

Transition to sustainable consumption patterns

Synthesis within the framework of the in-depth
evaluation of the environmental objectives 2015

REPORT 6746 • OCTOBER 2015



Environmental
Objectives



Transition to sustainable consumption patterns

Synthesis within the framework of the in-depth
evaluation of the environmental objectives 2015

SWEDISH ENVIRONMENTAL
PROTECTION AGENCY

Order

Phone: + 46 (0)8-505 933 40

Fax: + 46 (0)8-505 933 99

E-mail: natur@cm.se

Address: Arkitektkopia AB, Box 110 93, SE-161 11 Bromma, Sweden

Internet: www.naturvardsverket.se/publikationer

The Swedish Environmental Protection Agency

Phone: + 46 (0)10-698 10 00, Fax: + 46 (0)10-698 16 00

E-mail: registrator@naturvardsverket.se

Address: Naturvårdsverket, SE-106 48 Stockholm, Sweden

Internet: www.naturvardsverket.se

ISBN 978-91-620-6746-5

ISSN 0282-7298

© Naturvårdsverket 2017

Print: Arkitektkopia AB, Bromma 2017

Cover illustration: Typoform/Ann Sjögren Semantix

Graphic production: BNG Communication AB/Arkitektkopia AB



Preface

THE ENVIRONMENTAL PROTECTION AGENCY IS TASKED WITH REGULARLY CONDUCTING evaluations of the progress being made towards the 16 Swedish environmental quality objectives and the generational goal. The in-depth evaluation for 2015 will provide a basis for:

- The government's policies and priorities
- Public debate
- The planning and development of work relating to the environment by government agencies
- Dialogue between stakeholders

As a basis for the 2015 evaluation, certain aspects of the overarching analysis were carried out within the framework of three selected focus areas:

- Environmental and climate-related efforts of the business sector
- Sustainable consumption
- Sustainable urban development

This report summarises the work being carried out within the framework of the focus area *Sustainable consumption*. By placing the spotlight on consumers in the transition, we highlight how different stakeholders in society can contribute to more environmentally compatible consumer behaviour and analyse how policies and instruments can incentivise environmentally sustainable choices and behaviour.

This report has been prepared by the Environmental Protection Agency's experts, working closely with a working group consisting of representatives of the Energy Agency, Public Health Agency, Agency for Marine and Water Management, Chemicals Agency, Consumer Agency, Royal Institute of Technology (KTH), National Food Administration, Society for Nature Conservation, County Administration Board of Gotland, RUS - Regional Development & Cooperation within the environmental objectives system, Forest Industries Federation, Trade Federation, Consumers' Association and Region Västra Götaland. The Agency for Growth Policy Analysis and the County Administrative Board of Dalarna also contributed to the work. The Environmental Protection Agency is responsible for the content of the report.

The Agency would like to thank all the contributors for their commitment and contributions to this synthesis report. Eva Ahlner (project leader for the focus area 'Sustainable consumption') and Annica Carlsson (Section for Instruments, Natural Resources and Ecocycles) were responsible for writing this report.

Stockholm, October 2015



Björn Risinger
Director General

Contents

PREFACE		3
SUMMARY		7
1	CONSUMERS IN THE SPOTLIGHT	11
2	FOCUS AREA – SUSTAINABLE CONSUMPTION	13
2.1	Aim, objectives and limitations	15
2.2	Implementation	16
3	CONSUMPTION – STRUCTURES, CHOICES AND BEHAVIOUR	18
3.1	Current consumption patterns	18
3.2	Consuming sustainably	22
4	POLICY INSTRUMENTS	24
4.1	Lessons learned from policy instruments	25
5	STAKEHOLDERS IN TRANSITION	28
5.1	Consumers	28
5.2	Commerce	30
5.3	Producers	31
5.4	Regional and municipal stakeholders	32
6	STRENGTHENING SUSTAINABLE CONSUMPTION PATTERNS	35
6.1	Climate-smart consumers	39
6.2	Clean air	49
6.3	Reduced littering – A balanced marine environment, flourishing coastal areas and archipelagos	50
6.4	A non-toxic environment	54
6.5	Resource-efficient consumers	59
6.6	Energy-efficient consumers	63
6.7	Informed consumers	68
6.8	Globally aware consumers	73
7	FURTHER GOVERNMENT AGENCY COLLABORATION	78
7.1	Environmental impact of consumption over time	78
7.2	Monitoring the transition	79
7.3	Evaluation and development of instruments	80
8	NATIONAL STRATEGIES	82
8.1	Policy to promote environmentally sustainable consumption	82
8.2	Strategies to promote environmentally sustainable consumption	84
8.3	Regional and local opportunities	85
8.4	Digitalisation as a motive force	87
8.5	Health as a motive force	88
8.6	Potential effects on economy and welfare	89

9	CONCLUSIONS AND PROPOSALS	90
10	GLOSSARY	95
11	REFERENCES	99
12	APPENDIX 1	106

Summary

IF WE ARE TO ACHIEVE the generational goal and the environmental quality objectives, both our consumption patterns and the underlying production of goods and services must change. In the annual follow-up of the environmental quality objectives, it was concluded that total greenhouse gas emissions generated as a result of consumption amongst Swedes are not falling, and that well-coordinated initiatives will be needed to achieve the Swedish vision of zero net emissions by 2050.¹ The ecological footprint of consumption amongst Swedes is also growing and has now reached a level that is incompatible with long-term sustainable global development.²

Consumers have so far been relatively invisible in the efforts being made to achieve the environmental objectives. The focus area has decided to focus the synthesis report on the role and actions of the general public in a switch to resource-efficient patterns of consumption with the minimum possible impact on health and the environment. The aim of the work was to identify and analyse existing proposals for instruments aimed at steering the consumption patterns of private individuals towards sustainability. Favourable conditions must be created for consumers in Sweden to choose, acquire, use and recycle goods in an environmentally sustainable manner.

The government has introduced a raft of instruments to create incentives for private consumers to act in a more sustainable way. Far from all these policy instruments have been evaluated, and it is difficult to draw general conclusions concerning their environmental and cost effectiveness. In many cases, adverse environmental and health effects are displaced, which complicates the direct feedback from changes in behaviour and reduces the consumer's inclination to act in any given situation. We consider there is still a need for policy instruments to guide and help private consumers, even if the challenge is considerable.

Consumption as an underlying cause is given little consideration in the analysis of the environmental quality objectives and there are no national indicators at all, except in respect of the objective concerning *Reduced climate impact*.³ More instruments relate to *Reduced climate impact* and *Clean air* than any other objectives. This corresponds well with the review that was conducted as part of the focus area, concerning existing instruments aimed at steering consumer behaviour in the direction of sustainability.⁴ Consumer patterns are also affected in some form in the objectives for *A non-toxic environment*, *Zero eutrophication*, *A balanced marine environment*, *Flourishing coastal areas and archipelagos*, *A varied agricultural landscape*, *A magnificent mountain landscape*, *A good built environment*, *A rich diversity of plant and animal life*. In the report, we present proposals for measures

¹ Naturvårdsverket (2015a) Miljömålen – Årlig uppföljning av Sveriges miljö kvalitetsmål och etappmål 2015, (p. 8).

² WWF (2014) Living Planet Report 2014.

³ Naturvårdsverket (2015b) Mål i sikte. Analys och bedömning av de 16 miljö kvalitetsmålen i fördjupad utvärdering.

⁴ Hennlock et al. (2015) Styrmedel för hållbar konsumtion – Perspektiv från ett urval av utvärderingar. (Underlagsrapport 2).

and instruments which we consider must be implemented if the environmental objectives are to be achieved. Most of these proposals have been presented to the government previously.

The Agency considers there is a need to introduce one or more milestone targets for a transition to resource-efficient consumption patterns with the least possible impact on health and the environment. In order to monitor developments, the objective(s) must contain clear, scheduled and measurable objectives for both public and private sector consumption. In the development of appropriate indicators, the efforts of the EU and UN to develop corresponding indicators should form an important basis.

The Agency also considers there is a need to investigate the possibility of augmenting the current monitoring of greenhouse gas emissions with consumption-based monitoring of greenhouse gas emissions. This will enable the prevailing trend of rising national emissions of greenhouse gases outside Sweden as a result of consumption by Swedes to be gradually reversed. Measures to limit the climate impact of air travel and the consumption of meat are considered to be particularly urgent in order to reduce the climate impact of consumption.⁵

In the efforts being made in relation to the environmental objectives, the Agency considers that more collaboration is required between the competent government agencies tasked with steering consumption patterns towards sustainability. The Agency furthermore considers that the Consumer Agency should be given a clearer role in the work to make private consumption greener. Relevant areas for collaboration are: the provision of clear environmental information, evaluation and development of instruments in order to establish stronger incentives for environmentally sustainable consumer behaviour, and the development of indicators concerning a transition to environmentally sustainable behaviour. Such a forum could also boost the collaboration between national and local government agencies in the implementation of the UN's 10-year framework of programmes on sustainable consumption and production patterns (10YFP), where Sweden has initially decided to prioritise sustainable lifestyles and education.

More collaboration between designated competent government agencies is considered to be far from sufficient in itself to bring about a transition to environmentally sustainable consumption patterns. To achieve radical transformation, such as needed for the objective *Reduced climate impact*, more policy areas and stakeholders must become involved, particularly as regards health, education, business, and finance and tax policies. We therefore consider there is a need for a national harnessing of forces to promote future sustainable consumption, which in the long term will cover environmental, economic and societal aspects. A pivotal force in a genuine transition is the strong level of commitment that exists within the business sector and at regional and local levels. This can be strengthened further by clarifying the responsibilities of government agencies at both national and local level in a transition as well as the future role of commerce.

⁵ Larsson (ed.) (2015) Hållbara konsumtionsmönster – analys av maten, flyget och den totala konsumtionens miljöpåverkan. (Underlagsrapport 1).

An important component in the further efforts to reduce the impact of consumption on health and the environment is to draw benefits from key societal trends which impact on the scope to achieve sustainable consumption in the future. In the focus area, we have decided to specifically study whether, and if so how, digitalisation can contribute to more resource-efficient consumption patterns.⁶ The conclusion is that digitalisation can help, but only if it is supported by policy instruments. The Agency thus considers it necessary to review the national digitalisation agenda, with the aim of augmenting the current ICT policy, both nationally and within the EU, with measures to promote more resource-efficient consumption.

At overarching level, further efforts must revolve around changing the relationship between economic growth and negative environmental impact, improving resource efficiency and reducing resource depletion, waste quantities and the dispersal of hazardous substances. All this is in addition to the need for us to strive to ensure that everyone is able to enjoy a good standard of living. Current efforts being made within the framework of the UN's 10-year framework of programmes on sustainable consumption and production patterns (10YFP) represent an important mechanism for achieving the generational goal and the global sustainable development goals (SDGs). The work of the EU regarding the Roadmap to a Resource Efficient Europe and the impending communication on the Circular Economy represents an opportunity for Sweden to pursue issues relating to resource-efficient consumption patterns at EU level. Wherever possible, Sweden's ambition should be to highlight and promote proposals concerning measures and policy instruments to promote sustainable consumption both within the EU and at international level.

⁶ Höjer et al. (2015) – Digitalisering och hållbar konsumtion. Underlagsrapport till fördjupad utvärdering av miljömålsarbetet (Underlagsrapport 3).

SWEDISH ENVIRONMENTAL OBJECTIVES – IN BRIEF

In 1999 the Riksdag (the Swedish Parliament) adopted a number of environmental quality objectives to give clear structure to environmental action. This has led to what is now called the environmental objectives system:

- A generational goal defining the direction of the changes in society that are needed within a generation in order to achieve the environmental quality objectives.
- Environmental quality objectives describing the state of the Swedish environment that environmental action is to result in. These objectives are to be met by 2020 and, in the case of the climate objective, by 2050.
- Milestone targets directing the way to the changes in society needed to achieve the environmental quality objectives and the generational goal.

The desired national environmental quality is to be achieved without increasing environmental or health problems of other countries. The environmental objectives system form part of the foundation for Sweden's implementation of the UN's 2030 Agenda and its Global Goals for Sustainable Development.

The environmental objectives are followed up on a regular basis, with annual reports to the Government as a basis for the Budget Bill. An in-depth evaluation of environmental action and the prospects of reaching the objectives is performed once every parliamentary term. The evaluation aims to address whether existing policy instruments are sufficient, or if adjustments and new measures are needed in order to achieve the objectives.

A number of government agencies are responsible for following up and evaluating specific environmental quality objectives. The Swedish Environmental Protection Agency, working with all the agencies with responsibilities within the environmental objectives system, prepares the overall reports to the Government.

1 Consumers in the spotlight

EXPECTATIONS ON CONSUMERS ARE HIGH as regards choices and activities in their every-day lives. Environmental awareness is generally relatively high, but structures and resources for making environmentally friendly choices are often absent.^{7 8}

If we are to achieve the generational goal and environmental quality objectives, both our consumption patterns and the underlying production of goods and services must change. In the follow-up of the environmental quality objectives, it was for example concluded that the climate impact of consumption by private individuals in Sweden is not falling.⁹ The ecological footprint of consumption amongst Swedes is growing and has now reached a level that is incompatible with long-term sustainable global development.¹⁰

Today, the inhabitants of Europe are consuming more natural resources per inhabitant than in most other parts of the world. Research conducted within the framework of the EU's seventh framework programme for research and development indicates that a future sustainable lifestyle will mean that the average consumption of materials per person in the EU should be around a quarter of current levels.¹¹ Imports of goods are playing an increasingly important role in meeting our consumer needs and giving rise to emissions and other effects on the environment and health in the producer countries. Hazardous substances in products can result in both direct and diffuse dispersal in the everyday environment. The recovery of materials and resources via recycling is an important aspect in efforts to bring about greater resource efficiency, but it will not be enough in itself if we are to achieve the environmental objectives.

Within the climate field, the EU and Sweden have adopted the 'two-degree target', which means that the rise in global temperature by 2050 will not exceed two degrees. Evenly distributed per person, the target means that emissions generated by Swedish consumers must now be cut to 1-2 tonnes of greenhouse gases per person per year through to 2050.¹² This corresponds to around one fifth of current levels.¹³ Researchers consider that the climate target will not be achieved unless we travel by air less and reduce our consumption of meat.¹⁴ The trend in recent decades has been pointing in the opposite direction. Air travel has doubled over the past 20 years, and meat consumption has risen by 50 percent.¹⁵

⁷ Söderholm (ed.) (2008) Hållbara hushåll: Miljöpolitik och ekologisk hållbarhet i vardagen.

⁸ OECD (2014) Greening Household Behaviour: Overview from the 2011 Survey – Revised edition.

⁹ Naturvårdsverket (2015a) Miljömålen – Årlig uppföljning av Sveriges miljö kvalitetsmål och etappmål 2015.

¹⁰ WWF (2014) Living Planet Report 2014.

¹¹ SPREAD (2013) Sustainable lifestyles 2050.

¹² Naturvårdsverket (2008) Konsumtionens klimatpåverkan.

¹³ Naturvårdsverket (2015b) Mål i sikte. Analys och bedömning av de 16 miljö kvalitetsmålen i fördjupad utvärdering.

¹⁴ Larsson (ed.) (2015) Hållbara konsumtionsmönster – Analyser av maten, flyget och den totala konsumtionens klimatpåverkan idag och 2050. (Underlagsrapport 1).

¹⁵ ibid.

By placing consumers under the spotlight in our efforts to bring about a transition to environmentally sustainable consumption, we will highlight how different stakeholders in society can contribute by making it easier for consumers to make environmentally friendly choices. We specifically analyse how the government can increase consumer power and make it easier for consumers to choose, acquire, use and recycle goods and services in an environmentally friendly manner.

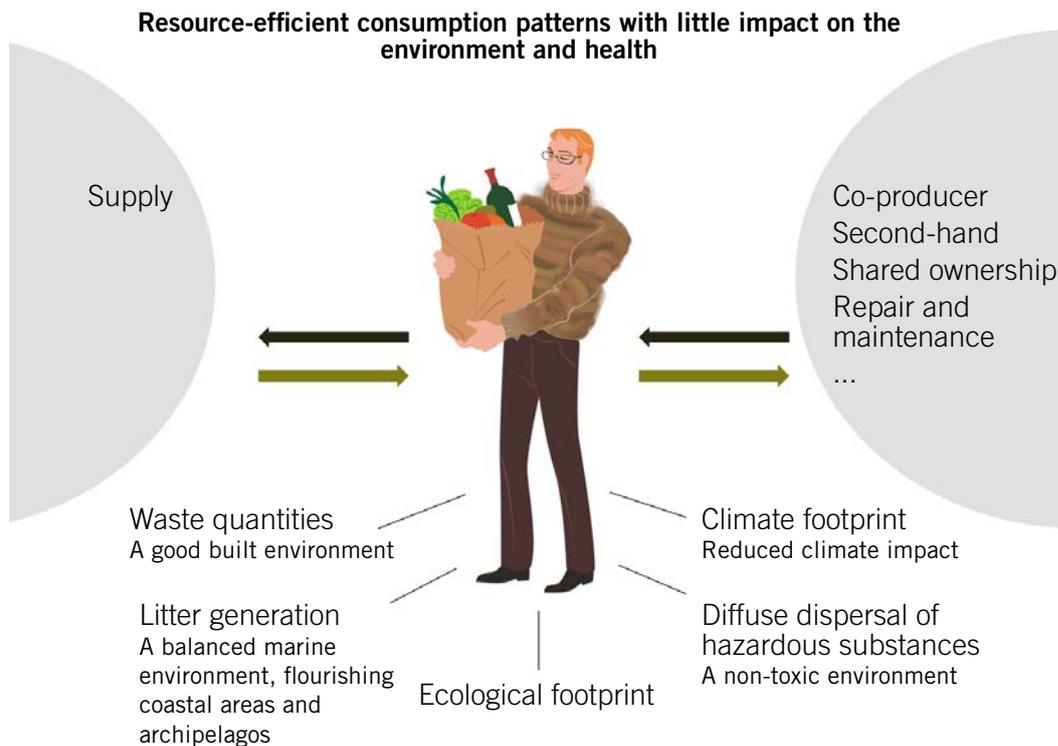


Figure 1. Schematic illustration of patterns of consumption by private individuals and some of the environmental quality objectives.

2 Focus area – Sustainable consumption

NATURAL RESOURCES AND ECOSYSTEM SERVICES are essential for economic and social development, but the excessive consumption of them has led to environmental degradation and economic losses. The generational goal expresses the need to realign society in the direction of the conservation of natural resources and patterns of consumption of goods and services which cause the least possible environmental and health problems. Materials cycles must be resource-efficient and free from hazardous substances insofar as is possible.

This direction is in line with *Europe 2020*, the EU's growth strategy which aims to establish the right conditions for smart, sustainable and inclusive growth.¹⁶ The strategy contains seven flagship initiatives which harness the motive forces for growth and new jobs within various areas. *A resource-efficient Europe* is the flagship for a transition to a resource-efficient and low carbon dioxide economy with sustainable growth.¹⁷ The strategy is based around the high and increasing pressure being placed on ecosystems as a result of the consumption of fuels, minerals, metals, land, water, air and biomass. The EU's *Roadmap to a Resource Efficient Europe*, a key part of the flagship, contains milestones for the transition and establishes the framework for the policy that will be needed in order to initiate the process. Greater attention is being paid to consumers as an important motive force in efforts to boost demand for sustainable products in Milestone1; *Improving products and changing consumption patterns*, which is worded as follows:

*By 2020, citizens and public authorities have the right incentives to choose the most resource efficient products and services, through appropriate price signals and clear environmental information. Their purchasing choices will stimulate companies to innovate and to supply more resource efficient goods and services. Minimum environmental performance standards are set to remove the least resource efficient and most polluting products from the market. Consumer demand is high for more sustainable products and services.*¹⁸

The roadmap for resource efficiency encourages Member States to “develop or strengthen existing national resource efficiency strategies, and mainstream these into national policies for growth and jobs by 2013”. Sweden has (so far) opted not to draw up a specific strategy for resource efficiency, but there is, as noted previously, a clear correspondence between the objectives of the Swedish generational goal and the EU's flagship initiative for resource efficiency. The Roadmap to a Resource Efficient Europe is more clearly linked to the economy than is the case with the Swedish generational goal, but as regards problem areas and the need for changes,

¹⁶ COM(2010) 2020 final. Europe 2020: A strategy for smart, sustainable and inclusive growth.

¹⁷ COM(2011) 21 A resource-efficient Europe - Flagship initiative under the Europe 2020 Strategy.

¹⁸ COM(2011) 571 Roadmap to a Resource Efficient Europe.

there are major similarities between the descriptions in the EU's vision of a resource-efficient Europe and the generational goal. The final bullet point of the generational goal highlights the need to change consumption patterns in Sweden in order to minimise environmental and health impacts.

THE EU'S VISION IN THE ROADMAP TO A RESOURCE EFFICIENT EUROPE.

By 2050 the EU's economy has grown in a way that respects resource constraints and planetary boundaries, thus contributing to global economic transformation. Our economy is competitive, inclusive and provides a high standard of living with much lower environmental impacts. All resources are sustainably managed, from raw materials to energy, water, air, land and soil. Climate change milestones have been reached, while biodiversity and the ecosystem services it underpins have been protected, valued and substantially restored.

THE GENERATIONAL GOAL

"The overall goal of Swedish environmental policy is to hand over to the next generation a society in which the major environmental problems have been solved, without causing increased environmental and health problems outside the borders of Sweden." The generational goal means that the basic conditions for solving the environmental problems we face are to be achieved within one generation, and that environmental policy should be directed towards ensuring that:

- Ecosystems have recovered, or are on the way to recovering, and their ability to generate ecosystem services in the long-term has been safeguarded.
- Biological diversity and the natural and cultural environment is conserved, promoted and utilised sustainably.
- Human health is subject to a minimum of adverse impacts from factors in the environment, at the same time as the positive impact of the environment on human health is promoted.
- Materials cycles are resource-efficient and as far as possible free from dangerous substances.
- Natural resources are managed sustainably.
- The share of renewable energy increases and use of energy is efficient, with minimal impact on the environment.
- Patterns of consumption of goods and services cause the least possible problems for the environment and human health.

The roadmap emphasises the importance of robust, clear and generally accepted indicators for giving signals and measuring improvements in resource efficiency. The entire roadmap must be covered by the fewest possible indicators, which can collectively provide a scoreboard for reflecting the progress being made in achieving the milestones in the roadmap.

The current proposal for indicators in the EU's Resource efficiency scoreboard¹⁹ contains three levels of indicators. The proposal for headline indicators follows the consumption of materials within the economy. In turn, this is supplemented by indicators which reflect the consumption of natural resources (water, land and carbon) and the environmental impact that is generated by the EU's consumption of these resources from a global perspective.

In order to show the trend within a number of key areas in a transition to a resource-efficient Europe, a third level then follows. These are intended to give signals concerning the implementation of the policy in the work towards a resource-efficient Europe and presents trends for each country within, for example, the transformation of the economy and resource efficiency for key sectors such as food and transport.

The current unsustainable consumption patterns in high income countries have attracted the attention of the United Nations. In order to reverse the trend, a global 10-year framework of programmes on sustainable consumption and production was therefore adopted in Rio in 2012 (10 YFP).²⁰ The differences between countries and regions are substantial. Some parts of the world live in poverty and need to increase their consumption, while others live in luxury.

2.1 Aim, objectives and limitations

The term 'sustainable consumption' encompasses economic, social and environmental aspects. The focus area *Sustainable consumption* is based on the impact of consumption by Swedes on the environment and health, and the opportunities and motive forces of individuals to adopt sustainable consumption patterns. The social and economic dimensions are only considered to a very limited extent.

The aim of the focus area is to shed light on the role and actions of private consumers in a transition to resource-efficient consumption patterns with as little impact on the environment and health as possible. The objective of the work is to identify and analyse existing proposals aimed at steering the consumption patterns of private individuals towards sustainability. Favourable conditions must be created for consumers in Sweden to choose, acquire, use and recycle goods in an environmentally sustainable manner.

The focus area is limited to private consumption. One of the reasons for this is that, in the long term, the environmental impact of private consumption is expected to accelerate, unlike that of the public sector which is not expected to increase at the same rate through to 2050.^{21 22} Another reason is that the government's prerequisites and instruments for influencing the environmental impact of public and private sector consumption differ greatly and are therefore difficult to cover in the same analysis. As regards consumption within the public sector, procurement support

¹⁹ European Commission (2014) EU Resource Efficiency Scoreboard 2014.

²⁰ UNEP 10 YFP Programmes on Global Action for Sustainable Consumption and Production.

²¹ Sanne (2012) Hur vi kan leva hållbart 2030? (p. 12)

²² Larsson (ed.) (2015). Hållbara konsumtionsmönster – analys av maten, flyget och den totala konsumtionens miljöpåverkan. (Underlagsrapport 1).

has been coordinated through a new government agency - the National Agency for Public Procurement - since September 2015.²³

The Consumer Agency limits *consumption* to the following aspects and processes.²⁴

1. **The consumers' decision-making process** when choosing goods and services, which may also involve refraining from consuming or choosing a service rather than a physical product.
2. **The consumers' acquisition** of goods and services, which includes how the consumer chooses to make his or her purchase.
3. **The consumers' use** of goods and services, and storage of resources in the home. Use also encompasses operation, maintenance and repair.
4. **The consumers' disposal of goods.** Disposal covers sorting, donating or selling second-hand goods, etc.
5. **The final disposal of consumer (household) waste.**

In the focus area's analysis, we opted to focus on *the first four* points. As regards consumers' disposal of goods, only the consumer's role as co-producer is covered, and not activities relating to the separation of waste at source and the ultimate disposal of the waste.²⁵

The focus area does not cover the efforts of industry to bring about continual improvements in environmental performance in production and product development.²⁶ However, initiatives by industry to help consumers make choices are covered. This could for example involve raising the profile of choices in stores or via other sales channels and placing emphasis on sustainable alternatives in marketing initiatives.

2.2 Implementation

The work within the focus area has been carried out by the Environmental Protection Agency, working with government agencies, universities, industry and relevant stakeholder organisations. In addition to representatives from the Environmental Protection Agency, the working group included representatives from the National Food Administration, Consumer Agency, Agency for Marine and Water Management, Chemicals Agency, Region Västra Götaland, Royal Institute of Technology, Society for Nature Conservation, Public Health Agency, RUS (Regional Development & Co-operation within the Environmental Objectives System), Confederation of Swedish Enterprise through the Forest Industries Federation, Trade Federation and Consumers' Association.

²³ Dir (2014:161) Kommitteédirektiv. Establishment of the National Agency for Public Procurement. The agency shall have a broad perspective, where environmental considerations include, among other things, the administration and further development of the criteria database, social considerations and innovation promotion. The National Agency for Public Procurement shall also develop criteria for a socially sustainable society.

