knowing, wanting, being able: conditions for success"), that a range of policy instruments has to be used. Social instruments, sometimes seen as having a rather high acceptance but leading to slow or unpredictable results. Regulatory instruments require intensive research and work for their implementation and enforcement on the government side. And economic instruments are advocated by almost every stakeholder in the debate, but so far are not used to their full potential. In all cases the trade-off between "paternalism" and consumer sovereignty will have to be addressed.

Whatever instruments prevail, it should be noted that the number of individuals on the demand side - potentially to be influenced - is approximately 6 billion world-wide. The number of decision-makers on the supply side is far less. From an efficiency point of view in terms of steering, this would suggest to focus efforts on the supply side. Furthermore, as stated before, government's core business is income redistribution (by means of tax and other economic policies) and regulation (by means of laws), guided by collective considerations. Economic and regulatory policies aimed at the supply side (business and local governments) therefore in general would be recommended to focus on. The alternative - focusing on social instruments - would signal that society apparently feels comfortable enough to rely on the market actors themselves (business and consumers) to voluntarily - without obvious and direct incentive - start to improve (in a sustainable way) their production and consumption patterns. In other words: governments could set in place appropriate economic and regulating frameworks - reflecting today's concerns about resources and quality of life - or rely on the market forces themselves to come to a solution, which takes time and outcomes are uncertain.

It is sometimes argued that the implementation of firm economic and regulatory instruments is complicated by the fact that governments have more goals than "only the environment", as well as that some societal groups use to successfully lobby against these. It should be expected that governments themselves would be able to balance all aspects, leading to sustainable choices. In fact, exactly the same kind of difficult choices (or dilemma's) - for instance involving trade-offs between short term convenience

67. Norwegian Ministry of Environment (1994).

68. UNEP/SETAC Life Cycle Initiative, overview of resources on <http://www.unep.org/pc/sustain/lca/lca.htm>.

or short term financial advantages and collective environmental gains - play a role in the daily decision-making of the six billion consumers. Governments can better be expected to take the environment into account than individuals, since the gains are dominantly of a collective nature.

Consumer behaviour is still not well understood. Conventional economic theories suggest that price and income are the only determinant of consumption behaviour. Unexplained residuals are usually attributed to “preferences”. Although price and income may be powerful in explaining short-term changes, they are considered to be weak in explaining long term processes, where changes in preferences are what matter. It “seems unrealistic to suppose that preferences are exogenous and unchangeable. Rather they are socially inherited and conditioned and are governed by the conventions of technology and social institutions.”⁶⁹ Influencing consumption patterns using the price instrument might in the long run not be as controversial as it seems (despite examples of protest against rising petrol prices in many countries), provided that the mechanisms are better understood to influencing both prices and preferences, as a means to mobilise public and political support.

It will be clear however that both approaches will have to be followed simultaneously. The *economic and regulatory approach* would work on the “ratio” of market parties (making sustainable choices a rational choice in terms of quality and price). The *voluntary approach* would have to be linked to the “emotion” of stakeholders, as they have to be inspired to take (in strict economic or monetary terms) sub-optimal actions, and still “feel good”.⁷⁰ It can furthermore be assumed that many pioneering decision-makers in firms or organisations in the past have been expecting that sooner or later governments would tighten regulations thereby adding regulatory and/or economic motives for the voluntary action, as has been argued in Section 3.2.3. This is another example of the validity of a policy mix approach: regulatory and economic instruments to improve the acceptance of voluntary initiatives.

Focusing on the role of governments it can be said that – in both approaches - they have a role in setting clear environmental objectives (“*setting out where we want to go*”), facilitating co-operation between stakeholders and providing a forum for debate and action. Specifically in the economic and regulatory approach governments have to make sure that, based on research, the appropriate measures are being taken, as well as public support is organised. The voluntary approach requires that stakeholders *know* (about the problems and solutions: information and decision-support), *want* (creating positive emotions by means of awareness raising campaigns) and *are able* to take voluntary action (empower and support non-governmental organisations and - if necessary - initiate and facilitate multi-stakeholder dialogues).

As has been concluded in the previous chapter (the “packaging approach”) general directions for the use of instruments are hard to give, since different cases require different solutions. The overwhelming variety of stakeholders, strategies and instruments however also calls for some guidance. The sustainable consumption strategy should, acknowledging how interrelated and complex the issue at stake is, focus on a few essentials. For example: it is difficult to take action without clear goals. And it is resource use and pollution that has to be brought back to more sustainable levels rather than products (consumption) as such. It is easier to influence the decisions of several thousands of decision-makers than of six billion individuals. And, at the same time, not much real progress would be made without the voluntary support of pioneering individuals. Some general recommendations, in this light, therefore could be considered. They can be summarised as follows:

69. Deaton, A. and Muellbauer, J. (1980).

70. Voluntary actions carried out to improve a company’s image, for example, are of course not to be considered as sub-optimal; these, however will not have to be inspired by governmental action, but will be conducted under usual economic considerations.