²⁴ Also corresponds with OECD (2002) Towards Sustainable Household Consumption? Trends and Policies in OECD Countries.

²⁵ See Chapter 10 Glossary

²⁶ See Naturvårdsverket (2015c) Miljö- och klimatarbete i näringslivet. En översikt med fokus på drivkrafter och klimat.

The focus area's mission was to prepare a synthesis based on existing knowledge within selected demarcations. The supporting information was chosen by the Environmental Protection Agency and the working group from over 100 references, which were identified by the relevant government agencies at an early stage in the project.

The remit does *not* encompass presenting finished, impact-analysed proposals for instruments and measures, but it does cover the presentation of ideas and proposals which could be developed further in the efforts of the agencies and the government relating to measures/instruments and strategies/action plans.

The members of the working group contributed to the synthesis report through

- contributing relevant background information from their respective organisations,
- participating in the writing of sections of the report,
- giving examples of key transitions for a resource-efficient society (these are collated in Annex 1 to the report),
- giving their views on previous versions of the synthesis report and the background reports referred to below.

As part of the work being conducted within the focus area, the Agency has commissioned three background reports. Chalmers University of Technology has analysed scenarios for the climate impact of consumption, as well as structural barriers and opportunities regarding a transition to more sustainable consumption patterns.²⁷ IVL Swedish Environmental Institute has mapped previously evaluated policy instruments and analysed the effects, success factors and other experiences gained through these instruments with the aim of steering consumer behaviour in the direction of environmental sustainability.²⁸ The Centre for Sustainable Communications (CESC) at the Royal Institute of Technology has analysed the need for measures to take advantage of digitalisation in a transition to more environmentally sustainable consumer choices and behaviour.²⁹

²⁷ Larsson (ed.) (2015) Hållbara konsumtionsmönster – Analyser av maten, flyget och den totala konsumtionens klimatpåverkan idag och 2050. (Underlagsrapport 1).

²⁸ Hennlock et al. (2015) Styrmedel för hållbar konsumtion – Perspektiv från ett urval av utvärderingar. (Underlagsrapport 2).

²⁹ Höjer et al. (2015) – Digitalisering och hållbar konsumtion. Underlagsrapport till fördjupad utvärdering av miljömålsarbetet. (Underlagsrapport 3).

3 Consumption – structures, choices and behaviour

EXAMPLES OF FACTORS WHICH SHAPE OUR CONSUMPTION PATTERNS are rising incomes, economic globalisation, an ageing population, an increase in the number of small households and technical breakthroughs.

One way of looking at different aspects of sustainable consumption is in terms of objectives, means and limits.³⁰ From this perspective, sustainable consumption for the consumer means satisfying one's needs and striving to live as good a life as possible (the objective, the social aspect) within one's financial limitations (the means, the financial aspect), and without exceeding the environmental framework. A potential problem in this regard is that the environmental aspect for the consumer is less specific than the other two. The impact of goods and services on the environment and health is often separated from when and where they are consumed.

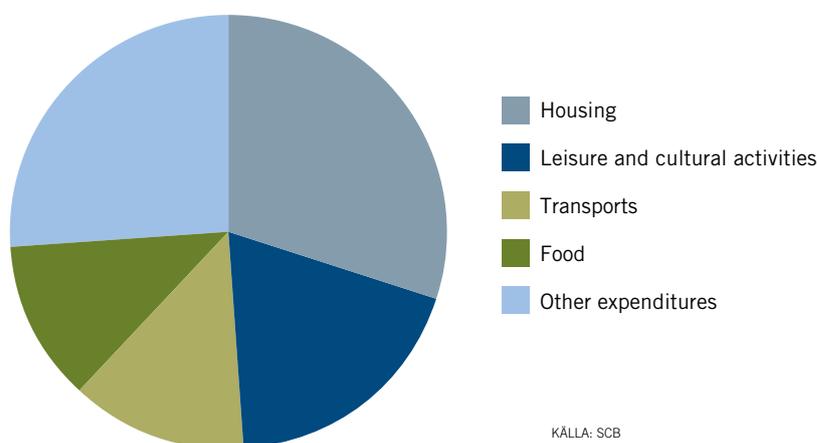


Figure 2. Distribution of household expenditures, 2013.

3.1 Current consumption patterns

Both household incomes and expenditure have risen considerably since the late 1970s, but statistics also show that the distribution between different types of expenditure has changed. Expenditure on housing, transport, leisure and culture has risen, while expenditure on food has fallen.³¹ Expenditure on clothing also fell over a ten-year period during the 2000s.^{32 33} In 2013, household consumption accounted for around 47 percent of Sweden's total gross national product (GNP).³⁴

³⁰ Sanne (2012) Hur vi kan leva hållbart 2030?

³¹ SCB Välfärd 2009:(3) Mer pengar på fritid än mat.

³² SMED (2011) Kartläggning av mängder och flöden av textilavfall. SMED Rapport Nr 46.

³³ SMED (2013) Konsumtion och återanvändning av textilier. SMED Rapport Nr 149.

³⁴ SCB (2014a) SCB-indikatorer. Ekonomisk månadsöversikt.

Expenditure on housing, including heating, forms the largest single item of household expenditure, followed by transport.

There are considerable variations in consumption. The statistics in Figure 2 show the mean distribution of household expenditure, but what and how people consume varies, both between population groups and at different life stages. In addition, consumption by men and women, and thereby the environmental impact it causes, differs. For example, studies show that men spend more than women on energy-intensive goods.³⁵

3.1.1 Do we consume as we wish?

According to a survey by the European Commission, Swedes are some of the most environmentally aware people in Europe.³⁶ Compared with inhabitants elsewhere in Europe, we think we make environmentally conscious choices, particularly as regards choosing environmentally friendly means of transport and buying eco-labelled goods and services. We also feel better informed as regards environmental issues than the populations of most other EU countries. Swedes also have the greatest concern for the way in which consumer habits impact on the environment. Yet consumers also overestimate what they do or intend to do, such as purchasing ecolabelled products, compared with the actual outcome. If a consumer says that he or she wishes to consume sustainable goods and services which do not harm the environment, humans and animals, but in practice does not choose such goods or services, the chain from ‘wanting’ to ‘acting’ has been broken. This may be because the stated preferences were not actually that strong. Even if this is the case, a major discrepancy should mean that the consumer is not entirely satisfied.³⁷

As an individual consumer, it can be difficult to alter one’s behaviour and make more sustainable choices. Some examples of mechanisms highlighted by research which impact on consumer choices are listed below.

The unsustainable default option – swimming against the current

Environmentally friendly consumer choices and other forms of more environmentally friendly consumer behaviour often mean that people need to deviate from what may be considered to be the simplest or most obvious behaviour and often requires an active effort to be made. In many cases, consumers who do not actively strive to consume sustainably but choose “the standard alternative” risk making choices which are not sustainable.³⁸

³⁵ Rätty, R. & Carlsson-Kanyama, A. (2010) Energy Consumption by gender in some European countries.

³⁶ European Commission (2014) Attitudes of European Citizens Towards the Environment.

³⁷ See p. 62 in Larsson (ed.) (2015) Hållbara konsumtionsmönster – Analyser av maten, flyget och den totala konsumtionens klimatpåverkan idag och 2050. (Underlagsrapport 1).

³⁸ See Mont et al. 2013, p. 36-38.

Marketing and acquisitive needs

Marketing is strongly based around getting us consumers to want what we do not already have. There are also many psychological explanations as to why consuming is more important to us than satisfying our more basic physical needs.^{39 40 41}

Striving for social acceptance

Consumers who want to change their consumption patterns can also encounter resistance from perceived social norms. We use a high proportion of our material consumption to express our feelings and to explore who we are, to find our identity. The consumption of expensive clothing, mobile phones, interior furnishings and travel to exotic destinations has a social function. Striving to achieve social acceptance can result in the excessive consumption of new products, which are valued according to their novelty value rather than their function.⁴²

Habits

Many of our consumer decisions in the form of product choices and other behaviours are based on habits rather than rational and conscious decision-making processes.⁴³ Today's consumption patterns are what we are accustomed to and breaking everyday routine habits is acknowledged to be difficult.⁴⁴ Our behaviour is not rational and is largely controlled by previous actions, impulses, emotions and influences from our surroundings.

Lack of time

In some cases, sustainable consumer choices are straightforward and require no direct additional work. However, active sustainable choices can in many cases require more time, as they require us to find out more about what different options and behaviours entail from an environmental perspective. Many consumers consider time to be a scarce commodity in their everyday lives, and can therefore find it difficult to find the extra time that active environmentally conscious decisions can take.^{45 46}

Private finances

Consuming sustainably can have various effects on household finances. Consuming less is of course often beneficial for one's private finances. One could for example save money by travelling less often or lowering the setting on the thermostat. Investments to improve efficiency are also often financially profitable, and they

³⁹ EEA (2012) Consumption and the environment – 2012 update.

⁴⁰ Larsson (ed.) (2015) Hållbara konsumtionsmönster – Analyser av maten, flyget och den totala konsumtionens klimatpåverkan idag och 2050. (Underlagsrapport 1).

⁴¹ EEA (2015) Consumption. European briefings. SOER 2015 – The European environment – state and outlook 2015.

⁴² Larsson (ed.) (2015) Hållbara konsumtionsmönster – Analyser av maten, flyget och den totala konsumtionens klimatpåverkan idag och 2050. (Underlagsrapport 1).

⁴³ FORMAS Fokuserar 12 (2007) Konsumera mera – dyrköpt lycka. www.formasfokuserar.se

⁴⁴ Larsson (ed.) (2015) Hållbara konsumtionsmönster – Analyser av maten, flyget och den totala konsumtionens klimatpåverkan idag och 2050. (Underlagsrapport 1).

⁴⁵ Levett et al. (2003) A Better Choice of Choice. Quality of life, consumption and economic growth. Fabian Society.

⁴⁶ Schwartz (2004) The paradox of choice – why more is less. New York: Harper Perennial.

also contribute to various forms of added value (as regards health, the environment, security of supply, etc.).⁴⁷ As regards specific situations involving choices between different goods and services, the environmentally friendly choices can sometimes be more expensive, and that can represent a barrier for sustainable consumption choices.⁴⁸

Rebound effect

Consumers can boost their private finances by reducing their consumption or making it more resource-efficient. Assuming that consumers' incomes do not fall at the same time, the money that is saved can be spent on other consumption, which may also entail an environmental impact. Efficiency investments which reduce running costs can for example lead to people consuming more (e.g. an economical car may result in people driving further and replacing incandescent bulbs with LED lights could lead people to install lighting in more places, etc.).

Consequences displaced in time and space – lack of positive feedback

In many cases, adverse environmental impacts are displaced in terms of both time and space, which hinders the direct feedback that consumers receive concerning their altered behaviour. In addition to the time aspect, who benefits and who is adversely affected are also important factors. Or, as researcher Anders Biel said: “Consuming gives me immediate benefits, while the negative consequences of my consumption are shared by many others and by nature. However, if I refrain from consuming today, it is me who is making a sacrifice. The negative consequences affect me, and the positive consequences are reaped by others”.⁴⁹

Infrastructure and urban planning

In some respects, the conditions for sustainable consumption are strongly influenced by infrastructure. This particularly concerns energy consumption, travel, housing and waste management. If consumers do not have access to infrastructure for cycling or public transport, energy-efficient homes or efficient waste collection systems, they will find it difficult to act sustainably within these areas. For example, without any communal laundry rooms, every single apartment owner would have to purchase their own washing machine, and so on.

Urban planning is therefore vital in promoting sustainable consumption patterns.⁵⁰

Double signals from governments and government agencies

At the same time as we are being urged to consume more in order to boost economic growth, we are also being urged to alter our consumption so as not to jeopardise the survival of ecosystems.⁵¹

⁴⁷ IEA (2012) Spreading the net. The multiple benefits of energy efficiency improvements.

⁴⁸ Konsumentverket (2005) Konsumentverkets årsredovisning 2004.

⁴⁹ FORMAS Fokuserar 12 (2007) Konsumera mera – dyrköpt lycka.

⁵⁰ Naturvårdsverket (2015d) Miljöstyrning i planeringen – med sikte mot hållbara städer.

⁵¹ FORMAS Fokuserar 12 (2007) Konsumera mera – dyrköpt lycka.

The service paradox

One opportunity to bring about more sustainable consumption which is the subject of debate is for us to reduce our material consumption by consuming goods to a lesser extent and spending more of our money on services with a low environmental impact. From the consumer's perspective, services can however be perceived as expensive.⁵² The proportion of services has also remained relatively constant in Sweden since the 1960s, if we include household production of services and base the figures on fixed prices. There has been no dematerialisation of household consumption in Sweden, and society remains an acquisitive society rather than a service one.⁵³

3.2 Consuming sustainably

There is no generally accepted definition of sustainable consumption. At policy level, the term is often linked to the general description of sustainable development as defined by the Brundtland Commission in 1987. However, common to many definitions is that they encompass the three accepted dimensions of sustainable development, i.e. an economic, a social and an environmental dimension, but a number of basic conditions must also be met.⁵⁴

In this report, we assume that consumption is the individual's decision-making processes when choosing, acquiring, using and disposing of goods and services.⁵⁵ 'Acquisition' normally corresponds to purchase, but it may also entail refraining from purchasing a product or service and instead meeting one's needs in some other way, e.g. by renting, sharing or borrowing. 'Use' also encompasses operation, maintenance and repair. 'Disposal' involves disposing of, donating or selling second-hand goods, etc.

In the report, environmentally sustainable consumption is defined as consumption which does not breach with the clarifications of the environmental quality objectives and/or the portal section and bullet points of the generational goal. At a general level, this means consumption which does not jeopardise the survival of ecosystems and which ensures that any consumption bears its environmental costs and that the environmental impact arising from the consumption is reduced.

According to the generational goal and the environmental quality objectives, reduced environmental impact can be achieved through 1) improved energy and resources management and/or 2) consuming goods and services which have a lower impact on the environment and health both in and outside Sweden.

Sustainable consumption takes into consideration the needs of future generations and thereby the importance of consumer decisions accounting for considerably longer time scale. In practice, it means that sustainable consumption does not simply relate to the exchange of goods and services with commercial intermediaries, but is closer to lifestyle and welfare issues. It is therefore difficult to draw a clear boundary

⁵² SOU (2004) Hållbara laster. Konsumtion för en ljusare framtid. SOU 2004:119.

⁵³ ITPS(2008) Näringslivets tillstånd 2008. Tjänsteparadox skapar tillväxt.

⁵⁴ See Chapter 10 Glossary – Sustainable consumption.

⁵⁵ See 2.1 Aim, objectives and limitations

between sustainable consumption and sustainable lifestyles, a point which becomes clear when reviewing the follow-up of the environmental quality objectives. The question is whether or not activities such as outdoor recreation, recreational fishing, pleasure boating and bird watching should be considered as consumption. The United Nations defines sustainable lifestyles as “ways of living, social behaviours and choices, that minimize environmental degradation (use of natural resources, carbon dioxide emissions, waste and pollution) while supporting equitable socio-economic development and better quality of life for all”.⁵⁶ Abstaining from consumption reduces the environmental burden if the expense that is saved does not lead to other consumption or activities that have an environmental impact.

⁵⁶ “Sustainable lifestyles are considered as ways of living, social behaviors and choices, that minimize environmental degradation (use of natural resources, CO₂ emissions, waste and pollution) while supporting equitable socio-economic development and better quality of life for all.” (Source: UNEP)

4 Policy instruments

THE GOVERNMENT SHOULD, SIMPLYFIED, ONLY INTERVENE with policy instruments in the event of ‘market failure’. Market failure describes a situation where the stakeholders in the market do not distribute resources in a manner which is optimal for society. An example is asymmetric information⁵⁷ where customers are not given the information they need to make conscious choices, e.g. a lack of traceability and information transfer within the supply chain (business-to-business) and product declarations which lack information on environmental impact (business-to-consumer). Based on this, ecolabelling and content declarations could be a socio-economically effective way of reducing these problems.

Another example is the occurrence of external effects, i.e. when production or consumption affects the benefits gained by another individual. External effects can be either positive or negative. The negative external effects can be remedied through economic instruments, e.g. an emissions charge or tax, in order to give a fairer price signal which also includes the external effect, given that there are no threshold effects or irreversible effects. Partly for reasons relating to competition, it is often difficult to apply economic instruments which follow the principle of ‘the polluter pays’ outside the national scope. Different types of regulations or permit appraisals can be effective alternatives. There may also be situations where many stakeholders would need to compensate each other for losses, with high transaction costs as a result. In such cases, support for new business models may be justified, along with other measures such as government technology procurement.

As regards positive external effects, e.g. the cultivation of plants which benefit pollination, and in cases where there are no clear ownership rights, e.g. within fishery, appropriate instruments may be quotas, conditions of use combined with information initiatives and, in some cases, ecological compensation.

There are many reasons why market failure occurs. It can for example occur in markets with collective goods, imperfect competition and/or asymmetric information. In functioning markets, price acts as a signal of the activities and resources which are available. As the environment does not have a price in the market, price signals are not completely effective in markets which either have the environment as a form of resource input or which impact on the environment in either direction.⁵⁸

⁵⁷ Asymmetric information arises when stakeholders who enter into or intend to enter into an agreement, or who must make a decision, have access to different information in advance. In isolation or in combination with other factors, this can distort the choices that consumers make. In order for the market to function satisfactorily, stakeholders need access to comprehensive information. If the information is incomplete or asymmetric, this may result in decisions which are suboptimal from a socio-economic perspective. For example, if the seller knows more about a product than they reveal to the buyer. The buyer will then be unable to consider all the relevant factors when deciding whether or not to buy the product.

⁵⁸ For a more detailed discussion of market failure, see for example Sterner (2003) Policy Instruments for environmental and natural resource management Resources for the future.

As an example, we use various market failures in the textile industry here:

- External effects in the form of environmental and health impacts arising from the production of raw materials and textiles in other countries. However, this is not reflected in the end price charged to the consumer. Ideally, policy instruments should be placed as close to the source as possible. This is often difficult in the textile industry in particular, as much of the production takes place outside Sweden's borders.
- Asymmetric information in the form of a lack of traceability and information transfer in the supply chain, i.e. each individual link in the chain lacks complete information on what has occurred in earlier links.
- Asymmetric information in connection with consumption, i.e. a lack of information to consumers concerning how products are manufactured. This prevents consumers from being able to make conscious decisions based on complete information concerning price, environment and health impacts, and the content of hazardous substances.
- External effects and asymmetric information in connection with the washing and maintenance of textiles. One of the major environmental effects in the textile chain occurs in connection with the use of textiles. Instruments should therefore be aimed at consumers' use and handling of textiles.
- External effects and asymmetric information associated with the disposal of textiles. Resources are incinerated instead of being recycled or reused. Consumers do not know what they should do with worn-out clothing which they no longer want, and therefore dispose of them in the combustible fraction of household waste containers.

4.1 Lessons learned from policy instruments

One of the focus area's background reports reviews evaluated policy instruments aimed to promote sustainable consumption.⁵⁹ This review covers instruments which are intended to directly steer household consumer behaviour in a more resource-efficient or environmentally sustainable direction.⁶⁰ The evaluations may be conducted by competent government authorities, consultants, universities and research institutions.

In an initial gross list, over 110 instruments and 90 instrument analyses were identified. Of these, around 84 percent are ex post analyses (evaluations) and around 16 percent are ex ante analyses (which contain certain evaluative elements). The criteria that were established in order to focus the work further included the criterion that the instrument must be directly targeted at consumer behaviour and occur in at least one evaluation with an environmental perspective. Based

⁵⁹ Hennlock et al. (2015) Styrmedel för hållbar konsumtion – Perspektiv från ett urval av utvärderingar. (Underlagsrapport 2).

⁶⁰ In the report, the statement that 'instruments are targeted at household consumer behaviour' means that the legislation behind the instrument legally imposes direct obligations on consumers/private individuals from an environmental management perspective or that the legislator or government agencies have the express aim (e.g. in legislation, government bills, preparatory works or regulations) of aiming the instrument directly at consumption by private individuals from an environmental management perspective.

on this limitation, the review was narrowed down to evaluations of 32 instruments. Most of the instruments evaluated had a link to the environmental quality objective *Reduced climate impact* (see Table 1). The primary aim here was to reduce atmospheric emissions generated by travel and housing. Examples of evaluated instruments which can be related to other environmental quality objectives are the scrapping premium, which has now been abolished (affects *A non-toxic environment*) and the Planning and Building Act and associated planning instruments (impacts on *A good built environment*). A number of other instruments also have a bearing on several environmental quality objectives, e.g. the regulation of individual discharges or the effects of car pools.

Congestion tax, green car premiums and differentiated vehicle taxes are all instruments which were considered to have effects on consumer choices according to the evaluations. As regards aid and grants for environmental measures relating to housing, the picture of the effects is less clear in the evaluations. However, they are often claimed to have accelerated measures and to have contributed to the development of a raft of measures. Less successful are informative instruments which are not combined with other instruments, particularly if the measures require substantial personal sacrifices and costs for individuals.

Table 1. Evaluated instruments covered by the review in the background report *Instruments to promote sustainable consumption*.⁶¹ Administrative (A), Economic (E) and Informative (I).

	Reduced climate impact	Clean air	A non-toxic environment	Zero eutrophication	Flourishing lakes and streams	Good-quality groundwater	A balanced marine environment	A good built environment	Cross-objective	Type of instrument
Housing	The Planning and Building Act's planning instruments							•		A
	Regulation of individual discharges			•	•	•	•		•	A
	Aid for environmentally friendly installations in individual houses	•								E
	Aid for energy-efficient windows	•								E
	Aid for biofuel installations	•								E
	State aid for investments in solar heating	•								E
	Aid for conversion from direct electric heating	•								E
	Aid for conversion from oil heating	•								E
	Investment aid for solar cells	•								E
	Energy and climate advice	•								I
	The hourly metering reform	•								I
	Energy declarations	•								I
Travel	Studded tyre ban in Stockholm		•							A
	Studded tyre ban in Gothenburg		•							A
	Differentiated vehicle tax	•								E
	Green car premium	•								E
	Tax exemption for biofuels	•								E
	Congestion tax in Stockholm	•	•							E
	Congestion tax in Gothenburg	•	•							E
	Car scrapping premium			•						E
	Voluntary carbon dioxide compensation with preselection	•								I
	Effects of car pools	•	•							-
Food and eating	Ecolabelling (EU)								•	I
	Environmental labelling of food								•	I
	Climate-certified food	•								I
	Environmental labelling on shelves								•	I
	Environmental labelling of contents								•	I
	Energy labelling and the Ecodesign Directive.	•								

⁶¹ Hennlock et al. (2015) Styrmedel för hållbar konsumtion – Perspektiv från ett urval av utvärderingar. (Underlagsrapport 2)

5 Stakeholders in transition

THE OPPORTUNITIES OPEN TO INDIVIDUALS TO CONSUME SUSTAINABLY exist in a context in which many different stakeholders are involved. Both industry and politicians at various levels, government agencies, commerce and voluntary organisations need to contribute by enabling Swedish private consumers to choose and use goods and services in a sustainable manner. Members of the working group have contributed to sections of the text below based on the experiences of their respective organisations. The aim was to identify trends for a transition to more sustainable consumption patterns. A further aim was to describe the challenges that they identified.

5.1 Consumers

Activities are under way which indicate that a transformation is taking place as regards what and how we consume, but the extent and environmental impact of this transformation are unknown. It is often not the sustainability argument which is driving this trend in the first instance.

The Environmental Protection Agency has asked researchers within the Mistra Urban Futures research programme to identify, at a general level, topics of debate concerning sustainable consumption in different media channels, such as blogs. The results of this survey indicated that the conscious consumer wants to be unique. It is important to show social commitment. In a sustainable lifestyle, identity, interests and choices are valued highly. In order to find unique solutions, people buy second-hand or grow or make things themselves. Urban agriculture, compact living and cycling are all trends which have spread from cities like Berlin, Copenhagen and New York to the rest of the world.

Small-scale enterprises are being developed into new business opportunities, where the changed preferences of consumers is a strong driving force. People are opting to borrow instead of buy. Or to purchase function instead of owning objects. This could be a question of using a clothes library⁶², becoming a member of a car pool or swapping holiday homes with others. For example, social media and new IT solutions make it easy to find shared holiday homes worldwide. Websites act as channels for giving products a second or third life and so on, with other users.

One possible opportunity for reducing resource consumption is for more people to share things. This entails switching the focus from individual consumption and private ownership to a more collective access to a product or service.⁶³ Digitalisation has increased the opportunities for consumers to share things and to gain access to a product or service, even though they do not own it themselves. Sites, apps and social media can also facilitate sharing between people who do not know each other.

⁶² Offers members the chance to borrow clothing and is comparable with a library.

⁶³ Appendix 1H. Collaborative consumption, Karin Bradley, Royal Institute of Technology (KTH).

Product groups where this happens tend to be expensive, bulky and/or maintenance-intensive, but also children's clothing and toys. Examples are new business models for the sharing of tools, or neighbours who get together and purchase gardening equipment collectively.⁶⁴

The boundary between consumer and producer is changing and a new term 'co-producer' has emerged to reflect the fact that private individuals can be both consumers and producers at the same time.⁶⁵ An example of this is where a private individual generates his own electricity using his own solar cells or wind turbine and feeds the surplus electricity into the national grid for re-distribution.

All the above examples can be summarised as trends towards more sustainable consumption. However, the general trend is for consumption volumes to rise overall.⁶⁶ The total volume of consumption measured monetarily is largely determined by fluctuations in the purchasing power of consumers and, with the exception of certain years when the economy was struggling, this has been rising over time. However, shifts in what consumers spend their money on can occur within the framework of overall consumption. There is potential for consumption to be shifted in the direction of reduced environmental impact relative to money spent. There are as yet no strong indications that consumers are turning away from the growing material consumption.

5.1.1 Consumer organisations

Consumers are a strong force collectively and it is primarily not a question of engagement in formal organisations, but of social group affiliation which influences how each of us acts as a consumer.

Member-based or otherwise representative consumer groups can quickly pick up on a desire for change which can lead to greater environmental adaptation. These can benefit many others too, e.g. through campaigns. Energy labelling, ecodesign, environmental labelling and environmental issues in standardisation are some examples where consumer organisations are involved in regulatory work aimed at promoting sustainable consumption.

Today, new initiatives which are disseminated via social media can provide an important supplement to traditional consumer organisations. Facebook groups such as *Matfusket*, *Äkta vara*, *Ekologiskt är logiskt*, *Dyrare mat nu*, *Skjutsgruppen* and *Medveten konsumtion* [approx. Food cheating, The Real Deal, Ecologic is logic, More expensive food now, Car pool group, and Conscious consumption] are active "movements" with a narrower focus, but they have a very low threshold for engagement and are therefore difficult to define in terms of their influence over time or as a force for change, e.g. as regards political decisions.

The digitalisation of society has led to an increase in interest in sharing products. New forms of using products, knowledge and financing, which improve availability regardless of financial strength. This is a trend which is both difficult to get an overview of and to see any clear direction in.

⁶⁴ Ibid.

⁶⁵ The word 'prosumer' is sometimes also used.

⁶⁶ Centre for Consumer Science (CFK) (2014).

5.2 Commerce

New strategies and ethical stances have led many stakeholders in the commerce sector to review their organisations from a sustainability perspective. The motivating factors that most businesses claim to have behind their sustainability work are to enhance their reputation and brand, to increase the percentage of satisfied customers and to improve the level of job satisfaction amongst their employees. Until 2013, seven out of every ten businesses had established initiatives relating to corporate social responsibility (CSR). Today, the figure is eight out of ten.⁶⁷ In addition, 42 percent of businesses say they invest more resources in sustainability today than they did back in 2013. The grocery sector in particular is expanding its organic range.

Businesses that target a special niche group of consumers with specific preferences, and thereby dare to “ignore” other customers, could become more commonplace in the commerce sector. Offering only, or at least a high proportion of, organic or environmentally compatible products could for example be one business concept. Increasing the proportion of services is another example of how the environmental impact of a business could be reduced, while at the same time maintaining the focus on profitability.

Business models involving letting, lending, swapping and/or repairing, or raising the level of service, e.g. through the enterprise offering more advice and services, have also emerged in recent years. In many cases, digitalisation, internet services and apps represent important tools for building new services effectively. There are also examples of businesses within the retail sector which have adopted circular business models, where the business’s products are recycled and become the raw materials for new products in accordance with the “cradle to cradle” model, where all waste from a product can be returned to the cycle.

Price is claimed to be the most important reason why customers do not buy more organic, environmentally labelled or fair trade-marked products. Six out of ten consumers think environmentally compatible and ethical products are too expensive.⁶⁸ Many people also consider that there are too few environmentally compatible and ethical products available on the market.

Sustainable commerce can be developed in many ways, some of which we have yet to see examples of. An example of a challenge which the commerce sector faces is finding solutions which enable businesses to take the lead and be forward-looking, while at the same time remaining competitive in an increasingly globalised world. During autumn 2014 and spring 2015, the Swedish Trade Federation, working with the think tank Global Utmaning [Global Challenge] organised a series of four roundtable discussions based around the theme of sustainable consumption. Representatives from trade unions, environmental and consumer organisations and five commercial enterprises took part. The aim was for delegates to learn more about sustainable consumption from experts and to identify problems and oppor-

⁶⁷ Svensk Handel (2014). Det ansvarsfulla företaget 2014. Svensk Handels undersökning av medlemsföretag och konsumenter 2014.

⁶⁸ Svensk Handel (2014) Det ansvarsfulla företaget 2014. Svensk Handels undersökning av medlemsföretag och konsumenter 2014.

tunities through discussion, particularly as regards how policy can contribute and interact with the industry, and how the issues can be taken further. The results are presented in a report dating from October 2015⁶⁹.

5.3 Producers

Consumer demand for environmentally friendly goods and services helps to encourage companies to improve the environmental performance of their products, find innovative solutions and develop environmentally friendly products. Much of the focus is placed on limiting climate effects, improving energy-efficiency and product sustainability, eliminating hazardous substances and using more renewable raw materials. Resource-efficient product chains which are compatible with a circular economy and a bioeconomy⁷⁰ are other pivotal aspects of the environmental efforts of businesses.

For businesses, environmental and commercial benefits must go hand in hand. The environmental performance of goods and services is often a competitive factor and environmental information is an important aspect. Businesses are attentive to the demands and interests of customers for environmental information. With the aid of voluntary tools such as environmental management systems, environmental efforts can be structured, promoted and communicated. Demonstrating environmental advantages and innovation capacity is a key aspect of marketing. The Royal Swedish Academy of Engineering's (IVA) project entitled "Resource-efficient business models" illustrates how Swedish businesses are working in order to meet demand for more environmentally compatible consumption patterns. It is a question of offering new resource-efficient products and business models.⁷¹ For example, it could entail quality-assured second-hand sales and business networks for shared consumption. As part of the work, the project intends to identify the need for instruments which stimulate the emergence of these new business models.

Businesses are participating in the efforts being made to develop tools to inform consumers about the environmental characteristics of products. Examples of this are environmental product declarations, ecolabels such as the Swan, the EU Ecolabel and Good Environmental Choice, organic foods, IT declarations, environmental footprint, standardisation and certification systems, such as those for forest raw materials (FSC, PEFC).

The collaboration between sectors within value chains creates the right basis for the identification of resource-efficient solutions. An example is the development of packaging which is designed to suit consumer needs and thereby reduce food wastage. Producer liability applies in the case of some products, which means that producers must ensure that end-of-life products are collected and reused or recycled. Recycling can result in resource savings which benefit the environment, society,

⁶⁹ Skånberg, K. (2015). Framtidens hållbara konsumtion. Förslag till näringsliv och politik för omställning till hållbar konsumtion. Global Utmaning.

⁷⁰ Bioeconomy can be explained as a strategic framework based on a cyclic approach, the promotion of sustainable production and the use of biological resources.

⁷¹ <http://www.iva.se/projekt/resurseeffektiva-affarsmodeller/>

consumers and producers. This requires material flows to have a known content to ensure that quality can be assured, hazardous substances are not dispersed and consumers have appropriate information indicating that the material can be recycled and how. Producers have a vital role to play in the design of materials and products which are recyclable.

A precondition for successful environmentally friendly product development is that products and services can survive in a commercial market. As markets become increasingly globalised, it is important that the environmental field is adapted so that competition is not distorted.

From a consumer perspective, relevant information is needed concerning the content and environmental performance of products and services. Summarising a complicated product chain in simple terms is a major and resource-intensive challenge for businesses.

5.4 Regional and municipal stakeholders

Through their various roles and assignments, county administrative boards, regions and municipalities can facilitate sustainable consumption patterns amongst Swedish private consumers. More and more county administrative boards are establishing goals and introducing measures relating to consumption and lifestyles.⁷² For example, the county of Dalarna's energy and climate strategy from 2012 and the City of Gothenburg's strategic climate programme from 2014 contain targets for the climate impact of consumption.⁷³

Through the environmental objectives assignment, and the generational goal in particular, the county administrative boards have a responsibility to work on consumption patterns. This could for example take place through the work of the counties relating to programmes of measures regarding the environmental objectives, as well as through various subject areas. Another key role for the counties is to disseminate information from national level to regional and local stakeholders, e.g. regarding ongoing national efforts relating to food wastage, a non-toxic environment and waste prevention.

The county administrative boards have traditionally not considered individuals to be a target group. However, county administrative boards often provide support for stakeholders who, in turn, are in direct contact with the public. However, some boards have approached the public directly in their efforts relating to sustainable consumption. These include the county administrative boards of Skåne, Jönköping and Halland. Skåne's county administrative board has used Facebook and Twitter. The county administrative board in Jönköping has regularly distributed a newsletter to all households, while that in Halland has organised seminars aimed at raising awareness.

⁷² Naturvårdsverket (2015b) Mål i sikte. Analys och bedömning av de 16 miljökvalitetsmålen i fördjupad utvärdering.

⁷³ http://goteborg.se/wps/portal/invanare/miljo/goteborgs-miljomal/begransad-klimatpaver-kan!/ut/p/z1/04_Sj9CPykyssy0xPLMnMzOvMAfIjo8ziAwy9Ai2cDBON_NOt3Qw8Q7wD3Py8ffyNLlz0wwkpiAJKG-AAjgb6Bbmhi-gAdowuY/dz/d5/L2dBIS9nQSEh/#htoc-0

Through existing networks and, in many cases, a high level of awareness of the regional stakeholders, there are excellent opportunities to get stakeholders to participate in projects which promote more environmentally sustainable consumption. The county administrative boards' networks may consist of stakeholders such as municipalities, county councils, regional associations, study associations and non-profit organisations, as well as operators.

There is a need for overarching initiatives at national level to ensure that the efforts of county administrative boards relating to sustainable consumption are developed and made more effective. The responsibilities of the county administrative boards may need to be clarified, the scope of the work needs to be specified and the opportunities for monitoring effects need to be improved.⁷⁴

With their independent political mandate and responsibility for growth and development in a wider geographic area, the Swedish regions are well placed to establish the right conditions to promote sustainable consumption. The biggest motive force in the regional development work concerns the creation of good conditions for the inhabitants. The regional work primarily entails initiatives relating to infrastructure, public transport, commercial development, education and employment.

The regional development strategies contain comprehensive resources to promote development. The efforts being made to bring about a transition to more sustainable consumption patterns can also generate jobs and promote new business ideas, which is in line with the regions' mission. However, political commitment is essential if this is to be successful, so that the issues are incorporated into the strategic work. Generating such interest in sustainable consumption represents the greatest challenge. It is also important to consider how these questions are communicated, whether or not there is widespread acceptance amongst the general public. It is difficult to get a politician's ear for issues which are considered to be negative for the population.

A review of the regions' growth and development strategies indicates that climate is the environmental issue which has the highest profile.⁷⁵ The work is primarily focussed on creating the right conditions in society to achieve the climate targets, but indirectly this encourages the population to consume more sustainably. Commercially driven environmental development, green innovations and jobs are highlighted in many regional plans. Expanded public transport provision, initiatives relating to climate-smart food products and organic food, product development projects, biogas development and collaborations concerning the installation of solar cells will either directly or indirectly facilitate a more sustainable lifestyle. Appendix 1 presents an example of how the Västra Götaland Region has worked to facilitate the sustainable consumption of textiles.

Many municipalities in Sweden are promoting sustainable consumption patterns through the provision of information. A number of computational tools are also available which residents of municipalities can use to test their climate impact based

⁷⁴ RUS, LEKS och Länsstyrelserna Gotland och Dalarna (2015) Länsstyrelsens roll och ansvar i arbetet med konsumtion – en förstudie Länsstyrelsen Dalarnas rapportserie, 2015:07.

⁷⁵ Ibid.

on everyday situations such as housing, travel and dietary choices. Through the provision of climate-related advice, consumers are offered free and impartial advice concerning energy, transport and climate issues. This could involve the provision of tips and advice concerning how consumers can reduce their energy consumption and make choices which minimise the impact on the environment by choosing certain heating systems, transport modes, energy costs, insulation and windows, etc.

One way of encouraging consumers to cycle, walk or use public transport is through municipal spatial planning. This tool is very municipality-specific as a result of the municipal planning monopoly. To enable consumers to choose alternatives to the car, the National Board of Housing, Building and Planning has proposed that walking, cycling and public transport should be made normative in the planning process.⁷⁶

Through what are known as Mobility Management initiatives, municipalities can also influence the mode of transport used by their inhabitants in other ways. Such initiatives could for example involve reducing the provision of car parking or introducing flexible parking norms. A flexible parking norm could entail a developer or property owner reducing the number of parking spaces provided per apartment in return for carrying out other measures which make it easier to choose a sustainable mode of transport. This could be ensuring that there is a cycle or car pool for the property, that particularly attractive cycle parking facilities are provided, or that tenants are offered trial cards for public transport services.

The waste prevention work of municipalities is often directly linked to the efforts being made to promote sustainable consumption patterns amongst citizens. The municipalities inform households how they can prevent waste generation by promoting reuse or recycling and suggesting organisations which can receive second-hand products. Another example is the work to raise awareness and understanding among local residents concerning the importance of food wastage for the environment and the economy. This could for example involve the provision of information concerning the importance of reducing food wastage in connection with the introduction of a separate food waste collection scheme.

⁷⁶ Boverket (2014) Förslag till strategi för miljö kvalitetsmålet God bebyggd miljö. Rapport 2014:32.

6 Strengthening sustainable consumption patterns

ESTABLISHING SUSTAINABLE CONSUMPTION PATTERNS represents a major challenge. Factors which can collectively help to comprehensively change the consumption patterns of individuals are changes in supply, price relationships in the market, standards, awareness and attitudes.⁷⁷ Behind these factors lie influences from policies, industry and civil society; see Figure 3.

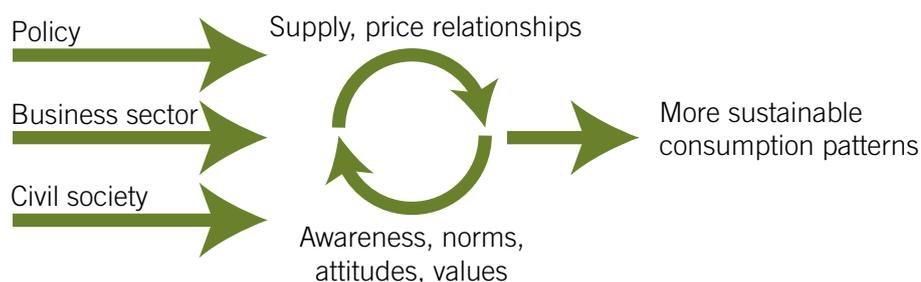


Figure 3. Change factors for a transition to more sustainable consumption patterns.⁷⁸

There are already many proposals for measures aimed at facilitating environmentally sustainable consumption choices. This chapter presents a selection of measures and policy instruments which are considered to be of particular importance in the effort to ensure that the environmental objectives are attained; see Table 2. Initiatives are presented for each objective under the subheadings *Climate-smart consumers*, *Clean air*, *Reduced littering of marine environments* and *A non-toxic environment*. This is followed by trans-objective proposals regarding how a transition to sustainable patterns of consumption can be supported under the subheadings *Resource-efficient consumers*, *Energy-efficient consumers*, *Informed consumers* and *Globally aware consumers*.

The proposals that are presented were primarily chosen on the basis of measures and instruments which are aimed at directly changing consumers' choices and behaviour. Some proposals which are indirectly aimed at enabling consumers to make sustainable choices are also included. As a result of the focus area's scope, no proposals aimed at changing supply are included. Many of the proposals that are presented are still studies which are expected to lead to the formulation of policy instruments at a later stage. The proposals have not been subject to impact assessments.

Most of the proposals are intended to bring about change in price relationships in the market or to raise consumer awareness. It should be noted that mechanisms which influence consumer choices (see section 3.1) are only to a very limited extent addressed using this type of instrument.

⁷⁷ Larsson (ed.) (2015) Hållbara konsumtionsmönster – Analyser av maten, flyget och den totala konsumtionens klimatpåverkan idag och 2050. (Underlagsrapport 1).

⁷⁸ Ibid.

The major opportunity for transformation lies amongst all the stakeholders in society and entails change for both consumers and producers. To bring about environmentally sustainable patterns of consumption, measures to promote changes in supply still need to be developed. Initiatives and measures are also needed in the trade and commerce sector to promote environmentally sustainable consumption. In this context, the importance of other factors such as media, advertising and influences via social media will also play a role and can be expected to have a major influence on the consumption of private individuals.

In order to evaluate the long-term effects of proposals, evaluation methods also need to be developed. At the same time, it can be noted that instruments for reducing the environmental impact of consumption rarely have a direct chain of effects.⁷⁹

Table 2. Proposed measures and policy instruments aimed at steering private consumption patterns towards environmental sustainability.

Proposed measure	Link to Environmental objective	Competent authority/ stakeholders	References
Study of reintroduction of Swedish airport departure tax [6.1.1]	Reduced climate impact	Swedish Environmental Protection Agency	SFS 2006:909, Naturvårdsverket (2014) Förslag till åtgärder för en mer hållbar konsumtion
Energy-efficient cars [6.1.2]	Reduced climate impact	Swedish Environmental Protection Agency	Fossilfrihet på väg SOU 2013:8
Taxes and other instruments within the food sector [6.1.3]	Reduced climate impact, A varied agricultural landscape, A rich diversity of plant and animal life, Zero eutrophication	Public inquiry	Naturvårdsverket (2014) Förslag till åtgärder för en mer hållbar konsumtion Färdplan 2050, NV 2012:6525, SJV 2012:35
Strengthen information initiatives to change dietary habits [6.1.3]	Reduced climate impact, A varied agricultural landscape, A rich diversity of plant and animal life, Zero eutrophication	National Food Administration, Environmental Protection Agency, Consumer Agency and Board of Agriculture	Naturvårdsverket (2014) Förslag till åtgärder för en mer hållbar konsumtion
National information initiative concerning marine litter targeted at consumers [6.3.1]	A balanced marine environment, Flourishing coastal areas and archipelagos, A good built environment	Agency for Marine and Water Management and the Environmental Protection Agency	Havs- och vattenmyndigheten (2015) God havsmiljö 2020 Marin strategi för Nordsjön och Östersjön
Marine litter included in national waste plans and waste prevention programmes [6.3.1]	A balanced marine environment, Flourishing coastal areas and archipelagos, A good built environment	Environmental Protection Agency, the municipalities	Havs- och vattenmyndigheten (2015) God havsmiljö 2020 Marin strategi för Nordsjön och Östersjön

⁷⁹ Hennlock et al. (2015) Styrmedel för hållbar konsumtion – Perspektiv från ett urval av utvärderingar. (Underlagsrapport 2)

Proposed measure	Link to Environmental objective	Competent authority/ stakeholders	References
Marine litter included in municipal waste plans [6.3.1]	A balanced marine environment, Flourishing coastal areas and archipelagos, A good built environment	The municipalities	Havs- och vattenmyndigheten (2015) God havsmiljö 2020 Marin strategi för Nordsjön och Östersjön
Study regarding whether product suppliers can be required to provide information concerning substances of very high concern on or in connection with their products [6.4]	A non-toxic environment	Chemicals Agency	Article 33 of the EU's chemicals legislation REACH
Web service or mobile application concerning the content of substances of very high concern in products [6.4]	A non-toxic environment	Chemicals Agency	Article 33 of REACH (the EU's chemicals legislation) and Ordinance (SNFS 2014:110) on an information service for consumers
Information campaign – reduce food waste [6.5.1]	Cross-objective	National Food Administration, in collaboration with the Consumer Agency, the Board of Agriculture and the Environmental Protection Agency	Naturvårdsverket (2013) Avfallsförebyggande programmet, Naturvårdsverket (2014) Förslag till åtgärder för en mer hållbar konsumtion
New milestone target to reduce food waste [6.5.1]	Cross-objective	Environmental Protection Agency, National Food Administration, Board of Agriculture	Naturvårdsverket (2013) Avfallsförebyggande programmet, Naturvårdsverket (2014) Förslag till åtgärder för en mer hållbar konsumtion
Study informative and economic instruments for changing the relationship between prices for repair and buying new [6.5.2]	Cross-objective	Environmental Protection Agency in consultation with the Consumer Agency and the Agency for Economic and Regional Growth and, following consultation with the Tax Agency, the Chemicals Agency and the Energy Agency.	Naturvårdsverket (2013) Avfallsförebyggande programmet, Naturvårdsverket (2014) Förslag till åtgärder för en mer hållbar konsumtion
Analyse the environmental, social and economic consequences of increased collaborative consumption [6.5.3]	Cross-objective	Agency for Growth Policy Analysis, Environmental Protection Agency, Consumer Agency and other competent government agencies	See text
Analyse the effects of collaborative consumption on consumer rights and insurance systems [6.5.3]	Cross-objective	Special investigator	See text
Further work to bring about a transition to more energy-efficient consumption patterns [6.6.1]	Reduced climate impact	Energy Agency	See text

Proposed measure	Link to Environmental objective	Competent authority/ stakeholders	References
Evaluation of the work of schools relating to sustainable development, including sustainable lifestyles and consumption [6.7.1]	Cross-objective	Schools Inspectorate	Naturvårdsverket (2014) Förslag till åtgärder för en mer hållbar konsumtion
Assignments and increased resources to promote the work of schools relating to sustainable lifestyles and consumption [6.7.1]	Cross-objective	National Agency for Education	Naturvårdsverket (2014) Förslag till åtgärder för en mer hållbar konsumtion
National consumer information service – develop the tool [6.7.2]	Cross-objective	Consumer Agency, in collaboration with other competent government agencies	Ordinance SFS 2014:110 on an information service for consumers, Section 3
Environmental rating of financial products and services [6.7.3]	Cross-objective	Pensions Agency	Naturvårdsverket (2014) Förslag till åtgärder för en mer hållbar konsumtion
Swan-marking of equity funds [6.7.4]	Cross-objective	Miljömärkning Sverige AB, government agencies and organisations	Nordic Ecolabelling Board
Improved accessibility to life-cycle data [6.7.5]	Cross-objective	Environmental Protection Agency, Swedish Agency	Naturvårdsverket (2014) Förslag till åtgärder för en mer hållbar konsumtion
Common EU method for the environmental footprint of products [6.7.6]	Cross-objective	Environmental Protection Agency, other competent government agencies, industry organisations and businesses	See text
Choosing renewable [6.7.7]	Cross-objective	SIS, relevant businesses, industry organisations, government agencies	See text
Continued implementation of the United Nation's 10-year framework of programmes on sustainable consumption and production patterns (10YFP) [6.8]	Cross-objective	Environmental Protection Agency, other competent government agencies	See text
Develop initiatives for Objective 4 of the Convention on Biological Diversity (CBD) [6.8]	Cross-objective	Environmental Protection Agency, other competent government agencies	See text
Targeted bilateral initiatives - Hot-spot method [6.8]	Cross-objective	Environmental Protection Agency, other competent government agencies	See text

6.1 Climate-smart consumers

PROPOSED MEASURES IN THE CHAPTER:

Study of the formulation and amount levels in connection with the reintroduction of the Swedish airport departure tax.

Energy-efficient cars.

Taxes and other instruments within the food sector.

Strengthen information initiatives to alter dietary habits.

The evaluation of the environmental quality objective *Reduced climate impact* concluded that the objective has not yet been achieved, nor will it be achieved using existing and approved instruments and measures.⁸⁰ Calculations show that private consumption accounts for more than two thirds of total greenhouse gas emissions from Swedish consumption.⁸¹

In order to monitor the contribution of consumption to climate impact, greenhouse gas emissions must be calculated from a consumption perspective. This must include all emissions caused by goods and services which we consume in Sweden regardless of where in the world, or where in the life cycle, the environmental impact took place during production. The production in Sweden of goods and services which are exported for consumption in other countries is however excluded.⁸²

Total emissions from consumption by Swedes have not fallen, even though greenhouse gas emissions within Sweden's borders have declined.⁸³ This trend is contrary to the generational goal and the global target of limiting emissions so that the global temperature rise does not exceed two degrees Celsius.

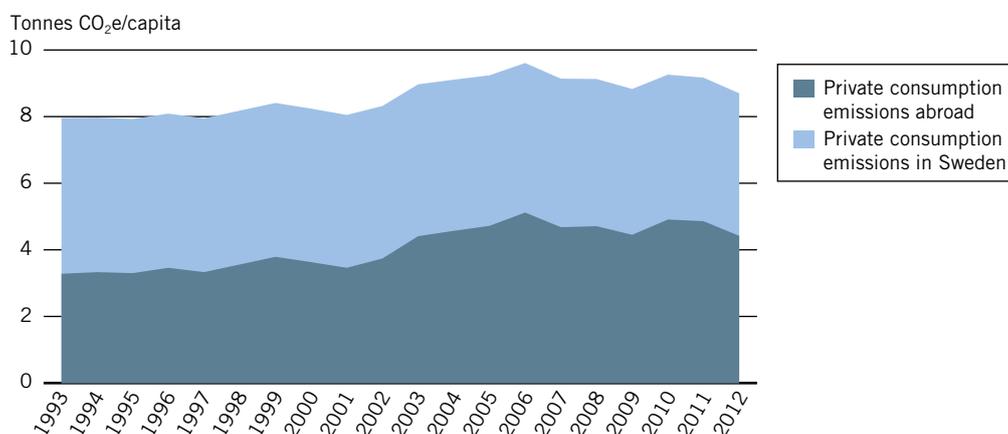


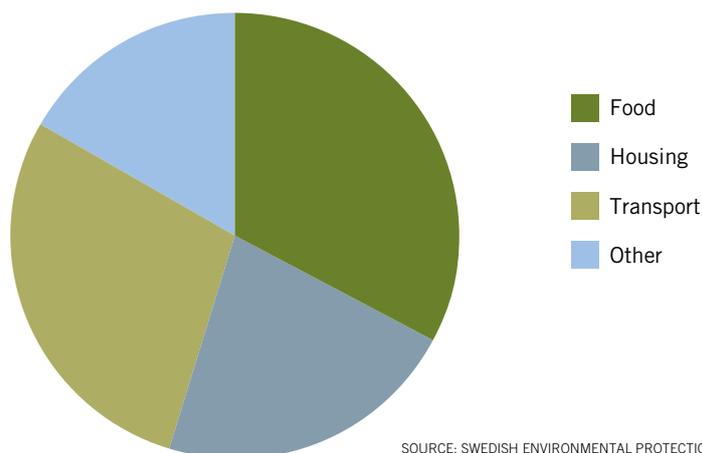
Figure 4. Sweden's total greenhouse gas emissions caused by private consumption, expressed in tonnes of carbon dioxide equivalents (carbon dioxide, methane and nitrous oxide weighted) per capita and year 1993–2012. Private consumption is defined in accordance with the National Accounts, i.e. final consumption, excluding consumption by the public sector and non-profit organisations, gross investments, stock changes and exports.

⁸⁰ Naturvårdsverket (2015b) Mål i sikte. Analys och bedömning av de 16 miljökvalitetsmålen i fördjupad utvärdering.

⁸¹ <http://www.naturvardsverket.se/Sa-mar-miljon/Statistik-A-O/Vaxthusgaser-utslapp-per-konsumtionsomrade-Sverige/>

⁸² For further explanation of the consumption perspective, see p. 43 of Naturvårdsverket (2015b) Mål i sikte. Analys och bedömning av de 16 miljökvalitetsmålen i fördjupad utvärdering.

⁸³ <http://www.naturvardsverket.se/Sa-mar-miljon/Statistik-A-O/Vaxthusgaser-utslapp-per-konsumtionsomrade-Sverige/>



SOURCE: SWEDISH ENVIRONMENTAL PROTECTION AGENCY

Figure 5. Sweden's total greenhouse gas emissions from private consumption broken down according to consumption areas, 2012 ('total' means emissions in Sweden and emissions in other countries are combined). Tonnes of carbon dioxide equivalents (carbon dioxide, methane and nitrous gases weighted) per capita.⁸⁴

Broken down between consumption areas, it becomes clear that emissions from the consumption of food and transport account for the largest share of greenhouse gas emissions from private consumption. The rise in emissions over the twenty-year period from food and transport consists of emissions which taken place in other countries. Meat is the food product group which accounts for the largest share of food product-related climate impact.