Some general recommendations

- I. *Setting clear environmental objectives*
- II. *Intervening upstream in the product chain*
- III. *Mobilising support*

Setting clear environmental objectives: This criterion as such is rather obvious, because clear targets will first of all indicate the intensity of the efforts that have to be made and serve thereby also as an indication of the collective priority. Secondly, based on monitoring and feedback, policies can be adjusted to changing circumstances. Although, as earlier stated, in the first decade after Rio many activities have been inspired by the qualitative concept of sustainable consumption alone, it would be worthwhile to consider a more quantitative approach for the next decade. This discussion is of course closely linked to the overall debate on targets for sustainable development. It would not be very operational to translate - in general - the contribution by the consumers to a “factor 4 or 10” overall target. However, sub targets could be developed, based on sector-specific analyses, like food, housing and transport, showing how much direct behavioural change is to be expected from consumers versus incorporated environmental progress in products and services.

Upstream intervention by governments should generally speaking be preferred as compared to *downstream* intervention. Taxes and legislation should be focused at natural non-renewable resources and toxic materials rather than on products. This prevents first of all that policies for sustainable consumption become too complex to handle for governments (due to the multitude of products) and it prevents that governments would have to “fiddle” too much with consumers’ freedom of choice. Resource-targeted economic or regulatory incentives are furthermore generally seen as to promote innovation on the side of producers, who will look for alternative and more cost-effective solutions. Consumers would, except in their roles of users of water and energy, not be the primary target for these measures. The effects will come to them via better or new products (due to innovation) or different prices for existing products (depending on the price elasticities).

Mobilising support. The process of focused upstream intervention - based upon clear environmental objectives - will be long to bear sufficiently significant results. As mentioned before, the “prices and information” might never be perfectly “right”. Voluntary initiatives, based upon positive emotion, will therefore remain of vital importance. Even so, public acceptance - necessary for political commitments - will have to be safeguarded through a continuation of awareness raising, information exchange, educational efforts and feedback. As has been overwhelmingly shown in the last decade major stakeholders, including business and non-governmental organisations, have been willing to take the environment into account in their decision-making processes, even if those choices would require some inconvenience, more costs and taking risks. Building on and expanding those experiences requires that policy makers - on top of carrying out research and publishing reports - would organise a more systematic and open mutual learning process and build up or join networks of pioneers. The main support however for voluntary actions is to lower the practical and economic thresholds for alternative behaviour.

4.2 Summary and recommendations

The scope for sustainable consumption policies solely and directly aimed at consumers is limited. As has been shown packages are needed whereby the potential of upstream application of economic and regulatory instruments might have been underused so far. Call upon consumers and non-governmental organisations will - although probably not sufficient to inspire real significant mass improvements, unless accompanied by the sufficient hardware - remain important to keep the awareness and sense of urgency at high levels, which will be necessary for mobilising public support.

As has been illustrated in this paper, the strategy of sustainable consumption asks for behavioural changes. The conditions for success in influencing these are to improve the knowledge, willingness and ability of consumers and producers to change. Policies either have to seduce, persuade or force consumers to change, sometimes consciously with a call on “the environment” and sometimes more invisibly, the environmental gains being incorporated in the “hardware” that consumers use. The three main types of instruments to accomplish this (economic, regulatory and social) should be applied differently in different situations, in an integrated approach involving all stakeholders.

Governments should however - motivated by a willingness and commitment to protect its consumers from environmental disasters - realise that there might be a firmer role to play in defining the framework under which all actors take their “voluntary” action. Economic and regulations should better reflect today’s concerns for sustainability. The prices of natural resources should be “right”. Product standards for the use of energy, materials, the production and design process and waste management phase should be introduced and implemented. Voluntary approaches could be extended to professional groups of consumers such as restaurant owners. Designing in “sustainability” in a broad spectrum of policies, including land-use planning and transport and energy policies will facilitate individual consumers to take the environment into account in their daily decisions.

Firmer governmental policies require complex decisions, balancing not only environmental but also economic and other aspects. However, one should realise that the absence of clear decisions would require exactly the same type of considerations in “the field”. This would mean to rely on voluntary choices for collective benefits from six billion decision-makers who are not as well informed as governments are and who are all dominantly striving for their own individual happiness - as they are entitled to.

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