As regards emissions from transport, the evaluation of the environmental quality objective *Reduced climate impact* concluded that emissions from cars have declined, whereas those from aircraft have risen sharply because of increased air travel.⁸⁵ A strong contributory factor behind the increase in emissions in other countries from travel is that we are making more and more journeys by air every year.⁸⁶

6.1.1 Air travel

Today, the climate impact of air travel by Swedes globally is of the same order of magnitude as that of Swedish cars.⁸⁷ The number of passengers travelling internationally from Swedish airports rose by around 150 percent from 1993 to 2013.⁸⁸ Budget airlines have made it cheap to fly and the rising trend of international air travel is expected to continue.

⁸⁴ <http://www.naturvardsverket.se/Sa-mar-miljon/Statistik-A-O/Vaxthusgaser-utslapp-per-konsumtionsomrade-Sverige/>

⁸⁵ Environmental Protection Agency's website, 16.06.2014.

⁸⁶ Larsson (ed.) (2015). Hållbara konsumtionsmönster – analys av maten, flyget och den totala konsumtionens miljöpåverkan. (Underlagsrapport 1).

⁸⁷ This information is based on calculations by the Royal Institute of Technology and Chalmers University of Technology. This is reported in Hållbara konsumtionsmönster – analys av maten, flyget och den totala konsumtionens miljöpåverkan [Sustainable patterns of consumption - analysis of food, air travel and the environmental impact of total consumption]. (Underlagsrapport 1).

⁸⁸ Larsson (ed.) (2015). Hållbara konsumtionsmönster – analys av maten, flyget och den totala konsumtionens miljöpåverkan. (Underlagsrapport 1).

The increase in the climate impact of air travel is partly the result of an absence of policy instruments. In principle, aviation fuel cannot be taxed according to the Chicago Convention dating from 1944. In practice, the fact that flying within Europe comes under the EU's system for the trading of emission permits (EU ETS) has no impact on our flying habits, as it only has an extremely marginal effect on ticket prices. It also has no effect on emissions, as there is currently a surplus of emission permits, which means that the mechanism of emission reductions elsewhere in the EU ETS system (the EU's industry and electricity generation) is ineffective. In addition, no VAT is paid on international travel.

Sweden's Parliament and the EU have stated that the various transport modes must pay for their external effects (internalisation). Air travel has a greater climate impact per person-kilometre than other transport modes. Aircraft emissions at high altitude consisting of water vapour and nitrogen oxides mean that the total climate impact is considerably greater than the effect of the carbon dioxide alone. The effects of these gases on the climate are complex and the uncertainties are substantial, but many sources claim that the climate effects may be at least as great as the effect of the carbon dioxide.

ONGOING DEVELOPMENT OF MEASURES AND POLICY INSTRUMENTS

The Swedish Parliament adopted an Act on air departure tax on 8 June 2006 (SFS 2006:909). The Act states that "Airport departure tax shall be levied at the rate of SEK 94 per passenger travelling to destinations in Europe and at the rate of SEK 188 per passenger travelling to other destinations" (Section 9). The Act provides for certain exemptions from the tax. The Act was preceded by a government bill entitled *Skatt på flygresor* [Airport departure tax] (prop. 2005/06:190) and a comprehensive debate in Parliament and the media. After the 2006 election, a new parliamentary majority decided that the Act should be abolished.

Within the International Civil Aviation Organization (ICAO), work is under way to develop a globally applicable instrument for air travel. Until recently, efforts have been made to develop a global trading system for carbon dioxide. The approach that the ICAO has now adopted is based around a global system, where airlines must compensate for emissions exceeding the 2020 emission levels, i.e. a climate compensation system for a proportion of emissions. Unfortunately, we have reason to consider that the proposals which are gradually emerging from the ICAO will in practice be far too ineffectual. The strong opposition from the USA and China, for example, to the inclusion of flights to and from the EU being included in the EU's system for the trading of emission permits (EU ETS) is one indication of this.

Flights within the EU have been included in EU ETS since 2012. In principle, aviation is part of the same emissions scheme as the energy and industrial sectors, but operators largely obtain emission permits free of charge. The price of emission permits is very low (currently around EUR 7 per tonne of carbon dioxide) and there is very little evidence to suggest that the price will rise to the originally intended level (EUR 30–40 per tonne) during the next decade. The instrument will therefore have a very limited effect for the foreseeable future. One idea which has been put forward is to require double emission permits for aviation, on account of the climate impact of the water vapour and nitrogen oxides. However, the effect of this would also be marginal due to the low price of emission permits.

WAYS FORWARD

The Environmental Protection Agency believes that an incentive tax on fuel or emissions is actually the obvious first choice, but as it is not possible to introduce such a tax, we propose that the aircraft departure tax dating from 2006 be updated and reintroduced.⁸⁹ A number of countries in Europe, including Great Britain and Germany, either have or have had aviation taxes, to a greater or lesser extent motivated by climate reasons. The Agency intends to evaluate the formulation of legislation and amount levels based on international experiences of the aviation taxes which have been introduced.

Alongside the introduction of economic instruments, various ways of influencing the social norms surrounding our travel must be analysed. The Agency considers there is potential to reduce emissions by raising awareness of the important and unique role of aviation as regards the climate. The conditions for influencing such social norms may be advantageous. This could concern inclination to travel, choice of transport mode and choice of destination. The destinations that are popular at any one time are norm-dependent. Information is a very important aspect of a package of policy instruments, as the general public's awareness of the magnitude of the climate impact of aviation remains limited. A legislative proposal should therefore be accompanied by proposals for informative instruments.

The options open to consumers to choose other modes of travel are important. Sweden can act as a driving force in the EU to bring about better conditions for train operating companies to provide services on international routes. The opportunities for buying cross-border tickets should also be improved.

Other government agencies directly affected by the work relating to instruments for aviation include the Transport Agency, the Civil Aviation Authority and the Transport Administration.

ANTICIPATED CONSEQUENCES

Some assessments of the economic consequences of the Act on airport departure tax adopted by the Swedish Parliament (SFS 2006:909) are presented in the government bill prop. 2005/2006:190, Chapter 9. According to this government bill, the airport departure tax act was expected to generate gross tax revenues of around SEK 1.14 billion on a full-year basis in 2006. The magnitude of this impact will depend on, among other things, how much air travel decreases and to what extent air travel is replaced by other, less climate-changing travel, e.g. train and bus.

Another likely consequence of an airport departure tax is that some of the flights that currently use Sturups Airport will relocate to Kastrup. There is no doubt that the industry will be affected by an airport departure tax, but how and to what extent should be investigated. Experiences of the effects of the airport departure tax in Great Britain and Germany, for example, should be utilised. A new impact assessment needs to be carried out.

A passenger tax, or increased VAT, will have no direct technology-incentivising effect, but it will suppress demand, i.e. travel. Instruments which only reduce

⁸⁹ Naturvårdsverket (2014a). Förslag till åtgärder för en mer hållbar konsumtion – Redovisning av regeringsuppdrag.

consumption should be augmented with instruments to promote technological development, such as aid for research and development.

6.1.2 Purchase of energy-efficient cars

Choosing a car, if one chooses to have a car, is one of the more complicated consumer decisions that a household has to make. In addition to the buyer's own preferences, the final choice will be influenced by the car manufacturer, car retailers and franchises, and of course by EU and government policy instruments. Choosing a car is always a compromise, which must take into account price, interior space, engine performance, safety, fuel consumption and climate impact, running costs, etc. The financial parameters are thus only some of the parameters which must be taken into account when choosing a car.

There is an instrument in place today in Europe which is an effective tool in the work to promote the supply of fuel-efficient cars, namely the EU's carbon dioxide requirements for new cars. Demand also needs to be managed to a greater degree if the environmental objectives are to be achieved.

The increase in road traffic (both car and lorry traffic) which has been taking place over decades has tailed off in recent years.⁹⁰ As regards fuel efficiency and carbon dioxide emissions per kilometre, the trend has been positive for cars, although the pace of development has slowed in recent years. As regards fuel, the trend has been characterised by a transition from petrol to diesel and an increase in the use of biofuels. The breakthrough for electric power has so far been relatively insignificant.

When choosing a vehicle, the buyer often gives little consideration to fuel costs over the lifetime of the vehicle. Future fuel costs are a more diffuse and much less tangible decision-making basis than the price tag on the vehicle. We consumers rarely carry out long-term financial analyses of our vehicle ownership. It may be that we are either unable or unwilling to calculate the costs, or that the owner of a new vehicle does not intend to own the vehicle for more than a couple of years. In the latter case, there is little incentive to strive for low future fuel costs. The consequence is tie-in effects in a vehicle fleet with high fuel consumption. This can be counteracted by instruments which directly impact on the choice of vehicle, e.g. a registration tax which is differentiated according to fuel consumption.

WAYS FORWARD

The official report of the Swedish Government *Fossilfrihet på väg* (SOU 2013:84) [Freedom from fossil fuels on the road], which looked at how Sweden can achieve the objective of a fossil fuel-independent vehicle fleet by 2030, proposes the introduction of a system which is based on requiring purchasers of vehicles with high emissions to pay a registration tax or a higher vehicle tax, while purchasers of vehicles with very low emissions receive a premium instead. The system is intended to be cost-neutral for the government and thereby self-financing in principle. Such systems are often known as 'bonus malus'. The government has commissioned a study which will develop such a system.

⁹⁰ Naturvårdsverket (2015b) Mål i sikte. Analys och bedömning av de 16 miljökvalitetsmålen i fördjupad utvärdering.

The Agency's assessment is that this instrument has considerable potential to further cut emissions from the Swedish car fleet and should therefore be introduced. In connection with the introduction of such a system, the 'super ecocar premium' should be abolished as a corresponding incentive is offered through the bonus malus system. The study also contains many other proposals for new instruments and for adjustments to existing instruments in order to reduce emissions from car traffic.

In addition to instruments which influence the choices made when purchasing a new car, it is important to ensure that the range of low-emission vehicles available on the market expands. In this regard, the ongoing efforts being made by Sweden should involve taking the lead in the further development of the EU's carbon dioxide emission requirements, to drive forward technological development and expand the range of low-emission vehicles available on the market, and to ensure that the requirements better reflect the actual emissions of vehicles on the road, not just in laboratory tests. There is currently an objective with the EU requirements through until 2021, but decisions concerning objectives through to 2025 and 2030 also need to be approved to ensure that the pace of development does not tail off.

ANTICIPATED CONSEQUENCES

The average car in Sweden is used for around 17 years, which means that it takes as many years for the entire vehicle fleet to be replaced. Instruments which incentivise consumers to purchase low-emission cars therefore have the greatest impact on long-term objectives, such as the environmental quality objective *Reduced climate impact*. There are other environmental quality objectives which are influenced by the types of cars that are sold in Sweden. For the environmental quality objective *Clean air*, changes in new car sales could lead to both synergistic effects and conflicts. An increase in the proportion of electric cars amongst new car sales would be positive as regards cutting emissions of nitrogen oxides and particulates in cities, for example. An increase in the proportion of diesel cars of new car sales would reduce the climate impact, but would have an adverse effect on *Clean air*, as emissions of nitrogen oxides and particulates from new diesel cars are generally greater than from new petrol cars. However, as regards the environmental quality objective *A good built environment* the problems of congestion, accidents and tyre noise would remain the same, regardless of how the vehicles are powered.

6.1.3 Taxes and other policy instruments within the food sector

The climate impact of the modern diet is dominated by animal food products such as meat and dairy products. A high proportion of the food we eat, around 40 percent, is imported (2003).⁹¹ In the case of beef, this proportion is close to 50 percent and the overall consumption of meat fell somewhat during 2014.⁹²

VAT is the only economic instrument targeted at the consumption of food products which is currently in use, but because all food products are subject to the same rate of tax, it does not influence consumer choices. In the report *Underlag till*

⁹¹ Naturvårdsverket (2003) Fakta om maten och miljön. Naturvårdsverket rapport 5348.

⁹² Jordbruksverket (2015) Uppåt för svenskt kött 2014. Nyhet 2015-02-24.

en färdplan för ett Sverige utan klimatutsläpp 2050⁹³ [Basis for a roadmap for a Sweden free from greenhouse gas emissions by 2050], the Environmental Protection Agency proposes a study of the introduction of a differentiated climate tax on meat. In a background report entitled *Ett klimatvänligt jordbruk 2050*⁹⁴ [Climate-friendly agriculture 2050], the Board of Agriculture put forward a number of proposals for measures aimed at reducing the climate impact of food consumption: tax on beef consumption, differentiated VAT (higher VAT on meat ingredients and readymade meals or meals with a high meat content), subsidising of climate- or eco-labelling of food products, and information campaigns. In the report entitled *Hållbar köttkonsumtion*⁹⁵ [Sustainable meat consumption], the National Board of Agriculture further states that voluntary measures will probably not be sufficient in themselves to reduce the consumption of meat, and discusses a model-based tax based on emissions intensity, which may also encompass other foods.

Emissions in other countries from Swedish private consumption of food rose sharply during the period 1993 to 2012, at the same time as the proportion of domestic emissions fell; see Figure 6.

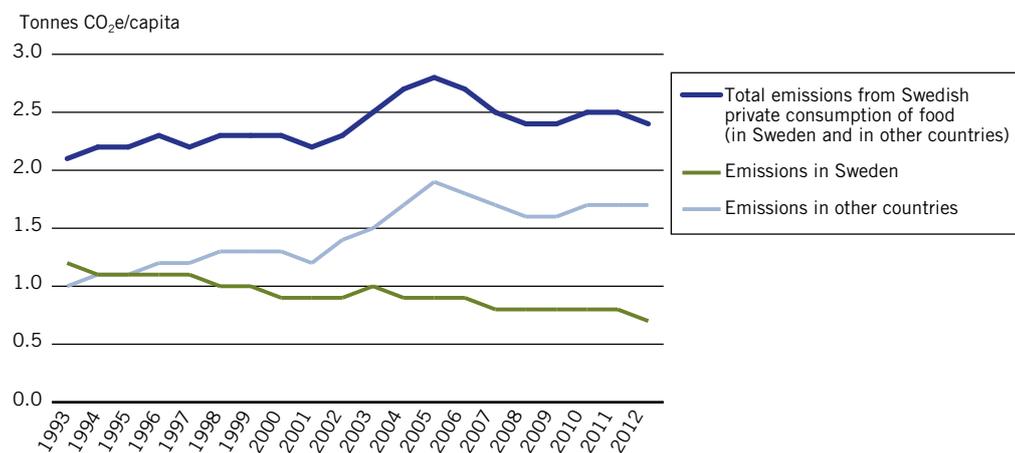


Figure 6. Greenhouse gas emissions from Swedish private consumption of food, in Sweden and other countries, during the period 1993–2012, expressed in tonnes of carbon dioxide equivalents (carbon dioxide, methane and nitrous oxide weighted) per person and year. As the diagram shows, emissions in other countries from the private consumption of food rose during the period. Source: Swedish Environmental Protection Agency.

In the report *Köttkonsumtionens klimatpåverkan*⁹⁶ [The climate impact of meat consumption], the Environmental Protection Agency concludes that there is more potential to reduce climate impact by reducing consumption rather than by changing Swedish meat production. The report discusses a number of possible instruments on the consumer side, e.g. economic instruments such as bonus malus⁹⁷,

⁹³ Naturvårdsverket (2012) Underlag till en färdplan för ett Sverige utan klimatutsläpp 2050. Naturvårdsverket rapport 6525.

⁹⁴ Jordbruksverket (2012) Ett klimatvänligt jordbruk 2050. Rapport 2012:35.

⁹⁵ Jordbruksverket (2013) Hållbar köttkonsumtion. Vad är det? Hur når vi dit? Rapport 2013:1.

⁹⁶ Naturvårdsverket (2011) Köttkonsumtionens klimatpåverkan. Drivkrafter och styrmedel.

⁹⁷ The system is designed so that the more environmentally friendly alternatives are subsidised by less environmentally friendly ones, making the system tax-neutral. A similar system applied to meals could involve a financial reward (bonus) for purchasers of more climate-smart meals and a tax (malus) for people purchasing less climate-friendly meals.

differentiated VAT, excise duty, duties on meat which has a greater climate impact, as well as climate- and eco-labelling and other information tools. Deficiencies on the supply side are also attracting attention and instruments are needed which incentivise consumers to choose climate-smart meal alternatives, e.g. as regards dining out, readymade meals or home-delivered evening meal boxes.

In *Förslag till åtgärder för en mer hållbar konsumtion*⁹⁸ [Proposal for measures to promote more sustainable consumption], the Environmental Protection Agency stated that there was a need to conduct a general review of the taxation system within the food sector and analyse the opportunities for increasing the environmentally compatible elements. In its annual enviro-economic report from 2013⁹⁹, the National Institute of Economic Research claimed that the introduction of a consumption tax on meat may be socio-economically justifiable.

The informative instruments encompass meat consumption to varying degrees. From a health perspective, the need to reduce the intake of red meat and to formulate recommendations to guide consumers is becoming increasingly clear. The labelling and certification of food products has been taking place for many years, but the idea of targeting climate impact directly is relatively new. Labelling and/or certification could form the basis for the differentiation of a tax or VAT, or alternatively for a bonus malus system. Another possibility is to use coarse models as a basis for differentiation, similar to those developed in *Köttguiden* [The meat guide].¹⁰⁰

Organic labelling is based on the EU's Regulation on organic production and labelling of organic products. For *KRAV*-labelling [standard for organic food products], additional rules apply above those laid down in the EU Regulation, and specific climate criteria have been incorporated into the regulations and gradually introduced. Certified production has been in place for conventional production through *Svenskt Sigill* [Swedish Seal]. Climate certification was started in 2007 by *KRAV* and *Svenskt Sigill*, with the first climate certifications being issued in mid-2010. *KRAV* is gradually incorporating climate criteria in its product regulations, while *Svenskt Sigill* is facilitating additional labelling for climate instead. Another opportunity is presented by the Environmental Product Declaration, the EPD® system, where what are known as single-issue EPD®s can be produced, e.g. a climate declaration. A climate declaration describes the greenhouse gas emissions during a product's life-cycle in terms of the number of carbon dioxide equivalents (CO₂e).¹⁰¹

Within the EU's current pilot project relating to the so-called 'Environmental Footprint'¹⁰², 14 different impact categories, including climate impact, are calculated. Meat is one of the product groups covered by the environmental footprint pilot studies.

⁹⁸ Naturvårdsverket (2014a) *Förslag till åtgärder för en mer hållbar konsumtion*. Redovisning av regeringsuppdrag.

⁹⁹ Konjunkturinstitutet (2013) *Miljö, ekonomi och politik*.

¹⁰⁰ Rööf, E. (2014). *Köttguiden*.

¹⁰¹ <http://www.environdec.com/sv/klimatdeklarationer/> Hämtat 2015-03-01.

¹⁰² http://ec.europa.eu/environment/eussd/smgp/pef_pilots.htm/ Hämtat 2015-03-01.

In the summer of 2014, the National Food Administration issued dietary recommendations according to which, for health reasons, people should limit their intake of red meat and pork to 500 grams of cooked meat per week.¹⁰³ This recommendation is also included in the proposals for new dietary recommendations which were approved during the spring of 2015. Information on the environmental impact of red meat is and has been disseminated in a variety of ways, usually not just concerning meat but also other foods, e.g. through information on the National Food Administration's website under the heading "Food and environment".¹⁰⁴

A discussion material, *Hur liten kan livsmedelskonsumtionens klimatpåverkan vara år 2050?*¹⁰⁵ [How small could the climate impact of food consumption be by 2050?], was jointly prepared by the National Board of Agriculture, the National Food Administration and the Environmental Protection Agency in order to demonstrate the opportunities that exist for reducing the climate impact of diets based on two different weekly menus, where one was based on existing dietary recommendations and the other on specific climate considerations. The result was that both could be formulated so that the recommendations concerning nutritional content were met and climate impact reduced by around a quarter and a half respectively, solely through changes in diet.

WAYS FORWARD

Numerous economic instruments, such as tax differentiation, VAT, bonus malus, etc. have been discussed in various arenas, but none of these proposals have so far been investigated further. A number of important preconditions need to be clarified if there is to be any chance of success.

In accordance with its proposal in *Förslag till åtgärder för en mer hållbar konsumtion*¹⁰⁶ [Proposals for measures for more sustainable consumption], the Environmental Protection Agency believes there is a need to review the taxation system within the food sector. The framework of such a study should also include a proposal for a meat tax, in accordance with the Environmental Protection Agency's background report for Roadmap 2050. In connection with such a review, the conclusions from *Konkurrenskraftsutredningen* [public enquiry on competitiveness] should also be taken into account, along with identified conflicts between environmental objectives. The National Board of Agriculture, National Food Administration and Environmental Protection Agency and, where necessary, the Agency for Marine and Water Management, should be consulted. Issues such as competitiveness, international perspective and conflicts between environmental objectives identified in various studies and investigations, must be evaluated. The question of whether models, certification or labelling could be used as a basis for economic instruments needs to be clarified.

Good choices for health and the environment must be supported. Information is needed to raise awareness and acceptance of altered food habits and behaviour. Changes in behaviour are necessary in order to reduce the climate and environmental impact of food. This will be easier if health, environmental and climate issues can go hand in hand, which they usually do. A major initiative such as an

¹⁰³ <http://www.slv.se/sv/grupp1/Mat-och-naring/kostrad/Rad-om-rott-kott-och-chark/> Hämtat 01.03.2015.

¹⁰⁴ The National Food Administration's website (www.slv.se)

¹⁰⁵ Jordbruksverket (2013a) *Hur liten kan livsmedelskonsumtionens klimatpåverkan vara år 2050?*

¹⁰⁶ Naturvårdsverket (2014a) *Förslag till åtgärder för en mer hållbar konsumtion*. Redovisning av regeringsuppdrag.

enhanced information initiative would boost this work. In this regard, nudging¹⁰⁷ could be a tool to reach out more effectively. It is proposed that the National Food Administration, Environmental Protection Agency, Consumer Agency and National Board of Agriculture be given the task of developing and implementing an information campaign to bring about changes in food habits.

ANTICIPATED CONSEQUENCES

The negative environmental impact of meat has been described in many reports and government assignments, yet at the same time the positive environmental impact of grazing animals has been highlighted. It is vital that any tax or other economic incentivising does not have a negative impact on the environment anywhere else. Whichever instruments are used, it is important that they are formulated so that no environmental impact is shifted either from one product group to another or from one country to another. Fish are one such product group.

The National Board of Agriculture has claimed that instruments in the form of mandatory rules and economic instruments such as environmental taxes and subsidies are possible alternatives, but should be introduced at EU level.¹⁰⁸ These instruments can be augmented with information and education, as well as research and development initiatives.

It is considered that information measures can lead to greater acceptance and motivation to change consumer choices and facilitate the identification of climate-smart alternatives. However, information is not enough in itself to bring about major changes. The need for information measures varies between target groups.

A policy package comprising a combination of several instruments is often a good way of harnessing the motivation to take personal responsibility for the environment.¹⁰⁹ Based on the abovementioned research, it could be claimed that it is unlikely to be a favourable long-term strategy to present environmental aspects in purely economic or informative terms, and that they should complement each other in order to create the right conditions and incentives for consumers to act sustainably.

The proposals from the public enquiry on competitiveness were reported in 2015¹¹⁰ and preparation of a Swedish food strategy began. When analysing changes in the taxation system, it is important to take into account how the competitiveness of Swedish agriculture will be affected and to analyse the compatibility of the proposals with current EU rules.

By using instruments at the consumption stage, it is possible to reduce the risk that production will relocate abroad, but this must be evaluated. The National Institute of Economic Research claims that such a tax must also be imposed on imported meat in order to protect domestic production.¹¹¹

¹⁰⁷ Mont et al. (2014) Nudging – Ett verktyg för hållbara beteenden?

¹⁰⁸ Jordbruksverket (2013) Hållbar köttkonsumtion. Vad är det? Hur når vi dit? Rapport 2013:1

¹⁰⁹ Söderholm (ed.) (2008) Hållbara hushåll: Miljöpolitik och ekologisk hållbarhet i vardagen. Slutrapport till Naturvårdsverket från forskningsprogrammet SHARP.

¹¹⁰ Statens offentliga utredningar 2015:15 Attraktiv, innovativ och hållbar – strategi för en konkurrenskraftig jordbruks- och trädgårdsnäring

¹¹¹ Konjunkturinstitutet (2013). Miljö, ekonomi och politik.

Much of the biodiversity of the agricultural landscape is linked to grasslands and grazing land. Sweden's chances of achieving national commitments to preserve biodiversity depend on the continued management of these areas.¹¹²

Reducing meat consumption could also improve our chances of achieving the environmental quality objective *Zero eutrophication*. At the same time, an inappropriately formulated meat tax could hinder the efforts being made to achieve both the generational goal and the environmental quality goals *A rich diversity of plant and animal life* and *A varied agricultural landscape* if the proportion of imported meat from other countries continues to rise at the expense of meat from Swedish farms. Consuming meat from animals produced using good livestock management techniques and low antibiotic use will also benefit public health.

6.2 Clean air

PROPOSED MEASURES IN THE CHAPTER:

No proposed measures described in the text.

Road traffic and heating using small-scale wood-burning appliances are two dominant sources of atmospheric pollution in Sweden. Road traffic generates emissions both from vehicle emissions and from road wear through the use of studded tyres. For example, the biggest single source of particulate emissions (PM10) in Sweden is road wear caused by the use of studded tyres.¹¹³ In addition to particulate emissions, the use of studded tyres also causes increased road wear, reduces fuel efficiency and generates more noise.

The detailed evaluations for each objective also indicate that emissions of solvents have risen. Windscreen washer fluid, household use of solvents, car care products and charcoal lighter fluid are the products which dominate this category, causing emissions equivalent to approximately 15 percent of Sweden's total emissions of volatile substances.¹¹⁴

Private consumption is one of the challenges which must be overcome in order to achieve the environmental quality objective *Clean air*.¹¹⁵ The way in which society is planned largely determines how transport is consumed. The siting of shopping centres adjacent to main roads, access to public transport, and the location of and distances to workplaces and schools are all factors. Political decisions such as the free choice of school have for example not been analysed from the perspective of consumption. Private car use is also a consumption area in itself, where the consumption of car ownership often does not correspond with the actual need for transport. Running and owning a car involves consuming a large number of goods

¹¹² Naturvårdsverket (2015). Mål i sikte, Analys och bedömning av de 16 miljökvalitetsmålen i fördjupad utvärdering 2015, Volym 2.

¹¹³ Naturvårdsverket (2015b) Mål i sikte. Analys och bedömning av de 16 miljökvalitetsmålen i fördjupad utvärdering.

¹¹⁴ Ibid.

¹¹⁵ Ibid.

and products. Key instruments for making transport more efficient include infrastructure planning, fuel taxes and congestion tax. The use of studded tyres on the intensively used road network causes society to incur substantial costs as a result of road wear. A tax on the use of studded tyres would be justifiable in order to reduce costs attributable to road wear and particulate emissions.

Many people in Sweden heat their homes using wood-burning appliances. Existing requirements concerning heating appliances are now insufficient to cut emissions. The requirements of the Ecodesign Regulation concerning heating appliances in 2020 and 2022 will considerably reduce emissions from wood-burning. However, the rate of replacement is very slow in the case of heating appliances and incentives to accelerate this rate are important. Modern wood- and pellet-burning appliances have considerably lower emissions. The choice of fuel and appliance is very much a question of consumption. Housing design plays an important role in determining energy requirements and the technology used for heating purposes. Society's instruments for incentivising energy-efficient homes influence the choice of heating technology.

In 2013, the government tasked the Transport Administration with “establishing the preconditions necessary for appropriate and environmentally sustainable tyre choices in order to reduce the use of studded tyres”.¹¹⁶ The assignment included examining the possibility of preparing relevant consumer information with regard to environment and safety in order to promote the development of better stud-free tyres for Swedish conditions whilst maintaining safety levels.

6.3 Reduced littering – A balanced marine environment, flourishing coastal areas and archipelagos

PROPOSED MEASURES IN THE CHAPTER:

- National information initiative concerning maritime litter targeted at consumers.
- Marine litter included in national waste plans and waste prevention programmes.
- Marine litter included in municipal waste plans.

Most marine litter originates from land-based sources. Case studies from beaches in Sweden and a number of other countries around the Baltic Sea and the North Sea show that the majority of marine litter consists of plastic. Plastic litter primarily consists of disposable products such as plastic bags and packaging, as well as unidentifiable pieces of plastic originating from products which break down into smaller parts in various ways. An increasingly common form of litter is *take-away products*, such as cups, lids and containers. Most visible litter and to some extent also micro-litter can be traced to personal consumption.

¹¹⁶ The final report from the assignment (M2013/2358/KI) was submitted to the Government Offices of Sweden in December 2015, Transport Administration ref. 2013/73324.

Small particles represent a particular problem, as they often cannot be seen with the naked eye and have therefore remained undetected for many decades. In addition to the fact that plastic can be worn down and degraded by mechanical processes and form ever-smaller particles, microscopic plastic particles are also manufactured intentionally, e.g. plastic pellets which are used as a raw material in the plastics industry or as a constituent in cosmetic products such as abrasive creams.¹¹⁷ Another example of microscopic litter is fibres from clothing which become detached during washing.¹¹⁸ In some cases, the particles are so small that they are considered to be nanoparticles. It is currently unclear to what extent sewage treatment plants trap these particles. Little research has been carried out into the biological effects of micro- and nanoparticles.¹¹⁹ Over the past decade, the occurrence of microparticles has attracted increasing attention. Microlitter particles in the sea can be mistaken for food and ingested by animals, and cause various types of problems, e.g. as a result of becoming stuck in gills or intestines. However, the biggest fear is that micro-particles will act as carriers of environmental toxins, which can be passed on in the food chain, causing further problems.¹²⁰

Litter is also an international problem, and millions of tonnes of litter end up in our oceans every year.¹²¹ During 2010, it is estimated that 275 million tonnes of plastic waste was generated in 192 coastal countries. Around 4.8–12.7 million tonnes of this is considered to end up in the oceans. The amount of litter being generated is rising with the population (consumption) and as a result of inadequate waste management.¹²² Some of the litter sinks to the bottom and contributes to the accumulation of litter on the ocean floor. Litter that does not sink is transported instead by currents to different places where large quantities can accumulate. This has attracted attention as a result of the accumulations of floating litter which have been formed in the Pacific Ocean and elsewhere.¹²³ Litter is also washed ashore onto beaches by currents and wave action. Due to its geographic location, the northern part of the Swedish west coast receives litter from across the North Sea region. Marine litter can be transported vast distances, which often makes it difficult to determine its origin.¹²⁴

6.3.1 Reduced littering of marine environments

Cleaning up marine litter is a difficult task, particularly at sea, and in the case of microlitter it probably isn't even possible. It is therefore important to limit the generation of marine litter. The primary reason behind the enormous quantities of

¹¹⁷ Magnusson K & Wahlberg C (2014) Mikroskopiska skräppartiklar i vatten från avloppsreningsverk.

¹¹⁸ Naturskyddsföreningen (2013) Raklödder till fiskarna – Om skräp i havet – källor, problem och lösningar.

¹¹⁹ Wright et al., (2013) The physical impacts of microplastics on marine organisms: A review. *Environmental Pollution* 178:483-492.

¹²⁰ Magnusson K & Wahlberg C (2014) Mikroskopiska skräppartiklar i vatten från avloppsreningsverk.

¹²¹ UNEP (2009) *Marine Litter: A global challenge*.

¹²² Jambeck et al. (2015) Plastic waste inputs from land into the ocean

¹²³ Goldstein et al. (2013) Scales of Spatial Heterogeneity of Plastic Marine Debris in the Northeast Pacific Ocean.

¹²⁴ Svärd (2013) Analysis of data from Ospa's reference beaches during the period 2001–2011. Rapport till projektet Ren kust i Bohuslän och Göteborg.

marine litter is inadequate waste management, both at sea and on land.¹²⁵ This is due to a lack of awareness, disinterest or irresponsibility amongst the general public and industry, and the level of ambition of decision-makers.¹²⁶

Today, regulations which prohibit littering and the dumping of waste are in place (Chapter 15 of the Environmental Code). However, few instruments are aimed at consumer behaviour. Some countries have introduced a ban on plastic bags, and in Sweden the bottle deposit system creates an incentive to reduce litter. Information campaigns aimed at littering as well as campaigns targeted directly at marine litter have been carried out.

At international level, Sweden is working on the issue of marine litter within the framework of the regional ocean environment conventions Oskar¹²⁷ and Helcom.¹²⁸ Oskar contains an action plan which has been adopted with the aim of reducing the quantity of marine litter that is generated to ensure that it does not represent a threat to the marine environment¹²⁹, while Helcom has adopted a recommendation concerning an action plan.¹³⁰

Despite the instruments and measures described above, the generation of marine litter continues unabated. Additional preventive measures are important at all levels.¹³¹ Three pilot projects funded by the European Commission have identified that the behaviour and attitudes of individuals is a key factor. Consumer behaviour in connection with the purchase, use and disposal of products is an important factor in reducing littering. In addition to the consumers themselves, retailers, the tourist industry, stakeholders in the waste sector and government agencies have been identified as the most important stakeholders in bringing about a change in behaviour.¹³²

WAYS FORWARD

As the problem of marine litter affects stakeholders both onshore and offshore, a partnership is needed between a number of government agencies in order to implement proposed and future measures. The most important of these are the Agency for Marine and Water Management and the Environmental Protection Agency, but the Transport Agency, Chemicals Agency, National Board of Agriculture and county administrative boards and municipalities are also affected.

The Agency for Marine and Water Management's proposed programme of measures for the marine environment presents five measures to combat marine litter, one of which is aimed at consumption.

¹²⁵ Appendix 1B Marine litter – Reducing litter generation from consumer products in the Baltic Sea and the North Sea contains a more detailed description of the motive forces, barriers and opportunities for reducing the generation of marine litter.

¹²⁶ Oosterhuis et al (2014). Economic instruments and marine litter control, Ocean & Coastal Management.

¹²⁷ <http://www.ospar.org>

¹²⁸ <http://www.helcom.fi/>

¹²⁹ OSPAR Commission (2014) Marine Litter Regional Action Plan

¹³⁰ HELCOM Recommendation (2015) 36/1 Regional Action Plan on Marine Litter (RAP ML)

¹³¹ Havs- och vattenmyndigheten (2015) God havsmiljö 2020 Marin strategi för Nordsjön och Östersjön, Del 4: Åtgärdsprogram för havsmiljön, Remissversion 01.02.2015.

¹³² Case studies on the plastic cycle and its loopholes in the four European regional seas; Feasibility study of introducing instruments to prevent littering and Study of the largest loopholes within the flow of packaging material. http://ec.europa.eu/environment/marine/good-environmental-status/descriptor-10/index_en.htm

The proposal concerns a national information initiative concerning marine litter targeted at consumers.¹³³ It is proposed that the campaign should focus on the most frequently occurring litter objects and microscopic plastic particles in consumer products. It is appropriate that the campaign starts in 2016, after a report has been submitted on Ospar's evaluation of the products and processes that contain microplastics. The two proposed measures aimed at the Environmental Protection Agency and the municipalities, concerning the inclusion of marine litter in relevant waste plans and waste prevention programmes, are linked to the opportunities open to consumers to dispose of end-of-life products. The proposed measures are also linked to the opportunities available to influence consumers' choices and use of products. It is for example proposed that plastic be prioritised in the next waste prevention programme, and that instruments aimed at reducing the occurrence of plastic objects in the marine environment be evaluated. This report highlights the proposed measures which are targeted at government agencies and focuses on consumption.

Marine litter is a cross-border issue. It is therefore important that the issue of marine litter is pursued internationally. As noted previously, an action plan to combat marine litter has been drawn up within Ospar and Helcom. It is important to drive forward measures to reduce marine littering within the framework of the EU's efforts relating to the package for the circular economy.

ANTICIPATED CONSEQUENCES

Information measures and the measures aimed at including marine litter in relevant waste plans and prevention programmes have been subject to impact analysis as part of the programme of measures within the Marine Strategy Framework Directive. It is anticipated that the information measures will have a medium potential effect. The other two measures are considered to have a large (the Environmental Protection Agency's measure) to very large (the municipalities' measure) potential effect. The information campaign is aimed at changing behaviour. It is therefore important that it is carried out in combination with initiatives to facilitate the change. The effect of the information campaign will therefore largely depend on the initiatives that are implemented in order to include marine litter in national and municipal waste plans and measures which make it easier for individuals to do the right thing. If these three measures are carried out, the potential for synergy effects is considerable.¹³⁴ The measures are expected to contribute to attainment of the environmental quality objective *A balanced marine environment, flourishing coastal areas and archipelagos*. No direct conflicts with other environmental quality objectives have been identified, although it is considered that there will be synergies with *A non-toxic environment*, *A rich diversity of plant and animal life* and *Flourishing lakes and streams*.

¹³³ Havs- och vattenmyndigheten (2015) God havsmiljö 2020 Marin strategi för Nordsjön och Östersjön, Del 4: Åtgärdsprogram för havsmiljön, Remissversion 01.02.2015.

¹³⁴ Havs- och vattenmyndigheten (2015). God havsmiljö 2020 Marin strategi för Nordsjön och Östersjön, Del 4: Åtgärdsprogram för havsmiljön, Remissversion 01.02.2015.

6.4 A non-toxic environment

PROPOSED MEASURES IN THE CHAPTER:

Study to determine whether suppliers can be required to provide information concerning substances of very high concern, on or in connection with their products.

Web service or mobile application concerning the content of substances of very high concern in products.

Rising global consumption is leading to higher production of chemicals and other products, resulting in an increase in the diffuse dispersal of dangerous substances.¹³⁵ Reports submitted to the European Chemicals Agency by enterprises show that over 100,000 chemicals are currently in use. There are currently no reliable figures available concerning how many of these substances are of commercial importance or how many that consumers come into contact with.

The use of chemicals is strongly linked to economic development and our lifestyles. The products we use in our everyday lives are manufactured with the aid of chemicals. We are exposed to many more chemicals in our daily lives today than we were in the past. Examples of products are toys, clothing, electronics, cosmetics and the construction products from which our houses are built.

In order to get closer to a non-toxic environment, measures will be needed in Sweden, the EU and internationally. EU legislation needs to be tightened up as regards the protection of humans in everyday life, particularly children. The desire to prevent damage must be given greater emphasis in the legislation. Prevention should encompass everything from what we need to know about the nature of hazards to which chemicals products can contain.

It is often difficult for ordinary consumers to make environmentally conscious choices, as it is not easy to obtain information on dangerous chemicals and how they are used in products. In spite of this, consumers can play an important role in driving forward development for sustainable consumption. If there is interest in purchasing products with lower health and environmental risks amongst citizens in their role as consumers and parents, the resultant commercial motive forces will encourage businesses to develop such products. Policy content can also help to make both citizens and businesses more engaged. A policy that is oriented towards the long term will enable businesses to carry out initiatives which will only become profitable in the longer term. Consumers' initiatives can therefore make it possible to reach considerably further in protecting humans and the environment, than chemical legislation alone is able to.¹³⁶

¹³⁵ Naturvårdsverket (2015) Mål i sikte. Analys och bedömning av de 16 miljökvalitetsmålen i fördjupad utvärdering.

¹³⁶ Kemikalieinspektionen (2015) Handlingsplan för en giftfri vardag 2011–2014. Rapport från ett regeringsuppdrag. Rapport 1/15.

Action plan for a non-toxic everyday environment 2015–2020

The government has tasked the Chemicals Agency¹³⁷ with further developing the action plan for a non-toxic everyday environment, with the aim of intensifying the efforts being made to achieve the environmental quality objective *A non-toxic environment*. The government decision places great emphasis on the chemicals bill *På väg mot en giftfri vardag – plattform för kemikaliepolitiken* [On the road to a non-toxic everyday environment – a platform for a chemicals policy] (prop.2013/14:39) and the investigation and implementation of national measures. One example is that the Chemicals Agency is to establish a network with municipalities with the aim of disseminating information and developing good examples of work relating to chemicals. The Environmental Protection Agency will particularly focus on children and young adults.

Study concerning tax on dangerous chemicals

The government has commissioned a study of economic instruments concerning chemicals. The study has drawn up proposals for two excise duties. One proposal is a tax on certain electronic goods, while the other is a tax on floor, wall and ceiling coverings made from vinyl chloride polymers. The study is also proposing expanded market controls on electronics, construction products, toys and other consumer products in order to reduce the occurrence of flame retardants, phthalates and other prohibited substances around the home.¹³⁸

Education of children and adolescents concerning environmental issues

There is an increasing need to invest in education in order to give future generations of adults a good understanding of the sustainable use of chemicals. Keep Sweden Tidy's Green Flag network is the largest network for schools and preschools within the field of sustainable development. The Chemicals Agency will carry out an education initiative during the period 2015-2020 in partnership with Keep Sweden Tidy, with a non-toxic environment as a theme in Green Flag.¹³⁹

Contribute to the Consumer Agency's consumer information service

During the period 2015-2020, the Chemicals Agency will continue to develop the agency's information for consumers and actively contribute to the Consumer Agency's consumer information service as regards sustainable consumption. Consumers are increasingly seeking help and support in order to make sustainable choices, e.g. as regards dangerous substances in products.¹⁴⁰ Information on *A non-toxic environment* will also be disseminated to consumer advisers via the consumer information service.

¹³⁷ Regeringsbeslut 2015-01-08 (M2015/375/Ke) Uppdrag om handlingsplan för att genomföra strategin om en giftfri vardag och nå miljö kvalitetsmålet Giftfri Miljö 2015-2017.

¹³⁸ SOU 2015:30 Kemikalieskatt. Skatt på vissa konsumentvaror som innehåller kemikalier. Kemikalieskatteutredningen.

¹³⁹ Kemikalieinspektionen (2014). Handlingsplan för en giftfri vardag 2015–2020. Skydda barnen bättre.

¹⁴⁰ Consumer Agency and Chemicals Agency (2012). Web survey regarding consumer awareness and attitudes concerning chemicals.

International system for information on substances in products

The Chemicals Agency is working within the framework of SAICM¹⁴¹ to promote an international system concerning information on substances in products throughout the life-cycle of the product.¹⁴² Consumers will be given access to safe products supported by suppliers having knowledge of their products. As a result of the supply chain exchanging information on the content of products, it will become easier for suppliers to eliminate undesirable substances. It will then also be possible to provide information to consumers concerning the contents of products. Responsibility for the content of products is expected to rest with the supply chain, rather than the consumer. However, consumers can be expected to recycle products or alternatively dispose of them in an environmentally compatible and otherwise sustainable way.¹⁴³

Information to school children in the Nordic countries concerning hazard symbols

The Chemicals Agency is participating in a Nordic project to develop information concerning hazard symbols for consumers of all ages, with a particular focus on school children. The hazard symbols are intended to indicate the way in which a chemical product is dangerous and how one can protect health and the environment. Chemical products are labelled with hazard symbols with the support of the EU's Classification Regulation (CLP).¹⁴⁴

National programme of measures to combat allergenic substances

A national programme of measures is needed for allergenic substances. This programme should be developed in partnership with other government agencies, industry, researchers and stakeholder organisations.¹⁴⁵

WAYS FORWARD

The proposed measures presented in this section are also presented in the 2015 in-depth evaluation of the environmental quality objectives.¹⁴⁶

¹⁴¹ Strategic Approach to International Chemicals Management (SAICM) is a global chemicals strategy and a forum for collaboration between stakeholders interested in ensuring the safe handling of chemicals. The participation of enterprises, industries and organisations is vital in order to achieve a good outcome which can also be put into practice.

¹⁴² See also Appendix 1C. UN programme improves information concerning products There, the Chemicals Agency describes the work of SAICM on the Chemicals in Products Program (CIP), which is aimed at improving access to information for enterprises in the supply chain, consumers and stakeholders in the waste management sector concerning the substances that are contained in products.

¹⁴³ Kemikalieinspektionen (2014). Handlingsplan för en giftfri vardag 2015–2020. Skydda barnen bättre. Rapport 5/14.

¹⁴⁴ The Nordic classification group, a group under the Nordic chemicals group, which in turn reports to the Nordic Council of Ministers.

¹⁴⁵ Kemikalieinspektionen (2014). Handlingsplan för en giftfri vardag 2015–2020. Skydda barnen bättre. Rapport 5/14.

¹⁴⁶ Naturvårdsverket (2015) Mål i sikte. Analys och bedömning av de 16 miljö kvalitetsmålen i fördjupad utvärdering.

Study to determine whether suppliers can be required to provide information concerning substances of very high concern on or in connection with their products

A public enquiry should be conducted to determine whether it is possible to require suppliers of products to provide information on substances of very high concern contained in their products. The aim is to make it easier to choose safe products and to ensure the safe handling of products, thereby accelerating the elimination of substances of very high concern. The inquiry should build on or tie in with Article 33 of REACH, the EU's chemicals legislation.¹⁴⁷ According to Article 33, consumers can ask in the store or via a company's website whether a product contains substances included in the EU's candidate list of substances of very high concern. Consumers have a right to know whether a product contains a substance in a concentration exceeding 0.1 percent by weight and to be given sufficient information to enable the product to be handled safely.

The inquiry should investigate whether suppliers of products containing a concentration of more than 0.1 percent by weight of a substance which is included in the EU's candidate list of substances of very high concern can be required to provide information on the content of such substances either on or in connection with the product. The information that is provided on or in connection with a product can either state the content of the substance of very high concern directly on the product or, for example, be made available on a website or via a chip to which the consumer is referred. The aim is to make the information readily available to consumers and other users. The inquiry should identify the opportunities that exist within the waste management sector; whether regulation should be implemented at national or EU level; any consequences which could hinder commerce; relationship to the WEEE Directive (Article 15)¹⁴⁸, the ecodesign and fibre labelling directive, the sector directives and labelling requirements regarding certain substances, e.g. the Medical Devices Directive; and ongoing international work under the Strategic Approach to International Chemicals Management (SAICM).

Web service or mobile application concerning the content of substances of very high concern in products

The establishment of an international harmonised information system must be considered a long-term objective. During the period, the competent government agencies can consider supporting the development of a web service and/or mobile application which makes it easier for consumers to obtain information on the content of substances of very high concern in products. The website must relate to Article 33 of REACH and concern products containing a concentration exceeding 0.1 percent by weight of substances included in the EU's candidate list of substances

¹⁴⁷ The Chemicals Inspectorate's website. Consumers can ask in the store or via a company's website whether a product contains substances included in the EU's candidate list. Consumers have a right to know whether a product contains a substance in a concentration exceeding 0.1 percent by weight and to be given sufficient information to enable the product to be handled safely. Taken on 25.02.2015 from <http://www.kemi.se/sv/Innehall/Nyheter/Konsumenter-har-ratt-till-information-om-farliga-amnen-i-varor/>

¹⁴⁸ WEEE – Waste Electrical and Electronic Equipment (the WEEE Directive 2002/96/EC). Directive concerning waste which consists of or contains electrical or electronic equipment.

of very high concern. Such a consumer information service would fit in well with the information service that is being developed in accordance with *Ordinance (SFS 2014:110) on a consumer information service*.¹⁴⁹ A number of government agencies, including the Chemicals Agency, are contributing to this work. Sustainable consumption is an important aspect of the task. The Consumer Agency and the Chemicals Agency should work together concerning the provision of information on hazardous substances in products. In connection with the preparations being made for the web service, experiences gained both nationally and from other countries which have developed similar web services should be collated.

Researchers at Stockholm University have developed a web application called “Vara utan fara”¹⁵⁰ [Products without danger] in order to inform and guide consumers with regard to problematic chemicals in popular consumer products. In Denmark, there is already a web service and app called *Tjek Kemien*¹⁵¹ [Check the chemistry], which collates responses from suppliers concerning the content of substances on the candidate list in products. *Tjek Kemien* was developed by the Danish Consumer Council and funded by the Danish Environmental Protection Agency. The consumer obtains the information by scanning the product’s bar code. In another web project, Germany and Austria are jointly developing an app. This app also supports consumers who wish to find out the content of substances on the candidate list in a product, but has a somewhat different set-up than the Danish app.

ANTICIPATED CONSEQUENCES

The two proposals presented above primarily concern the environmental quality objectives *A non-toxic environment* and *A good built environment*, but could in time have a positive impact on the biodiversity-related environmental quality objectives. The generational goal is also affected, in particular the aims:

- human health is subject to a minimum of adverse impacts from factors in the environment, at the same time as the positive impact of the environment on human health is promoted,
- material cycles are resource-efficient and as far as possible free from dangerous substances,
- patterns of consumption of goods and services cause the least possible problems for the environment and human health.

The proposals will, among other things, make it easier for consumers to actively choose or reject products which contain substances of very high concern. This could

¹⁴⁹ Section 3 of the Ordinance states that “The information service must also cover information aimed at making it easier for consumers to make carefully considered choices. This also includes information concerning environmentally sustainable consumption relating to the generational goal for the environmental work and the environmental quality objectives and, where it is considered appropriate, information concerning other sustainability aspects to enable carefully considered choices to be made. This also includes information concerning environmentally sustainable consumption relating to the generational goal for the environmental work and the environmental quality objectives and, where appropriate, information concerning other sustainability aspects

¹⁵⁰ <http://www.varautanfara.se/#/>

¹⁵¹ Tjek Kemien – i dine produkter. Taken 25.02.2015 from <http://tjekkemien.dk/>

have positive economic consequences for producers and sellers offering products which are free from substances of very high concern. Producers and sellers which offer products containing substances of very high concern could suffer negative economic consequences.

6.5 Resource-efficient consumers

PROPOSED MEASURES IN THE CHAPTER:

Information campaign to reduce food waste.

New milestone target to reduce food waste.

Investigate informative and economic instruments for changing the relationship between prices for repair and buying new.

Analyse the environmental, social and economic consequences of an increase in collaborative consumption.

Analyse the effects of collaborative consumption on consumer rights and insurance systems.

In 2005, the public enquiry *Hållbara laster – konsumtion för en ljusare framtid* [Sustainable vices – consumption for a brighter future] concluded that household consumption patterns had not become less material and that there was no clear trend on the demand side towards increased dematerialisation of consumer patterns.¹⁵² This is partly a result of improvements in productivity, which have contributed to making consumer products cheaper relative to services.

People tend to own more than one product in a certain product category, e.g. computers, mobile phones and TVs. The actual period of use also decreases in the case of many capital goods. For a product which is fashionable, the “best before” date is passed when the fashion changes, regardless of how much of its technical functional lifetime remains.¹⁵³

Historically, waste quantities have increased when we consume more. More recycling solves part of the problem, but it is not enough in itself. In the waste hierarchy, waste prevention has the highest priority and a transition to more sustainable patterns of consumption will entail a break in the linear relationship between consumption and the quantities of waste that are subsequently generated. However, the motive forces within society for increased consumption are strong.¹⁵⁴ Short product durability and repair costs which are often on a par with the purchase price for a new product are also contributory factors behind the substantial quantities of waste being generated.

¹⁵² SOU (2004) *Hållbara laster. Konsumtion för en ljusare framtid*. Finansdepartementet.

¹⁵³ Luttorp et al. (2013) *Drivkrafter bakom uppkomsten av elavfall. Ett produkt och konsumtionsperspektiv*.

¹⁵⁴ Naturvårdverket (2015b) *Mål i sikte. Analys och bedömning av de 16 miljökvalitetsmålen i fördjupad utvärdering*.

In December 2013, the Environmental Protection Agency established a national waste prevention programme pursuant to the EU's Waste Directive (2008/98/EC).¹⁵⁵ The aim of this programme is to guide and inspire Swedish stakeholders so that the environmental objectives are achieved and so that less waste is generated, irrespective of economic growth. Four areas were selected in the programme for further work: Food, Textiles, Electronics and Construction and demolition. In order to bring about lasting change and reduce the quantities of waste being generated, changes in consumer behaviour are important.

6.5.1 Reduced food wastage

Today, we throw away large quantities of food which could have been eaten had they been handled differently. If we were to eat the food we discard unnecessarily, we would reduce the impact on the ecosystems that supply us. The environmental impact of primary production, processing, distribution, consumption and waste management would be reduced. In a broader perspective, food would be able to provide for more people without any increase in environmental impact. The food which is currently being discarded also represents substantial economic values along the entire food chain. Reducing food wastage is also an important part of the efforts being made to reduce waste flows in society and to make consumption more resource-efficient and sustainable, which in turn will contribute to achievement of the Swedish generational goal and the national environmental quality objectives.

In total, around 1.2 million tonnes of food waste are generated in Sweden by households, institutional kitchens and restaurants, food stores and wholesalers, as well as the food industry, which is equivalent to 127 kg per person. Households give rise to the single largest quantity of food waste, equivalent to 81 kg per capita. Amongst households, 35 percent or around 28 kg per person is considered to be unnecessary food waste, i.e. food wastage.

A limited number of instruments are currently available which can help to reduce food wastage. The instruments that are available are primarily linked to food handling and food safety. In addition to these instruments, there are milestone targets for biological treatment.

Various instruments for reducing food wastage have been tried in other countries, and additional proposals have been evaluated. The greatest socio-economic and environmental benefit will be achieved if food waste is reduced in households, where most food is discarded unnecessarily. A major national information initiative aimed at reducing food waste is one of the instruments which have had a major effect in the United Kingdom. As a result of the three-year information initiative "Love Food Hate Waste", which was carried out within the framework of WRAP, food wastage has been reduced by 17 percent. In France, a ban on major stores discarding food has recently been introduced. Instead, the food must now be donated to those in need, turned into animal feed, or composted and used as fertiliser within agriculture.

¹⁵⁵ The waste prevention programme: <http://www.naturvardsverket.se/upload/miljoarbete-i-samhallet/miljoarbete-i-sverige/avfall/avfallsforebyggande-programmet/avfallsforebyggande-programmet-giftritt-resurseffektivt-samhalle.pdf>

WAYS FORWARD

The Environmental Protection Agency has proposed a new milestone target for reducing food waste. According to this proposal, food waste must be cut by 20 percent, which means that food wastage needs to be cut by around one third. It is proposed that this reduction should apply collectively to the food chain, excluding primary production.¹⁵⁶

The National Food Administration, the National Board of Agriculture and the Environmental Protection Agency are working to reduce food wastage in the food chain. In a government assignment in 2013-2015, one of the key areas was targeted information for consumers, e.g. through the information campaign “Har du ett tivoli i kylskåpet?” [Do you have an amusement park in your fridge?]. A proposal for a continuing national initiative to reduce food wastage is presented in *Proposal for measures for more sustainable consumption*.¹⁵⁷

ANTICIPATED CONSEQUENCES

Implementation of the proposal, which will help to reduce food wastage, is expected to result in both personal and socio-economic benefits. If food waste can be reduced by 20 percent in Sweden, the net socio-economic benefit would be between SEK 3.2 and 5.7 billion per year.¹⁵⁸

In order to bring about a lasting reduction in food wastage in Sweden, there is a need for a further initiative on a larger scale which continues to address the problem and drive forward development. The proposals which are taken up here will become part of various initiatives throughout the food product chain¹⁵⁹.

6.5.2 Longer product life through repair and maintenance

The length of time that products are spending at the consumer stage is decreasing.¹⁶⁰ There are many reasons for this, including inadequate quality, the fact that the rise in product prices has not kept pace with the increase in disposable incomes and the fact that the cost of repairing a product is considered to be too high compared with the cost of purchasing a new one. The underlying reason is that the environmental damage and social costs of manufacturing a product are not internalised in the price charged to the consumer.

As part of an initiative to reduce waste quantities and make better use of resources, France introduced a law which requires French retailers to inform consumers about the availability of spare parts for products. Information on spare parts which are important for a product must be presented in a visible way before a purchase is made. The law is intended to promote durable and repairable products by enabling consumers to take into account the availability of spare parts when deciding whether to purchase a product.¹⁶¹

¹⁵⁶ Naturvårdsverket (2013). Förslag till nya etappmål. Redovisning av regeringsuppdrag.

¹⁵⁷ Naturvårdsverket (2014). Förslag till åtgärder för en mer hållbar konsumtion, Redovisning av regeringsuppdrag.

¹⁵⁸ Naturvårdsverket (2013). Förslag till nya etappmål. Redovisning av regeringsuppdrag.

¹⁵⁹ See also Appendix 1F Food wastage. Anna-Karin Johansson and Ingela Dahlin, National Food Administration

¹⁶⁰ Luttorp et al. (2013) Drivkrafter bakom uppkomsten av elavfall. Ett produkt och konsumtionsperspektiv.

¹⁶¹ <http://www.rreuse.org/new-french-legislation-pushes-for-longer-lasting-products>

WAYS FORWARD

The Environmental Protection Agency considers that it is important to continue to evaluate informative and economic instruments for changing the relationship between the cost of repairing a product and buying a new one.

One example is to investigate tax relief on repair services. This could be formulated as a VAT reduction or as a tax deduction formulated in the same way as the tax relief that is available for home improvements.

ANTICIPATED CONSEQUENCES

A reduction in the cost of repair services could help to boost the number of repairs being carried out by making it more profitable to produce and invest in sustainable products. The anticipated environmental benefits that could be harnessed by increasing the lifetime of products include reduced consumption of natural resources, reductions in emissions from manufacturing processes and a smaller ecological footprint. Waste quantities could decrease at both the consumer and manufacturing stages.

Whether or not the positive consequences are realised will depend on the number of purchases of new products falling, and the number of repairs carried out to extend the life of products rising. The extent to which this would take place under the prevailing circumstances is difficult to assess.

One possible consequence of introducing a financial incentive to repair instead of buying new could be a change within society in attitude towards repairing an existing product rather than buying a new one. This area needs further evaluation.

6.5.3 Collaborative consumption

Collaborative consumption can convert private consumption into shared access. Collaborative consumption is a relatively new term which has emerged and involves citizens sharing resources, particularly within product groups which have a high “stationary factor”, i.e. products which are rarely used, relatively expensive and/or considered to be maintenance-intensive. Examples of such product groups are vehicles, tools, leisure items and household machines.¹⁶²

Some possible instruments and measures to incentivise the adoption of collaborative consumption are discussed in Appendix 1H. These include taxing resource-intensive products which have an impact on the environment; reviewing consumer legislation in order to promote consumption which results in products being shared, rented or purchased between consumers (instead of between businesses and consumers in the traditional way); and support for enterprises and social entrepreneurs who promote collaborative consumption in order to improve the utilisation of resources.

Digitalisation is presenting more and more opportunities for collaborative consumption and shared ownership. The focus area’s background report entitled *Digitalisation and sustainable consumption* discusses a raft of consumption activities where it is believed that digitalisation can contribute to the emergence of new,

¹⁶² Appendix 1H. Collaborative consumption, Karin Bradley, Royal Institute of Technology (KTH).

more resource-efficient services and behaviour.¹⁶³ Under the category of ‘housing’, topics such as temporary accommodation, overnight guests and needs-based heating and electricity consumption are discussed.

As regards the consumption of clothing and IT products, individually tailored information, communication, e-commerce, measures to promote the emergence of second-hand markets and software upgrading are discussed in order to reduce resource consumption by increasing the life of products. Remote access and car sharing for mandatory activities in sparsely populated areas are other activities which are considered to have considerable potential to reduce the environmental impact of transport.¹⁶⁴

WAYS FORWARD

Collaborative consumption is a relatively new area and our understanding of its effects is relatively limited. Further work is needed to analyse the environmental, social and economic consequences of an increase in the proportion of collaborative consumption.

Collaborative consumption is a new market based on new business models which differ from traditional models. Current demarcations as regards who is a producer and who is a consumer, business or private individual, and what is non-profit and what is commercial also needs to be evaluated. Many consumers will probably be “débutants” as regards this type of consumption and existing systems for consumer support may need to be adapted.¹⁶⁵

The Environmental Protection Agency is proposing that the environmental, social and economic consequences of the emergence of collaborative consumption be evaluated further. The effects of collaborative consumption on consumer rights and insurance systems should also be analysed.

6.6 Energy-efficient consumers

PROPOSED MEASURES IN THE CHAPTER:

Further work to bring about a transition to more energy-efficient consumption patterns.

Sweden needs a lot of energy for the heating of buildings during the cold seasons and for transporting goods and people over long distances both in Sweden and abroad. Direct energy consumption by households for heating, transport and electricity accounts for around a third of the national total of approx. 400 Tw. A reduction in energy consumption by households through changes in behavioural patterns

¹⁶³ Höjer et al. (2015). Digitalisering och hållbar konsumtion. Underlagsrapport till fördjupad utvärdering av miljömålsarbetet. (Underlagsrapport 3)

¹⁶⁴ Höjer et al. (2015). Digitalisering och hållbar konsumtion. Underlagsrapport till fördjupad utvärdering av miljömålsarbetet. (Underlagsrapport 3)

¹⁶⁵ Konsumentverket (2014) Vår omvärld 2014. Rapport till regeringen 2014-11-30.

could for example be brought about by living in smaller homes, lowering the indoor temperature, showering for a shorter period of time or not using standby mode. It may also involve achieving the same function through an alternative activity: by distance work instead of travelling to work, purchasing services instead of products, walking or cycling instead of driving.

Energy consumption impacts on all environmental objectives, but it has a particular impact on four environmental objectives: *Reduced climate impact*, *Clean air*, *Natural acidification only* and *A good built environment*.¹⁶⁶

6.6.1 Transition to more energy-efficient consumption patterns

The electricity system has historically been treated as an engineering issue, where major power generators supply electricity from large power stations, and consumption by end users is considered to be given, independent of production and inflexible. This situation is changing, with the role of consumers in the electricity system being expanded in respect of power generation, balancing and consumption. Many small-scale stakeholders are now entering the electricity system. A discussion is presented below of how electricity consumers can choose different types of electricity generation, purchase energy services, sign up to a service agreement instead of an electricity contract, adapt to feedback on their own electricity consumption and choose efficient homes and household electrical products.

Choosing an electricity contract

Electricity consumers have gained more and more control over their electricity prices and the environmental impact of their electricity. The electricity market in Sweden was deregulated in 1996. This change enabled customers to actively choose their electricity supplier from around 120 companies and ensured that the Nordic electricity market would be planned as a Nordic end customer market, where all Nordic electricity consumers could purchase electricity across national borders. Consumers can also choose between variable and fixed electricity prices with different tie-in periods and environmental impacts. In 2012, it also became possible for electricity customers to have their electricity consumption metered hourly without incurring an additional charge. These existing solutions can promote the development of environmentally friendly electricity generation of guaranteed origin and cut the electricity prices paid by consumers and generally increase their options. This could still be seen as a complicated arrangement by consumers who do not want to learn about electricity price regulation and make active choices, e.g. 15 percent of customers still have agreement contract based on standard metering.¹⁶⁷ In addition, very few electricity consumers have so far opted to take out an hourly agreement: around 8,600 in 2014.¹⁶⁸

¹⁶⁶ Energimyndigheten (2007). Energi som miljömål. ET2007:21

¹⁶⁷ <http://www.ei.se/sv/nyhetsrum/nyheter/nyhetsarkiv/nyheter-2014/fortfarande-manga-kunder-med-anvisningsavtal/>

¹⁶⁸ http://www.ei.se/Documents/Publikationer/rapporter_och_pm/Rapporter%202014/Ei_R2014_05.pdf

Smart energy services

Electricity consumption is becoming increasingly complex because the electricity grid is becoming “smarter”, i.e. users and suppliers are exchanging information concerning the electricity consumption of appliances, which in turn is increasing the opportunities to dynamically balance the electricity system in real time. This is enabling products for monitoring, control and adjustment, as well as advanced energy services, to be developed. Examples of such services are energy reviews, energy declarations, ‘white certificates’, ‘comfort agreements’ and agreements concerning guaranteed or shared savings guarantees.¹⁶⁹ Customers then chose the service provider that is able to offer the desired solutions in order to reduce their household energy consumption. An example of this is where the user is reimbursed for a service which remotely disconnects or retimes the switching on of the dishwasher, washing machine, heat pump, electric heater and recharging of electric vehicles. These solutions represent storage and reserve power potential in order to shift the load during peak hours, e.g. lunch and dinner time, to periods when demand is low, e.g. at night. To some extent, they also entail solutions for reducing electricity demand, increasing the opportunities for managing power failures and reducing unnecessary losses (e.g. by remotely controlling the heating in a holiday home). However, the proportion of reduced electricity consumption at peak demand which is eliminated and not rescheduled to a different time of day is unclear. In addition, there are unavoidable rebound effects which arise when customers who cut their electricity costs are able to spend their money in other areas of consumption instead. There is also a risk that automatic control for a price will result in products reacting in the same way based on price signals from electricity markets and creating new power peaks, but at different times of the day instead.

Service consumers instead of electricity consumers

Electricity consumers are starting to become service consumers, i.e. they purchase agreement contract with an energy service company which gives them access to services, e.g. a “21-degree Celsius indoor temperature”, rather than a number of kWh of electric heating, and the leasing of electrical products (such as mobile phones, electric cars and white goods) instead of purchasing them. This will create an incentive for industry to manage energy on both the supply and the demand sides and to manufacture products with a longer life, reducing energy consumption at the manufacturing stage.

Co-producers

There is increasing interest in Sweden in so-called micro-generation of electricity, i.e. generating electricity using privately owned solar cells or small-scale wind power, and cooperative ownership of wind farms and solar farms. A cooperative seeking to acquire an electricity distribution enterprise could also purchase an electricity distribution enterprise or have part of the electricity distribution

¹⁶⁹ Energimyndigheten (2013) Energitjänster i Sverige. Statusrapport för tjänster för energieffektivisering.

grid transferred to it. In this context, the consumer is called a “prosumer” or “co-producer”, i.e. a combination of consumer and generator of electricity. Important motivating factors behind consumers generating their own electricity could be that it enables people to become more self-sufficient, to earn money, to even out their electricity bills and to do something to help the environment. The increasing interest amongst the general public can be explained not only by the rapidly falling prices of solar panels and the abolition of taxes for infeed and meter replacement, but also by the fact that an increasing number of electricity trading companies are marketing themselves within the field and offering products aimed at micro-generators. Many people also want to become more self-sufficient, more active and more environmentally friendly in the electricity system. Compared with developments in Germany and Denmark, the rate of progress is slower in Sweden. The most important barriers to this development are that consumers consider that it is either difficult or simply impossible in their residential situation, or that they do not consider that the investment would be profitable. As the marginal price of renewable electricity is zero and this electricity generation is varied and locally produced, the electricity companies’ revenues and influence over the system will decrease. New initiatives are also required to balance the electricity grid. To some extent, this can be achieved through other new developments in the role of the electricity consumer as described in this chapter.

Engaged electricity consumers with smart meters

Consumer power is increasing as a result of the introduction of smart electricity meters, as they give access to feedback information on electricity consumption and also about power, electricity, voltage, hourly price and environmental impact, and enable comparisons to be made with other households. This information can promote more active behaviour amongst users, e.g. by encouraging them to reschedule their electricity consumption in order to reduce power peaks or to reduce their electricity consumption overall (e.g. by adjusting their thermostat, showering for a shorter period of time or switching off unused electrical appliances). The level of demand for electricity meters can be explained by the fact that households want to save money, reduce their environmental footprint and use less electricity than other households. The information that reaches consumers must be effective for the situation and formulated in a way which has the biggest impact/“nudging” effect at the desired time. However, its potential may be limited, as it is difficult to alter people’s behaviour, because cooking or doing the laundry at a different time of day, for example, could be seen as inconvenient. This transition could promote the general public’s acceptance, understanding and participation in the energy transition, and facilitate the introduction and balancing of renewable electricity generation.

Choosing energy- and resource-efficient homes and household appliances

A lot is also happening on the product side and it is becoming easier to make conscious choices.

Through the construction regulations issued by the National Board of Housing, Building and Planning and the EU’s Ecodesign Directive, the worst new and

refurbished homes and new electricity products are being phased out and this, combined with energy declarations and energy labels, is enabling consumers to make more informed sustainable choices as regards not only energy consumption but also emissions, dangerous substances, recycling, energy efficiency improvements, etc. Ecodesign and energy labelling ordinances have been introduced for heat pumps, solid fuel boilers, white goods, lamps and electronics. These regulations and labels are helping households make sustainable choices when purchasing homes and household electrical appliances.

WAYS FORWARD

Suggestions towards bringing about a further transition to energy-efficient consumption patterns are:

- research into the link between electricity consumption and behaviour and behaviour-influencing feedback,
- research into automated control of electricity consumption,
- research into the consequences of introducing more active electricity consumers and co-producers,
- standardisation of ecodesign, data security and communication on the next generation of smart electricity meters,
- long-term economic and administrative rules for the micro-generation of electricity and energy services,
- energy-efficient and resource-efficient products on the market (e.g. through ecodesign requirements) and energy labelling which helps consumers make conscious choices,
- consumer support and information on how to make homes more energy-efficient, etc.
- *Proposed measures for more sustainable consumption* proposes a pilot study of energy consumption patterns.¹⁷⁰ Such a survey would be expected to give a better picture of the current situation and trends, and the way in which solutions such as “smart homes”, energy labelling and ecodesign are impacting on our purchasing habits and household energy consumption. The pilot study is about analysing how “soft measures” and “nudging” change the patterns of use of products around the home in the households that participate. If the results of the pilot study are promising, it could provide a basis for future major initiatives to reduce electricity consumption and improve the flow of loads in the home.

¹⁷⁰ Naturvårdverket (2014) Förslag till åtgärder för en mer hållbar konsumtion. Redovisning av regeringsuppdrag.

6.7 Informed consumers

PROPOSED MEASURES IN THE CHAPTER:

Evaluation of schools' work relating to sustainable development, including sustainable lifestyles and consumption.

Assignments and more resources to promote the efforts being made by schools relating to sustainable lifestyle and consumption.

National consumer information service – develop the tool.

Environmental rating of financial products and services.

Proposed measures for more sustainable consumption.

Swan labelling of unit trusts.

Better access to life-cycle data.

Choosing renewable.

Both supply and demand for environmentally sustainable products need to be stimulated. If consumers are to be able to make environmentally friendly purchase decisions, accurate, clear and reliable information is needed concerning the impact of products on the environment and health. The proposed measures presented below are all intended to improve consumers' access and opportunities to use environmental information.

Instruments aimed at directly influencing demand can often also have indirect effects on the supply side. An example is mandatory environmental or energy labelling, which can incentivise consumer choices (i.e. demand), but it often also impacts on the supply side through producers taking the lead and opting to develop more environmentally friendly and/or energy-efficient products.¹⁷¹

6.7.1 Educating young consumers

The education system can raise awareness amongst pupils and improve access to environmental information. A report by the Consumer Agency in 2011 showed that two thirds of adolescents aged between 15 and 17 either never or rarely think about ethical or environmental impacts before making a purchase.¹⁷² One third of all Swedes see no link between their own consumption and the volumes of waste that they generate.¹⁷³

Although sustainable development, including sustainable consumption, has been introduced in schools' governing documents, research indicates that schools in Sweden are generally not meeting the knowledge targets set out in the curriculum in this field.¹⁷⁴

¹⁷¹ Hennlock et al. (2015) Styrmedel för hållbar konsumtion – Perspektiv från ett urval av utvärderingar. (Underlagsrapport 2)

¹⁷² Konsumentverket (2011). Hur handlar unga? – en studie om ungas konsumtion 2011.

¹⁷³ Avfall Sverige (2011). Europa minskar avfallet 2011.

¹⁷⁴ Jidesjö (2014). Samhällets utvecklings- och omställningsförmåga: Framgångsrik skol-utveckling för lärares arbete med och elevers lärande i energi, resurs, klimat och hållbarhet: Rapportering av forskningsinsatser i skolutvecklingsprojektet "KNUT"

WAYS FORWARD

In *Förslag till åtgärder för en mer hållbar konsumtion* [Proposed measures for more sustainable consumption], the Environmental Protection Agency proposed that the Schools Inspectorate should be tasked with evaluating the work of schools relating to sustainable development, including sustainable lifestyles and consumption.¹⁷⁵ The results of this evaluation could then form the basis for future measures.

The Environmental Protection Agency furthermore considers that the National Agency for Education should be given a clear assignment and more resources to stimulate the efforts of schools regarding sustainable lifestyles and consumption as part of sustainable development.¹⁷⁶

ANTICIPATED CONSEQUENCES

More resources and a clear remit for the National Agency for Education to develop the work relating to sustainable consumption as part of sustainable development will enable teachers to work more effectively on the issues. In the long term, this will ensure that pupils learn more about the link between their consumption and the resultant impact on the environment and waste generation.

6.7.2 National consumer information service

On 31 March 2015, a new national information service for Swedish consumers was launched – *Hallå konsument* [Hello consumer!]. The Consumer Agency has primary responsibility for this service, which includes a website and enables consumers to make personal contact via the internet, telephone or e-mail.¹⁷⁷ According to the assignment, the information service must provide information and guidance on consumers' rights and obligations, as well as information to help consumers make carefully considered choices. This also includes information on environmentally sustainable consumption. In order to provide the service with information, twelve other government agencies have been appointed to contribute content.¹⁷⁸

WAYS FORWARD

The service has been developed in a relatively short period of time, so it will be necessary to augment the service with additional information in the future. Sustainable consumption is the next major field that *Hallå konsument* will focus on during autumn-winter 2015 - 2016. This could for example involve the development and marketing of *Hallå konsument* as regards new ideas concerning information aimed at consumers or new knowledge which is prepared within the environmental field.

¹⁷⁵ Naturvårdsverket (2014). *Förslag till åtgärder för en mer hållbar konsumtion*, Redovisning av regeringsuppdrag.

¹⁷⁶ Ibid.

¹⁷⁷ <http://www.hallakonsument.se>

¹⁷⁸ National Board for Consumer Disputes, National Board of Housing, Building and Planning, Energy Markets Inspectorate, Energy Agency, Estate Agents Inspectorate, Financial Supervisory Authority, Chemicals Agency, Enforcement Authority, National Food Administration, Environmental Protection Agency, Pensions Agency and the National Post and Telecom Agency. In addition, the Consumer Agency and the government agencies responsible for providing information will seek to work with other stakeholders who disseminate impartial consumer information, such as other relevant government agencies, the municipalities and consumer agencies for the finance, insurance, energy and telecom markets.

ANTICIPATED CONSEQUENCES

It is too early at present to assess what impact such an information service could have on consumer behaviour in an environmental context. It is important not to be unrealistic about the possible impact as regards changes in behaviour. Consumers will not necessarily change their behaviour as a result of becoming aware of or having a certain attitude towards environmental and other issues. However, changes in attitudes can lead to acceptance, e.g. of legislation and economic instruments to promote sustainable consumption.

6.7.3 Environmental rating of financial products and services

Access to information concerning the environmental impact of financial products and services is inadequate and must be improved. It is important that consumers are given the chance to choose saving which is sustainable.

WAYS FORWARD

In *Förslag till åtgärder för en mer hållbar konsumtion* [Proposed measures for more sustainable consumption] the Environmental Protection Agency proposed that the Pensions Agency be tasked with investigating the opportunities for introducing the environmental rating of funds in the premium pensions system.¹⁷⁹

ANTICIPATED CONSEQUENCES

Broadened interest in sustainable investments could have major impacts. Institutional ownership, through insurance companies, pension funds, etc., account for around 80 percent of the total market value of the Stockholm stock exchange. If these actors were all to start placing greater emphasis on the environmental performance of listed companies, the companies concerned would come under considerable pressure to adapt, particularly those which institutional owners avoid investing in.

6.7.4 Swan labelling of unit trusts

Ecolabelling is a market-based way of promoting consumption which is more environmentally compatible. The Swan is the Nordic region's official ecolabel, and was approved and introduced by the Nordic Council of Ministers over 25 years ago. It is a voluntary, positive labelling system for goods and services. The Swan ecolabel is well-established in Sweden. In the background report for the focus area, Sweden's consumers highlight a need to expand the importance of ecolabelling within new product and service areas; see Appendix 11.¹⁸⁰

WAYS FORWARD

The Swan has recently carried out a preliminary study of the ecolabelling of unit trusts, and intends to begin developing criteria for such ecolabelling during 2015.¹⁸¹

¹⁷⁹ Naturvårdsverket (2014). *Förslag till åtgärder för en mer hållbar konsumtion*, Redovisning av regeringsuppdrag.

¹⁸⁰ Appendix 11. Ecolabelling, Jens Henriksson, Consumers' Agency.

¹⁸¹ Nordiska Ministerrådet (2014) Års- & hållbarhetsredovisning 2014 http://www.svanen.se/Documents/%C3%85rsredovisning/MISAB_arsredovisning_2014.pdf

ANTICIPATED CONSEQUENCES

Ecolabelling is an important supplement to legal and economic instruments. In addition to the direct effects on the environment, such labelling also enables consumers to choose environmentally friendly alternatives. This engages both consumers and producers. An increase in the use of environmental information when choosing financial services is considered to have very substantial potential to contribute to sustainable consumption patterns.

6.7.5 Improved access to life-cycle data

Awareness of the environmental impacts of products from a life-cycle perspective is key to the development of strategies, indicators, measures and instruments for reducing the environmental impact of consumption and production.

WAYS FORWARD

In order to make data concerning the environmental impacts of products available, the Environmental Protection Agency has proposed that a study be carried out to investigate the need to collate and openly publish life-cycle data.¹⁸² Life-cycle analyses (LCA) have become increasingly popular in recent years, resulting in more initiatives to harmonise the compilation and communication of life-cycle data internationally. The United Nations' Environment Programme (UNEP) is the coordinating body in an inter-state collaboration aimed at facilitating the application of LCAs in decision-making and policies. The Environmental Protection Agency represents Sweden in this collaboration.

ANTICIPATED CONSEQUENCES

Better availability of life-cycle data will help to give consumers, producers and government agencies access to improved environmental information. Expenses in connection with database updating and management will accrue.

6.7.6 Common EU method for the environmental footprint of products

There is a need not only to harmonise the methodology used to calculate the environmental footprint of products, but also to make data concerning the environmental impacts of products available.

The European Commission's Communication entitled *Building the Single Market for Green Products*¹⁸³, which was presented in 2013, contains an initiative under Milestone 1 of *Roadmap to a Resource Efficient Europe*.¹⁸⁴ Among other things, this states that "By 2020, citizens and public authorities have the right incentives to choose the most resource efficient products and services, through appropriate price signals and clear environmental information".

The European Commission has initiated a three-year pilot test (2013–2016) in order to test methods for calculating the environmental impact of products and

¹⁸² Naturvårdsverket (2014). Förslag till åtgärder för en mer hållbar konsumtion, Redovisning av regeringsuppdrag.

¹⁸³ COM (2013) Communication: Building the Single Market for Green Products.

¹⁸⁴ COM(2011) 571 Roadmap to a Resource Efficient Europe.

organisations, using the environmental footprint of selected product groups and organisations.¹⁸⁵ The aim is to develop a robust method and to harmonise environmental information for products in the internal market. However, as with most other methods for life-cycle analysis, there is no robust method available for dealing with toxicity. The testing and development of communication material, and support and tools for small and medium enterprises, is taking place alongside the development of the calculation method.

WAYS FORWARD

Once the pilot tests have been concluded, the Commission intends to evaluate how the methods for calculating environmental footprints should be used. Some examples which have been mentioned are in procurement, ecolabelling, benchmarking within product groups and legislation (e.g. the Ecodesign Directive¹⁸⁶). There is a need to harmonise the methodology used for calculating environmental criteria in different types of instruments in order to limit the environmental impact of products.

The Environmental Protection Agency intends to continue to prioritise the field. In practice, the road to implementation will also require engagement and competence from government agencies and other relevant stakeholders. The Environmental Protection Agency represents Sweden on the steering group for the pilot tests and is currently working with the Confederation of Swedish Enterprise, Swedish Life Cycle Centre (SLC), the Nordic countries and other government agencies such as the Energy Agency, the National Board of Housing, Building and Planning and the Chemicals Agency to develop a basis for Swedish stances. In order to drive forward the work and encourage greater participation, more collaboration between competent agencies and other stakeholders is considered to be necessary.

ANTICIPATED CONSEQUENCES

Environmental footprints can contribute to harmonisation and “greening” of the internal market¹⁸⁷, and boost environmentally friendly demand in an effective way. At the request of the European Council and Parliament, the European Commission has so far refrained from debating the future use of the methods in policy. It is therefore difficult to assess the consequents at present. During autumn 2015, the Commission is planning a conference to disseminate information on the results of the pilot tests to date, and to initiate debate concerning possible communication products.

6.7.7 Choosing renewable

In the Europe 2020 strategy, bioeconomy is key for smart and green growth in Europe. In its communication entitled *A bioeconomy for Europe*, the European

¹⁸⁵ COM (2013) Product Environmental Footprint (PEF)

¹⁸⁶ DIRECTIVE 2009/125/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products

¹⁸⁷ COM (2013) Impact Assessment – Facilitating better information on the environmental performance of products and organisations.

Commission stated that there is a need for a bioeconomy to tackle population growth, the depletion of resources and the increasing impact on the climate. Our dependency on fossil fuels must reduce, and resources must be utilised more sustainably. Today, consumers do not have enough information on how they can actively contribute to sustainable consumption patterns. Consumers need more information on the characteristics of products and the consequences of different consumer behaviours and lifestyles.¹⁸⁸

In 2012, the European Committee for Standardization (CEN) began work to develop sustainability criteria for bio-based products. This process will include determining how the properties of bio-based products are to be declared, certified and communicated to the market.

WAYS FORWARD

Finland has adopted a biostrategy aimed at promoting the use of bio-based resources. The development of a corresponding strategy for Sweden must include measures targeted at consumers, e.g. information which makes it easier to make sustainable choices.

ANTICIPATED CONSEQUENCES

Using the standards which are developed at European level, consumers can obtain equivalent and comparable information concerning different products. Strong demand for bio-based alternatives could replace fossil fuel-intensive products amongst both public and private sector end consumers. The proposal is primarily expected to contribute to attainment of the environmental quality objective *Reduced climate impact*.

6.8 Globally aware consumers

PROPOSED MEASURES IN THE CHAPTER:

Continued implementation of the United Nation's 10-year framework of programmes on sustainable consumption and production patterns (10YFP).

Develop initiatives for Objective 4 of the Convention on Biological Diversity (CBD).

Targeted bilateral initiatives – Hot-spot method.

The impact of consumption in Sweden on the environment and health in other countries has attracted attention in various forms in government studies, the work of the Parliament and through various initiatives in civil society. The environmental and health-related impacts of Swedish consumption arise locally and globally both before and after Swedish consumers purchase and use a product or service. This occurs during raw material extraction, manufacture, transport and disposal of the waste. Human health is both directly and indirectly affected.

¹⁸⁸ COM(2012) 60 final. Innovating for Sustainable Growth: A Bioeconomy for Europe, SWD(2012) 11 final.

The generational goal's bullet point concerning consumption patterns encompasses all environmental and health problems arising both in and outside Sweden as a result of Swedish consumption in both the public and private sectors. The bullet point contains no well-defined targets, but sets out the direction that environmental policy is to have if the generational goal is to be achieved.

Sweden's ecological footprint is growing rather than shrinking.¹⁸⁹ Some examples of this are imports of electronics products and the increasing consumption of imported meat and textiles, which impact on the environment and health in the production countries. A recently presented study shows that various forms of environmental pollutants are the biggest cause of death in low- and medium-income countries. In these countries, environmental pollutants cause almost three times as many deaths as malaria, HIV/AIDS and tuberculosis combined.¹⁹⁰

Within the focus area *Sustainable consumption*, a shorter case study has been prepared, which sets out proposals regarding the direct and indirect measures which can contribute to a transition so that the choices made by Swedish consumers concerning textiles have as little impact as possible on the environment in other countries by 2020.¹⁹¹ The case study concerning Ecolabelling highlights the importance of developing instruments to reduce the effects of consumption on the environment in the country of production.¹⁹²

THE UNITED NATIONS' FRAMEWORK FOR SUSTAINABLE CONSUMPTION AND PRODUCTION

In order to break the unsustainable patterns of consumption and production, the United Nations adopted a global 10-year framework of programmes in Rio 2012 (10 YFP).¹⁹³ Sweden has voluntarily undertaken to endeavour to achieve the goals set out in the framework. The implementation of the framework forms part of the interim targets in the global sustainability objective *Ensure sustainable consumption and production patterns*.

The framework currently contains six programmes with different targets and interim targets. These are: consumer information, sustainable lifestyles and education, sustainable public sector procurement, sustainable buildings and construction, sustainable tourism and sustainable food systems. Together with Japan and the WWF, Sweden has undertaken to lead the global implementation of the programme concerning sustainable lifestyles and education. The Stockholm Environment Institute (SEI) is responsible for the implementation. Region Västra Götaland is also a partner in the programme. The Environmental Protection Agency plays an active role in the implementation of the global programme concerning sustainable public sector procurement.

¹⁸⁹ <http://www.wwf.se/vrt-arbete/ekologiska-fotavtryck/1127697-ekologiska-fotavtryck>

¹⁹⁰ <http://www.gahp.net/new/press-release-sdgs/>

¹⁹¹ Bilaga 1E. Impacts on environment and health in other countries by Swedish consumers' choice of textiles. Per Thege, Environmental Protection Agency

¹⁹² Appendix 11. Miljömärkning. Jens Henriksson, Consumers' Agency.

¹⁹³ <http://www.unep.org/10yfp/>

The Environmental Protection Agency is the national focal point for the implementation.¹⁹⁴ In consultation with the Ministry of the Environment and Energy, the Environmental Protection Agency has decided to prioritise three areas in an initial stage: Sustainable food systems, Sustainable public sector procurement and Sustainable lifestyles and education. The assignment involves strengthening and collating the national work being conducted within the field, raising awareness of the importance of sustainable consumption and production and disseminating information concerning good examples from Sweden.¹⁹⁵ As the programmes impact on a number of Swedish government agencies and stakeholders, it is important that all the agencies involved actively participate in the implementation process at both national and international levels.

CONVENTION ON BIOLOGICAL DIVERSITY

The Convention on Biological Diversity (CBD) is a global convention on nature conservation and species protection. Sweden and the Environmental Protection Agency are party to the Convention on Biological Diversity.¹⁹⁶ The work under the CBD is being carried out with the support of a strategic plan which contains 20 interim targets. These interim targets entail objectives within a raft of areas aimed at stopping the current loss of biodiversity. Objective no. 4 involves governments, industries and stakeholders implementing measures, by 2020, to achieve sustainability in production and consumption and for the utilisation of natural resources to lie within ecologically safe limits. In Sweden's most recent national report on our implementation of the CBD's strategic plan, we did not report on any specifically targeted initiatives in order to achieve objective no. 4.

As explained in this document, many initiatives are under way in Sweden to promote sustainable consumption and production, including the development of indicators and instruments. Sweden should also benefit from the work being carried out under the CBD. When working on these initiatives, we should, to a greater extent than we do at present, highlight how production and consumption impact and depend upon biodiversity and ecosystem services. The Environmental Protection Agency is the Swedish focal point in the implementation process.

BILATERAL COLLABORATION TO PROMOTE SUSTAINABLE CONSUMPTION AND PRODUCTION

The Ministry of the Environment and Energy has a memorandum of understanding with a number of major economies, including Brazil, India, China and Russia. Several government agencies (the Environmental Protection Agency, Chemicals Agency, Agency for Marine and Water Management and Meteorological and Hydrological Institute) are involved in bilateral collaboration with these countries. The efforts of these agencies previously took place within the framework of Sweden's development collaboration, but now come under an appropriation from the Ministry

¹⁹⁴ <http://www.naturvardsverket.se/Miljoarbete-i-samhallet/EU-och-internationellt/sverige-i-varlden/Hallbar-konsumtion-och-produktion/Internationell-satsning-pa-att-bryta-ohallbar-konsumtion-och-produktion/>

¹⁹⁵ SCP Clearinghouse –<http://www.scpclearinghouse.org/>

¹⁹⁶ <http://www.naturvardsverket.se/Miljoarbete-i-samhallet/EU-och-internationellt/Internationellt-miljoarbete/miljokonventioner/Konventionen-om-mangfald/>

of the Environment and Energy for bilateral collaboration with countries of strategic importance for the global environment and global environmental and climate work. Sweden trades extensively with many of these countries and China is a major importer into Sweden. Bilateral collaboration with these countries within the field of sustainable consumption is contributing to attainment of the generational goal.

Exchanging knowledge and experience and strengthening the environmental management of the collaborating countries have always been pivotal aspects of the agencies' bilateral collaborations. Effective environmental management is essential in order to limit the environmental impact of production. The bilateral appropriation under the environmental policy also places great emphasis on building long-term relationships based on mutual interests, pursuing Sweden's profile issues and supporting negotiations and the implementation of international agreements. In the agencies' bilateral collaborations, initiatives have been carried out with the aim of preventing and controlling industrial emissions, chemical controls, waste management and water and air management. Virtually all of these collaborations have a bearing on sustainable production and consumption, and some activities have also been directly targeted at products and consumption. In China, for example, Sweden contributed to the development of policy recommendations for the Chinese government concerning sustainable production and consumption, within the framework of the China Council for International Cooperation on Environment and Development. The Chemicals Agency has begun collaboration with China concerning the occurrence of dangerous chemicals in products. In India, the Environmental Protection Agency is involved in the training of environmental officials concerning permit appraisal and the supervision of industries, waste management, wastewater treatment and the importance of applying good management and administration principles. Also in India, the Environmental Protection Agency and the Energy Agency introduced Swedish experiences concerning policy for energy-conscious consumers.

The Ministry of the Environment and Energy and the Environmental Protection Agency have entered into a dialogue with the United States Environmental Protection Agency concerning sustainable production and consumption, with a link to implementation of the 10-year framework of programmes on sustainable production and consumption. Three focus areas have been identified for the collaboration: reducing food wastage, improving access to LCA data through the establishment of a global network of LCA databases, and environmentally friendly public sector procurement.

Bilateral collaboration with the countries from which Sweden receives substantial imports constitutes a relevant platform for limiting the environmental and health-related impact of Swedish consumption abroad. However, more resources must be allocated, as the current bilateral appropriation is very limited, particularly in relation to the number of countries that are covered by the collaboration. If the aim is to reduce the environmental impact of Swedish consumption abroad, there is also a need to develop more targeted collaborative activities regarding the selection of countries and directions. Here, the 'hot-spot method' described by SEI in the study on instruments and other initiatives to reduce the impact of Swedish consumption on health and the environment in other countries could be used to establish priorities.¹⁹⁷

¹⁹⁷ Persson et al. (2015) *Styrmedel och andra insatser för att minska svensk konsumtions påverkan på hälsa och miljö i andra länder*. Stockholm: SEI

NORDIC COLLABORATION TO PROMOTE SUSTAINABLE CONSUMPTION AND PRODUCTION

An example of the Nordic work relating to sustainable consumption is the Nordic roadmap for a sustainable and resource-efficient textile industry prepared by the Nordic Council of Ministers in spring 2015. One of the five areas identified as being of particular importance, and within which initiatives will be implemented, is sustainable private consumption. For example, a spotlight will be placed on more sustainable and circular business models, as well as information campaigns aimed at raising consumer awareness and the environmental impact of textile consumption.

7 Further government agency collaboration

IN THE FURTHER EFFORTS BEING MADE RELATING TO THE ENVIRONMENTAL OBJECTIVES, there is a need for close collaboration between the government agencies tasked with influencing patterns of private consumption. More collaboration will create opportunities to build shared competence concerning work relating to both the link between consumption and environmental impact and instrument effectiveness. A good example is the current collaboration between the National Board of Agriculture, the National Food Administration and the Environmental Protection Agency aimed at reducing the environmental and health-related impact of food consumption. Collaboration to reduce the environmental impact of consuming textiles¹⁹⁸ and electronics¹⁹⁹ from a life-cycle perspective remains important.

Examples of government agencies which are considered to be of major importance in promoting environmentally sustainable consumption are the Consumer Agency; National Food Administration; National Board of Agriculture; Energy Agency; Transport Administration; Transport Agency; National Board of Housing, Building and Planning; Public Health Agency of Sweden; Chemicals Agency; Environmental Protection Agency; and regional authorities. The delegation of responsibilities between government agencies and the roles of various agencies in the transition to environmentally sustainable private consumption is currently perceived to lack clarity. In order to accelerate the rate of transition, the collaboration between national and regional agencies also needs to be strengthened and developed.²⁰⁰ The Agency considers that the Consumer Agency should be given a clearer role in the work to make private consumption greener.

More collaboration between government agencies to promote sustainable consumption and production should also help to strengthen the implementation of the 10-year framework of programmes on sustainable consumption and production patterns (10 YFP).²⁰¹ Sweden has opted to prioritise sustainable lifestyles and education in both the national and global implementation process.²⁰² Other programmes are consumer information, sustainable public sector procurement, sustainable tourism, sustainable buildings and construction, and sustainable food systems.

7.1 Environmental impact of consumption over time

Our understanding of the link between the environmental quality objectives and our consumption patterns is currently inadequate. The geographic perspective on

¹⁹⁸ Appendix 1E Impacts on environment and health in other countries from Swedish consumers' choice of textiles. Per Thege, Environmental Protection Agency

¹⁹⁹ <http://www.naturvardsverket.se/Miljoarbete-i-samhallet/Miljoarbete-i-Sverige/Uppdelat-efter-omrade/Avfall/Avfallsforebyggande-program/>

²⁰⁰ RUS, LEKS och Länsstyrelserna Gotland och Dalarna (2015) Länsstyrelsens roll och ansvar i arbetet med konsumtion – en förstudie Länsstyrelsen Dalarnas rapportserie, 2015:07

²⁰¹ <http://www.scpclearinghouse.org/>

²⁰² <http://www.regeringen.se/sb/d/19621/a/249770>

greenhouse gas emissions needs to be augmented with a consumption perspective in order to provide a more comprehensive basis for decisions concerning measures and policy instruments.²⁰³ The Environmental Protection Agency has previously proposed that the government task Statistics Sweden (SCB) with developing statistics for consumption-based emissions, and regularly report these statistics at national level.²⁰⁴ In this regard, the county administrative boards in the counties of Dalarna and Gotland, as well as county administration collaborations RUS and LEKS, have highlighted the importance of being able to calculate and visualise the environmental impacts of consumption at both regional and local levels.²⁰⁵

To raise awareness of the environmental impacts of Swedish consumption both within and outside Sweden's borders, the Environmental Protection Agency has since 2015 been funding a research collaboration concerning consumption-based indicators. The research programme entitled Policy-Relevant Indicators for National Consumption and Environment (PRINCE)²⁰⁶ is aimed at contributing to the monitoring of the generational goal and environmental quality objectives by raising awareness of how Swedish consumption impacts on the environment both within and outside Sweden's borders. The methodological starting point for the research is environmentally extended input-output analysis. All emissions broken down by industry can be studied by environmentally extended input-output analyses from a consumption perspective, that is to say by answering the question "What level of emissions of the substance has been caused in Sweden and in other countries based on our consumption in Sweden?". The research project will evaluate the differences that arise depending on the databases that are used for the calculations. The programme will also evaluate existing consumption-based models and calculations, e.g. for atmospheric emissions, the use of dangerous substances and the consumption of natural resources. The study will also identify which product groups for private and public sector consumption have the greatest environmental impacts and where these impacts occur. The research programme will run until early 2018.

7.2 Monitoring the transition

The Environmental Protection Agency considers there is a need to develop indicators to monitor the transition to environmentally sustainable private consumption. Feedback to consumers and decision-makers on the progress being made in the transition, through the continuous monitoring of selected transition indicators, should be in place ahead of the next in-depth evaluation of the environmental objectives. It is therefore important that the competent government agencies agree on a number of relevant indicators in order to monitor developments over time.

²⁰³ Naturvårdsverket (2010) Den svenska konsumtionens globala miljöpåverkan.

²⁰⁴ Naturvårdsverket (2014). Förslag till åtgärder för en mer hållbar konsumtion. Redovisning av regeringsuppdrag.

²⁰⁵ Appendix 1D. Transition to environmentally sustainable consumer behaviour through knowledge and good examples. The county administrative board in Gotland and the county administrative board in Dalarna, RUS.

²⁰⁶ <http://www.sei-international.org/projects?prid=2146>

The choice of indicators needs to be coordinated with the current development of corresponding indicators, both globally²⁰⁷ and at EU level²⁰⁸, and it must be possible to drill down to local and regional levels, as much of the communication which takes place with citizens and the opportunities for concrete changes occurs at these levels.

Initial attempts to develop transition indicators at national level have been made by SMED on behalf of the Environmental Protection Agency.²⁰⁹ Four proposed indicators were developed: beef consumption, energy surplus in food consumption, passenger transport, and heated residential areas in households.

7.3 Evaluation and development of instruments

The Swedish government has introduced a raft of policy instruments to incentivise private consumers into acting in a more environmentally sustainable way. Far from all these policy instruments have been evaluated, and it is difficult to draw general conclusions concerning the environmental and cost effectiveness of the instruments. One general problem is that it is difficult to isolate the effects of behaviour without using controlled experiments and/or econometric models based on suitable data. This difficulty arises from the fact that one rarely knows which individuals have been influenced, what aspects of the information caused the influence or in what context it occurred.²¹⁰

In addition, the background report from IVL Swedish Environmental Research Institute states that the effects of instruments on the behaviour of private stakeholders is the first common denominator in determining numerous other effects, which then follow in a cause-and-effect chain from policy instrument to environmental effects. If the effects of an instrument on behaviour are uncertain or even misinterpreted, the estimates of other evaluation criteria, such as environmental effects, goal attainment, distribution effects, costs and cost-effectiveness, will also be uncertain or misinterpreted. It is therefore vital that reliable evaluation methods are used in order to isolate the effects of an instrument on behaviour and that the opportunity is taken to evaluate the instrument's function before implementation.

One recommendation is to always carry out stakeholder analyses (e.g. enterprise-private individual, city-rural area, tenant-home owner) when formulating subsidies. This will enable a better understanding to be obtained of the possible distributions between stakeholders which could arise between different groups.

Assumptions concerning the effects which can be achieved by introducing new instruments are currently based on the expectation that all stakeholders will follow the intentions behind the instrument. Experiences from the evaluated instruments indicate that this is not always the case. For example, around 30 percent did not follow the ban on studded tyres. The evaluations also indicated a need for supervi-

²⁰⁷ Sustainable Development Indicators - <http://unsdsn.org/resources/publications/indicators/>

²⁰⁸ http://ec.europa.eu/eurostat/cache/REIs/REIs_EN_banner.html

²⁰⁹ SMED (2015). Indikatorer för att följa konsumenters omställning till en hållbar konsumtion.

²¹⁰ Hennlock et al. (2015) Styrmedel för hållbar konsumtion – Perspektiv från ett urval av utvärderingar. (Underlagsrapport 2)

sion at local level.²¹¹ One example is that, for private sewers serving single households, the property owner is responsible for remediating a defective and illegal discharge. In practice, however, it will often be the supervisory agency which takes the initiative to establish that the discharge must be remediated.

Our knowledge of the formulation of effective instruments which are fair from a distribution policy perspective must be developed, as must our knowledge of the preconditions necessary for acceptance of instruments aimed at bringing about behavioural changes. An important aspect is how changes to more environmentally sustainable consumption patterns relate to other environmental objectives and other aspects, such as public health, employment and effects on the economy. In order to establish the necessary priorities, we need to further develop the methodology that is used to establish priorities between different environmental objectives and other societal objectives.

7.3.1 Nudging – innovative forms of management

A relatively new term within behavioural science research, ‘nudging’, is beginning to emerge within the field of policy development. The term ‘nudging’ originates from the belief that human actions are not always based on rational deliberations, and that a high proportion, almost half, of our everyday actions are based on habits and routines.²¹² This area is considered to have considerable potential to act as a supplement to traditional instruments and open up opportunities for proposing new types of innovative measures and policy instruments which can promote environmentally sustainable consumer behaviour and lifestyles. Nudging should be considered to be one of the many tools needed to change consumer behaviour in a more sustainable direction and must be backed up by infrastructure and institutions which support the desired behavioural change. Nudging is considered to offer a valuable contribution as a supplement to other policy instruments which are directly aimed at:

- 1) changing a specific behaviour, e.g. littering,
- 2) influencing purchasing decisions concerning products purchased with a low level of involvement, e.g. spontaneous purchases,
- 3) influencing relatively complex products and services, e.g. financial services.

The researchers behind the report *Nudging – Ett verktyg för hållbara beteenden?* [Nudging – A tool to promote sustainable behaviour?] present proposals regarding how nudging could be institutionalised in policy development. It would be interesting to develop these ideas further within the framework of continued agency collaboration to promote sustainable private consumption.

Another field which is highly relevant to future work is the way in which design and innovative products can promote more sustainable consumption and sustainable lifestyles. There are numerous examples of how new design solutions and services can lead to more sustainable consumption in everyday life.²¹³

²¹¹ Hennlock et al. (2015) *Styrmedel för hållbar konsumtion – Perspektiv från ett urval av utvärderingar*. (Underlagsrapport 2)

²¹² Oksana Mont et al. (2014) *Nudging – Ett verktyg för hållbara beteenden?* Naturvårdsverket rapport 6642.

²¹³ Ilstedt (2011) *Design, energi och hållbar utveckling*. TRITA-MMK 2011:19 ISSN 1400-1179 ISRN/KTH/MMK/R-11/19-SE

8 National strategies

DECISION-MAKING AND POLICIES for environmentally sustainable private consumption risk being determined by myths, Nordic researchers consider.²¹⁴ These researchers consider that it is unrealistic to expect consumers, on their own initiative or even following information initiatives by society, to take decisive steps towards sustainable consumption.²¹⁵ Instead, initiatives are required which alter the real preconditions for the consumption so as to facilitate sustainable choices more than at present. Alongside this, it also needs to become difficult to make mistakes.²¹⁶

The Environmental Protection Agency concurs with the researchers' conclusion that there is a limit to what individual behavioural changes can achieve, and considers the market's ability to reverse a trend on its own, without additional political intervention, to be very uncertain. However, consumers contribute both through the individual choices they make and through their collective engagement to increase demand for sustainable alternatives. They also generate pressure for change towards more sustainable ideals and values, which will ultimately lead to changes in consumption.

Individuals, industry and civil society all have important roles to play, but a clear political direction is needed. Politicians must take more responsibility for reducing the environmental and health-related impacts of Swedish consumption, both in Sweden and globally. Key issues are alternative indicators of welfare, the roles of the tax and education systems in the transition, and commerce-related environmental issues.²¹⁷

8.1 Policy to promote environmentally sustainable consumption

There are many different areas of policy which could influence consumers into choosing, acquiring, using and recycling environmentally sustainable products and services. Perhaps the two most obvious areas are environmental policy and consumer policy, as environmentally sustainable consumption lies at the interface between these two areas. At the same time, transport policy is also pivotal for the opportunities for consumers to travel sustainably, energy policy is pivotal for the opportunity to choose sustainable energy alternatives, and so on. IT policy could present opportunities within all of the above areas. A strategy for enhancing consumers' opportunities and power to bring about consumption which reflects people's values will require an analysis of what prevents people from being the consumers they want to be. Only a few of the mechanisms highlighted in section 3.1.1 "Do we consume as we wish?" can be resolved through environmental policy measures or instruments. Instead a wider scope and a long-term vision are required.

²¹⁴ Mont et al. (2013). Förbättra nordiskt beslutsfattande genom att skingra myter om hållbar konsumtion.

²¹⁵ Ibid.

²¹⁶ Larsson (ed.) (2015) Hållbara konsumtionsmönster – analys av maten, flyget och den totala konsumtionens miljöpåverkan. (Underlagsrapport 1).

²¹⁷ Naturvårdsverket (2014). Förslag till åtgärder för en mer hållbar konsumtion. Redovisning av regeringsuppdrag.

FACT BOX:

Improving Nordic decision-making by dispelling myths about sustainable consumption

Myth 1: Green consumption is the solution.

The truth: Green consumption is one, but not the only, strategy for reducing resource consumption and the environmental impact of consumption.

Myth 2: Consumers should lead the transition to sustainable development.

The truth: There is a limit as regards what individual changes in behaviour can achieve. System-related changes are needed in prevailing economic institutions and business models, legislation and infrastructure. Governments must lead the transition to sustainability. Individuals, businesses and civil society have other important roles to play.

Myth 3: If we all do a little, we will achieve a lot.

The truth: Everyone must contribute to sustainability, but major changes will be needed to make society sustainable.

Myth 4: Small and simple environmental measures will lead to substantial changes.

The truth: Dispersion effects are only likely to occur between similar measures.

Myth 5: More information leads to sustainable behaviour.

The truth: Information alone will not normally alter people's behaviour, but it is an important aspect of the package of instruments.

Myth 6: Appealing to people's self-interest is the way forward to sustainable behaviour.

The truth: Striking a balance between self-interest and socially beneficial values is essential in order to secure not only short-term benefits, but also long-term results.

Myth 7: Sustainability means "living in caves".

The truth: Examples of sustainable lifestyles are emerging. We need a planned transition to sustainable lifestyles now in order to avoid a lower standard of living in the future.

Myth 8: People are happier if they earn more money and consume more.

The truth: In the Nordic countries, a rise in GNP is only marginally linked to improved wellbeing. There is therefore a need for new indicators for measuring collective transition.

Myth 9: Private ownership of all sorts of products is desirable - not shared use.

The truth: Co-ownership economics and many different kinds of collaborative consumption are experiencing a renaissance. Politicians can contribute by reducing the barriers to shared ownership and collaborative economics, and supporting essential research into its effects.

Myth 10: Consumption policy is too controversial to be accepted by the general public.

The truth: Policy is never neutral, but it shapes social norms and values in society. Decision-makers must create a "policy of opportunities" to promote sustainability by using a large number of existing and new strategies and tools in a synergistic way.

Source: Mont et al. 2013

A clearer direction and coordination of the policy for bringing about sustainable consumption patterns (both private and public sector) at national level will create even better conditions for acting not only at local and regional levels, but also within the EU and internationally. This particularly applies to the preconditions for the efforts of non-profit consumer organisations. In spring 2015, the government announced that it intended to develop a strategy to promote sustainable consumption.²¹⁸ [Note: The Swedish government presented a strategy for sustainable consumption in government bill 2016/17:1.]

8.2 Strategies to promote environmentally sustainable consumption

In the 2012 in-depth evaluation, the Environmental Protection Agency stated that the already high and growing consumption volumes represent a barrier to achieving the environmental quality objectives and that strategies are needed to reduce the environmental impact of public sector and private consumption. The consumption perspective is still reasonably new in the environmental objective system and the experience and ability needed to analyse this perspective in the monitoring of environmental objectives are limited.

In the 2015 evaluation of the environmental objectives²¹⁹, we can conclude that the consumption perspective is being addressed to varying degrees (indicators, analysis, instruments) in the following environmental quality objectives: *Reduced climate impact; Clean air; A non-toxic environment; A balanced marine environment, flourishing coastal areas and archipelagos; Zero eutrophication; A varied agricultural landscape; A magnificent mountain landscape; A rich diversity of plant and animal life; and A good built environment.*

To strengthen the consumption perspective in efforts relating to the environmental objectives, the Environmental Protection Agency has proposed in previous government reports that the government should task the All Party Committee on Environmental Objectives with drawing up a strategy for sustainable consumption containing milestone targets, policy instruments and measures, and indicators.²²⁰ A milestone target should be based on the generational goal and include indicators for private and public sector consumption. The EU's Roadmap to a Resource Efficient Europe (indicators and milestone 1 "Improving products and changing consumption patterns", see below) should be taken into account when formulating a national objective for the environmental dimension of sustainable consumption.

By 2020, citizens and public authorities have the right incentives to choose the most resource efficient products and services, through appropriate price signals and clear environmental information. Their purchasing choices will encourage companies to innovate and to supply more resource-efficient goods and services.

²¹⁸ <http://www.regeringen.se/sb/d/18972/a/255847>

²¹⁹ Naturvårdsverket (2015) Mål i sikte. Analys och bedömning av de 16 miljö kvalitetsmålen i fördjupad utvärdering.

²²⁰ Naturvårdsverket (2014). Förslag till åtgärder för en mer hållbar konsumtion. Redovisning av regeringsuppdrag

*Minimum environmental performance standards are set to remove the least resource efficient and most polluting products from the market. Consumer demand is high for more sustainable products and services.*²²¹

To monitor developments towards resource-efficient consumption patterns with as little impact on the environment and health as possible, the milestone target must contain clear, scheduled and monitorable objectives for both private and public sector consumption. In the development of appropriate indicators, the work of the EU and UN to develop corresponding parameters should also form an important springboard. The combined monitoring of these transition indicators should represent an important supplement to the existing monitoring of the environmental objectives and gradually improve the basis for decisions concerning measures and policy instruments.

As our understanding of the link between the impacts of consumption patterns on each environmental quality objective improves, existing objectives and indicators should be supplemented with consumption-based targets or indicators. As regards the objective *Reduced climate impact*, the Environmental Protection Agency considers that the necessary prerequisites in respect of greenhouse gas emissions are already in place. Establishing an appropriate formulation will however require further analysis. Many municipalities have already introduced objectives and measures to monitor and reduce the climate impact of private and public sector consumption.²²² The Environmental Protection Agency considers there are strong reasons for developing a national climate framework within the bounds of existing assignments,²²³ taking into account the opportunity to introduce a supplementary consumption-based target for greenhouse gases emissions from Swedish consumption by 2050, as well as a milestone target for greenhouse gas emissions from Swedish consumption by 2020. In the efforts being made to develop a climate policy framework, the need for instruments to reduce greenhouse gas emissions from Swedish consumption should also be taken into account. Changing consumer behaviour linked to air travel and meat consumption are two key challenges.

8.3 Regional and local opportunities

A national strategy needs to clarify the direction of the work of the Swedish government agencies at different levels. A preliminary study, *Länsstyrelsens roll och ansvar i arbetet med konsumtion*²²⁴ [The roles and responsibilities of the county administrative boards in the work relating to consumption] states the following:

- **A national strategy**, based on a clear political declaration of intent is needed, which will provide the right conditions for structured and broad efforts by government agencies with a shared vision.

²²¹ COM(2011) 571 Roadmap to a Resource Efficient Europe.

²²² Examples of this include Dalarna's energy and climate strategy from 2012 and the City of Gothenburg's climate strategy programme from 2014.

²²³ Dir. 2014:165 Tilläggsdirektiv till Miljömålsberedningen M 2010:04 – förslag till klimatpolitiskt ramverk

²²⁴ RUS, LEKS och Länsstyrelserna Gotland och Dalarna (2015) Länsstyrelsens roll och ansvar i arbetet med konsumtion – en förstudie Länsstyrelsen Dalarnas rapportserie, 2015:07

- **Clarification of the county administrative boards' responsibilities**, either through a specific assignment in the appropriation directions or through an addendum to the county administrative boards' instructions, preferably for the environmental objective assignment.
- **Tools and/or indicators** are needed to measure the environmental impact of consumption at regional and municipal levels. This will create local engagement and facilitate follow-up of the work relating to consumption.
- **Forum for the joint work of county administrative boards**, in order to effectively coordinate the work and initiatives being carried out in different counties (RUS/LEKS).
- **Identify possible collaborations with other stakeholders**, at regional level, e.g. municipalities, industry, county councils, regional associations and popular movement organisations/public outreach in order to identify areas where clear synergy effects can be achieved through collaboration.
- **Methodological support for initiatives – Public sector procurement and Industry/sector**, in order to facilitate the efforts of the county administrative boards within two initiative areas prioritised by the preliminary study.
- **Common guidelines for the county administrative boards' own procurement**, which encompass environmental and social requirements, in order to facilitate procurement and lead by example.
- **Broaden the responsibility from environmental aspects to sustainability** (environmental, social and economic), as the broad responsibilities of the county administrative boards within many specialist areas are best utilised by facilitating inter-sectorial collaboration.

Appendix 1 gives examples of the work relating to sustainable consumption being carried out by Region Västra Götaland.²²⁵ The Region's task is to combine environmental development with growth and the work relating to the action plan for resource-efficient and non-toxic products/services.

Municipalities are working to promote sustainable consumption patterns, e.g. through information targeted at citizens, municipal spatial planning and waste prevention. It is also apparent from the focus area's background report concerning instruments to promote sustainable consumption that many of the instruments that were covered by the survey can be found at municipal level. For example, no other individual measures are considered to have had the same effect on traffic volumes as the congestion taxes in Stockholm and Gothenburg. Other examples of instruments at municipal level which are directly aimed at influencing consumer behaviour are local traffic regulations banning the use of studded tyres on certain streets in Stockholm and Gothenburg. The review of instruments also concluded that the municipal supervisory work concerning private sewers serving single households, involving the preparation of inventories, letters to property owners and finally the issuing of orders, is what has made property owners act.

²²⁵ Appendix 1A. A region's opportunities for creating the right conditions for sustainable consumption. Birgitta Nilsson, Region Västra Götaland

A national strategy needs to harness and strengthen the force for transition that exists at local and regional levels through engagement amongst local politicians, businesses and citizens alike.

8.4 Digitalisation as a motive force

An important component in the further efforts to reduce the impact of consumption on health and the environment is to draw benefits from societal trends which impact on the scope to bring about sustainable consumption in the future. As part of the work within the focus area, the Environmental Protection Agency has decided to specifically study the link between digitalisation and sustainable private consumption.²²⁶ The aim of the assignment was to assess whether, and if so how, the use of digital services can contribute to the transition towards more resource-efficient consumer choices and behaviour and how public sector measures and instruments can promote such a development.

One of the conclusions drawn in the background report from the Royal Institute of Technology (KTH) is that, in the efforts being made to bring about sustainable consumption patterns, it is possible to draw benefits from the digitalisation trend, but that in order to do so, the existing ICT policy²²⁷ will need to be augmented with the aim of promoting sustainable development. Sweden's objective for its IT policy is for the country to be the best in the world at exploiting the opportunities presented by digitalisation. However, the national digital agenda is solely aimed at government agencies and enterprises. There is no consumer perspective in any of the 22 specialist areas covered by the agenda. None of the indicators which were identified for monitoring developments within the field of "IT for the environment" concern private consumers.²²⁸

The Environmental Protection Agency believes there is reason to review the national digitalisation agenda with the aim of augmenting the current ICT policy, both nationally and within the EU, with measures aimed at encouraging more resource-efficient consumption with as little impact on the environment and health as possible, an approach which is very different from an ICT policy for consumption. Continually working on issues regarding how the development and implementation of ICT applications which promote sustainable consumption in particular can be supported should constitute a new supervisory function which can identify conflicts between objectives and incentivise digital solutions which contribute to sustainable consumption patterns. Such a policy should strongly promote innovation and contribute to sustainable development. ICT applications can enable and facilitate the transition to more sustainable consumption within both the public and private sectors. However, in order for this development to take place, a radical and objective-focused environmental policy is needed which, among other things,

²²⁶ Höjer et al. (2015). Digitalisering och hållbar konsumtion. Underlagsrapport till fördjupad utvärdering av miljömålsarbetet. (Underlagsrapport 3).

²²⁷ ICT – Information and Communication Technology

²²⁸ <http://www.regeringen.se/sb/d/19612> (The indicators are: Travel-free meetings for government agencies, Efficient IT operation by government agencies, government agencies' environmental requirements on suppliers; Energy consumption by enterprises; Travel-free meetings for enterprises and Distance working for enterprises).

establishes resource efficiency as the norm for further digital development. There is a risk that digitalisation without environmental management will lead to an increase in consumption through making room for increasing, unsustainable consumption patterns and the depletion of natural resources.²²⁹ One possibility is to task the Digitalisation Commission or another new commission or study with investigating how ICT can support sustainable consumption, with particular regard to how sustainable ICT innovations can be promoted and how ICT policy can be synchronised with environmental policy to facilitate acceptance of a policy that is essential in order to achieve the environmental objectives. The study could be based around the idea that digitalisation can have a positive environmental impact through:

- replacing products and services,
- making use more efficient,
- intensifying use,
- disseminating information on sustainable choices.

8.5 Health as a motive force

Health is claimed to be an increasingly important factor behind consumers choosing organic, environmental and ethical products.²³⁰ This particularly applies not only to food, but also to textiles, skin and hair care products and toys.^{231 232} Further efforts being made within the commerce sector²³³ to help consumers make conscious choices through labels on products, signs in stores and on shelves, etc., as well as more communication regarding where consumers can turn in order to find out more about products, e.g. through consumer information and the Chemicals Agency, can help individuals to become involved in the transition to more sustainable consumption.

In the major cities, the growth in the popularity of cycling has resulted in an increase in demand for new and larger cycle paths as well as more cycle parking facilities.²³⁴ Through sustainable urban planning, with pedestrian, cycle and public transport as normative, as proposed by the National Board of Housing, Building and Planning²³⁵, this health trend can be encouraged and expanded to the benefit of both the environment and health. In addition to daily exercise, reducing car traffic will also have societal benefits in the form of reduced costs for ill-health linked to road traffic. In Europe, the total cost of premature deaths and illness caused by air

²²⁹ Höjer et al. (2015). Digitalisering och hållbar konsumtion. Underlagsrapport till fördjupad utvärdering av miljömålsarbetet. (Underlagsrapport 3).

²³⁰ Svensk Handel. 2014. Det ansvarsfulla företaget 2014 – Svensk Handels årliga undersökning om CSR- och hållbarhetsfrågor bland medlemsföretag och konsumenter.

²³¹ Svensk Handel. 2014. Det ansvarsfulla företaget 2014 – Svensk Handels årliga undersökning om CSR- och hållbarhetsfrågor bland medlemsföretag och konsumenter.

²³² Urtekram press release. 2015-04-23. Urtekram Eco-barometer for skin and hair care. <http://mb.cision.com/Main/122/9760128/369803.pdf>

²³³ Svensk Handel. 2014. Det ansvarsfulla företaget 2014 – Svensk Handels årliga undersökning om CSR- och hållbarhetsfrågor bland medlemsföretag och konsumenter.

²³⁴ Livsmedelsföretagen. 2014. Livsmedelsföretagens hälsorapport april 2014.

²³⁵ Boverket. 2014. Förslag till strategi för miljö kvalitetsmålet God bebyggd miljö. Rapport 2014:32.

pollutants has been estimated at almost one tenth of Europe's total GNP.²³⁶ In addition to this cost are expenses relating to ill-health linked to noise and accidents. The societal transition that is needed in order to achieve the environmental quality objectives partly involve encouraging, from both an individual and a societal perspective, interest in values which meet human needs and yet support sustainable development at the same time. Health can constitute an important motive force in order to integrate objectives concerning sustainable consumption, national environmental quality objectives and other vital societal objectives. In an ongoing county administration collaborative project, a tool called *Sju landmärken för hälsa och hållbar utveckling* [Seven landmarks for health and sustainable development] is presented with the aim of promoting the use of this motive force in order to facilitate leadership, collaboration and engagement in the work to bring about a sustainable society.²³⁷

8.6 Potential effects on economy and welfare

The effects of environmentally sustainable consumption on the Swedish economy and welfare can be both positive and negative.²³⁸ All types of sustainable consumption are considered to be positive for economic development in the long term, which also will also lead to a higher relative GNP in the long term. In the short term, however, GNP could be adversely affected, particularly as a result of reduced consumption volumes. The challenge in any transition will therefore be to manage short-term negative effects on GNP and industry. From a structural transition perspective, it is considered that the transition will favour sustainable enterprises over unsustainable ones. The effects on household finances of more sustainable consumption, assuming some adaptation, will be neutral. However, it should be noted that, in the long term, unsustainable consumption will lead to a reduction in the average level of consumption and welfare. This field needs to be studied further as part of a strategy to promote sustainable consumption.

²³⁶ WHO Regional Office for Europe, OECD (2015). Economic cost of the health impact of air pollution in Europe: Clean air, health and wealth. Copenhagen: WHO Regional Office for Europe.

²³⁷ Appendix 1K Health-promoting processes as support for sustainable development and socially oriented consumers. Magnus Eriksson and Johan Hallberg, County Administrative Board in Dalarna, RUS and Dalarna County Council

²³⁸ Appendix 1J. Sustainable consumption – potential effects on economy and welfare. Eva Alfredsson, Agency for Growth Policy Analysis

9 Conclusions and proposals

THE WORK BEING CARRIED OUT WITHIN THE FOCUS AREA sustainable consumption underlines the need to introduce a supplementary consumption perspective in the environmental objective system in order to monitor and rectify negative effects linked to the environment and environmentally related health as a result of private and public sector consumption. We currently have limited experience and ability to follow up and analyse the importance of consumption in order for us to achieve the environmental objectives. This chapter summarises proposals for initiatives which the Environmental Protection Agency considers to be key to making private consumption environmentally compatible, as a result of the evaluation of the environmental objectives for 2015.

Initiatives per objective

Reduced climate impact – supplementary perspective

- In the annual follow-up of the environmental quality objectives, it was concluded that total greenhouse gas emissions caused by consumption amongst Swedes are not falling, and well-coordinated initiatives will be needed to achieve the Swedish vision of zero net emissions by 2050. The Environmental Protection Agency therefore considers there is a need to continue to study supplementary consumption-based objectives and indicators in the impending national climate framework.
- Current trends, with rising emissions of greenhouse gases from air travel and meat consumption, must be reversed if we are to achieve the objective of reduced climate impact. In order to bring about change, the Environmental Protection Agency considers that financial incentives will be necessary in order to reduce the climate impact of air travel. The Agency intends to investigate the formulation of legislation and tax levels based on international experiences and knowledge regarding aviation taxes which have been introduced.
- Reducing meat consumption offers more potential for reducing the climate impact of meat consumption than making changes to Swedish meat production. To reduce the climate impact of meat consumption, the Environmental Protection Agency considers that the tax system within the food sector should be reviewed in accordance with previous proposal. In such a review, the opportunities to introduce economic instruments to reduce the climate impact of meat consumption should also be studied.
- A bonus malus system is considered to have considerable potential to reduce emissions from Swedish cars. Further, the National Board of Housing, Building and Planning's proposal to make pedestrian, cycle and public transport normative in the planning process is essential in order to cut emissions from car traffic.²³⁹

²³⁹ Boverket (2014) Förslag till strategi för miljö kvalitetsmålet God bebyggd miljö. Rapport 2014:32.

A balanced marine environment, flourishing coastal areas and archipelagos – changing consumer behaviour will reduce littering

Despite intensive efforts to limit the spread of marine litter, such littering continues. Most marine litter originates from land-based sources and the majority of visible marine litter and, to some extent, micro-litter can be traced to private consumption. An increasingly common form of litter is take-away products, such as plastic cups, lids and containers. The behaviour and lifestyles of individuals are key aspects for reducing littering. The Agency for Marine and Water Management's proposal for a programme of measures for the marine environment (under the Marine Strategy Framework Directive) therefore proposes that the Agency initiates a collaboration with the Environmental Protection Agency from 2016 onwards to implement a national information initiative aimed at the general public which focuses on the most frequently occurring litter objects and microscopic plastic particles in consumer products. Alongside this, it is proposed that the Environmental Protection Agency and the municipalities implement measures to reduce generation of marine litter by addressing the issue in relevant waste plans and waste prevention programmes.

A non-toxic environment – information on substances of very high concern in products

Consumer's opportunities to choose products with lower health and environmental risks must be strengthened. As a supplement to the current efforts relating to the programme A non-toxic everyday environment, the Chemicals Agency and the Environmental Protection Agency consider that the requirements concerning information relating to the content of substances of very high concern in or in connection with products need to be tightened. Before a mandatory system is introduced, it is proposed that the Consumer Agency and the Chemicals Agency develop an online service and/or a mobile application which enables consumers to readily obtain information concerning the contents of substances on the EU's Candidate List of Substances of Very High Concern in products. A corresponding service has already been introduced in Denmark, and development is under way in Germany.

Cross-objective initiatives

Milestone targets for resource-efficient consumption patterns

Private and public sector consumption is an underlying cause which indirectly impacts on the scope to achieve both the generational goal and many of the environmental quality objectives. The Agency considers there is a need to introduce one or more milestone targets for a transition to resource-efficient consumption patterns with the least possible impact on health and the environment. In order to monitor development, the target(s) must contain clear, scheduled and measurable objectives for both public and private sector consumption. The EU's Roadmap to a Resource Efficient Europe (Milestone 1) should form a starting point in the formulation of the milestone target. In the development of transition indicators, the efforts of the EU and UN to develop corresponding monitoring should also form an important springboard.

Resource-efficient consumers – appropriate price signals and clear environmental information

- The National Food Administration, National Board of Agriculture and Environmental Protection Agency are working intensively to reduce waste throughout the food product chain. In order to achieve results, perseverance and expanded initiatives will be needed. The Environmental Protection Agency considers that further joint government agency initiatives will be needed concerning the benefits of not discarding food and changing dietary habits.
- The lifetime of products with consumers is becoming ever-shorter, partly because of inadequate quality and partly because it is often both easier and cheaper to buy a new product than have the old one repaired. The Environmental Protection Agency considers that the price relationship between repairing and buying new needs to be changed to make it more attractive to repair products. How this can be achieved should be investigated as part of the development of a package of instruments to increase the life of products at the consumer stage, which was presented to the government in a previous assignment.
- Collaborative consumption has emerged as an opportunity to reduce the use of resources and the negative environmental impact. The field is relatively new and the potential and consequences for society and consumers are currently largely unknown. The environmental, societal and economic consequences of increased collaborative consumption should be evaluated. However, the need to develop consumer legislation as a result of the increasing commercial/non-commercial exchange between private individuals must also be studied.
- Consumer access to environmental information needs to be improved and harmonised, partly through the targeted information initiatives described above, but also through long-term strategic efforts to improve access to high-quality environmental information in order to enhance the market's ability to handle environmental aspects. The Environmental Protection Agency therefore considers that Sweden should continue to prioritise the efforts being made within the EU to develop a joint method for calculating the environmental footprint of products and services and to strive to improve access to quality-assured data both globally and nationally.
- Access to information concerning environmental impacts before and upon purchasing financial products and services is inadequate and needs to be developed. The Environmental Protection Agency is in favour of the Nordic Council of Ministers' Swan initiative to initiate the development of criteria for the eco-labelling of funds.
- There is a risk that the digitalisation of society will result in increased consumption and resource depletion, but with more responsibility taken at the political level, digitalisation can support a transition to better resource efficiency and increased innovation capacity. The Environmental Protection Agency considers there is reason to study how the national and European digitalisation agenda can be augmented with measures to promote more resource-efficient private consumption.

Forum for sustainable consumption and production

The Environmental Protection Agency sees a need, within further government agency collaboration, to establish a forum where government agency initiatives to promote sustainable consumption and production can be brought up. Such a forum should also help to strengthen the implementation of the 10-year framework of programmes on sustainable consumption and production patterns (10 YFP).²⁴⁰ Sweden has initially opted to prioritise programmes to promote sustainable lifestyles and education, as well as sustainable public sector procurement, in both the national and the global implementation process.

Future sustainable consumption

The Environmental Protection Agency's view is that there is a strong need for a clear political direction and long-term political governance to bring about a transition to sustainable consumption patterns and lifestyles in the future. Consumption which reflects people's values presupposes a comprehensive analysis of what prevents people from being the consumers they want to be. Only a few of the mechanisms highlighted in section 3.1.1 "Do we consume as we wish?" can be resolved through environmental policy measures and instruments, instead they require broader anchoring and a political vision which encompasses all policy areas (not least industrial, financial and tax policies), government agencies at various levels, industry and civil society.

The education system can better enable pupils to find out more about more sustainable consumer behaviour. In accordance with a previous government report on measures to promote sustainable consumption, the Environmental Protection Agency considers that the Schools Inspectorate should be tasked with evaluating the work of schools relating to sustainable development, including the importance of sustainable consumption and sustainable lifestyles, and that the National Agency for Education should be given a clear remit and more resources to stimulate the work of schools relating to consumption and sustainable lifestyles.

The growing interest in health and wellbeing is an increasingly important factor behind consumers choosing environmental and ethical products. Health-promoting processes can help to ensure that national environmental objectives are perceived as being relevant and meaningful from an everyday perspective, which in turn will lead to greater acceptance of the need to switch to consumer behaviour which is not contrary to the environmental quality objectives or the generational goal. At a general level, this means consumption which does not jeopardise the survival of ecosystems and which ensures that any consumption bears its environmental costs and that the environmental impact arising from the consumption is reduced.

²⁴⁰ <http://www.scpclearinghouse.org/>

All types of sustainable consumption are considered to be positive for economic development in the long term, which also will also lead to a higher relative GNP in the long term. However, in the short term GNP could be adversely affected, particularly as a result of reduced consumption volumes. The challenge in any transition will therefore be to manage short-term negative effects on GNP and industry. From a structural transition perspective, it is considered that the transition will favour sustainable enterprises over unsustainable ones. The effects on household finances of more sustainable consumption, assuming some adaptation, will be neutral. Economic and competition policy effects need to be investigated further as part of a national strategy to promote sustainable consumption.

10 Glossary

Consumption

A distinction is made between private and public sector consumption. Simplified, private consumption concerns the use of products and services in households, while public sector consumption concerns the purchase of products and services by the government, municipalities and county councils (excluding transfers and contributions or interest on the national debt).

The Consumer Agency limits the term ‘consumption’ to the following aspects or processes:²⁴¹

- Consumers’ decision-making process before choosing products and services.²⁴²
- Consumers’ acquisition²⁴³ of products and services.
- Consumers’ use of products and services.
- Consumers’ disposal of end-of-life products.
- Final disposal of consumer (household) waste.

Consumption pattern

The generational goal for Swedish environmental policy includes seven bullet points which describe the values which must be protected and the societal transition that is needed to ensure that the desired environmental quality is achieved. The seventh of these bullet points is worded as follows: “Patterns of consumption of goods and services cause the least possible problems.”

The term ‘consumption patterns’ is normally used at an aggregated level, e.g. at global or national level. For the generational goal, the national consumption patterns in Sweden apply. This could concern things like:

- The magnitude of the consumption volume
- The distribution of consumption between different product groups
- The way in which consumption varies between different consumer groups

Consumer

In Swedish consumer legislation (the Consumer Sales Act, SFS 1990:932), a consumer is normally defined as “a physical person who primarily makes purchases for non-commercial purposes”. This definition is also similar to that in the ISO standard Environmental labels and declarations: “A consumer is defined as an individual member of the general public purchasing or using goods, property or services for private purposes.”²⁴⁴

²⁴¹ OECD (2002) Towards Sustainable Household Consumption? Trends and Policies in OECD Countries.

²⁴² Such decisions may also involve refraining from acquiring a product/service.

²⁴³ In the normal case via purchases, but cases where products and services are acquired at no expense are also covered, e.g. products which are distributed free of charge or borrowed from someone else, etc.

²⁴⁴ ISO14025:2006

Household

For the purposes of this report, “household” means what Statistics Sweden (SCB) defines as a “housekeeping household”.²⁴⁵ In principle, this means people who share a dwelling and who also have shared housekeeping, e.g. shared food, shared household goods, etc. A student who lives in a rented room in a detached house with a family, but has separate housekeeping, will then be deemed a separate household, even if he or she lives in the same dwelling as the family.

Environmentally compatible goods and services

‘Environmentally compatible products and services’ means products and services which have a markedly less environmental impact than other products and services with the same function.

Resource efficiency

Resource efficiency is about using raw materials and energy as efficiently as possible. Resource efficiency is one aspect in the generational goal’s bullet points. According to the EU’s strategy for a resource-efficient Europe, the pressure on ecosystems caused by the consumption of fuels, minerals and metals, as well as the consumption of food, land, water, air and biomass, is high and rising. The efforts being made relating to resource efficiency encompass the development of new products and services and the identification of new ways of reducing the use of inputs, preventing waste, improving the management of resource reserves, changing consumption patterns, optimising production processes and management and business methods, and improving logistics.

Energy efficiency improvements

Energy efficiency improvements are above all brought about by the technological development of products, services, processes and/or systems and involve obtaining the same benefits using less energy or creating more benefits with the same energy consumption. This could for example be achieved through energy-efficiency improvements to buildings through refurbishment and replacing old household appliances with new, more energy-efficient ones, switching to lighter and more efficient car engines with better aerodynamics or changing over to more integrated and more scrap-based manufacturing processes within industry or to more efficient systems.

Energy saving

Energy saving involves reducing energy consumption through voluntary changes in behavioural patterns, e.g. by living in smaller homes, setting the thermostat to a lower temperature, showering for a shorter period of time or not using standby mode. It may also entail maintaining the same function, but through an alternative activity instead, e.g. by distance-working instead of commuting to work, purchasing services instead of products or walking or cycling instead of driving.

²⁴⁵ See SCB (2014b). Hushållens ekonomi (HEK)

Rebound effect

Rebound effect can be described as the difference between the anticipated environmental effect and the discernable outcome.²⁴⁶ However, the scope of rebound effects is often difficult to quantify.²⁴⁷ Some examples of rebound effects are direct, indirect or macroeconomic effects.²⁴⁸

- If a product or service becomes cheaper as a result of energy-efficiency measures, the product/service will be used more by the consumer. This is known as a direct rebound effect or price effect. An example of this is if the running costs of a car or household appliance are reduced, we would be expected to use them more, to buy more of them and to demand better performance from them.
- The use of other products and services may increase. This is known as an indirect rebound effect or income effect. An example of this is a family who improves the efficiency of their household heating system in order to save up for a trip to Thailand.
- The costs saved will be spent in the economy, lead to an increase in demand for all products and services, and contribute to structural transition in various ways. These are known as macroeconomic growth effects. As regards the private finances of individual consumers, efficiency improvements or general reductions in consumption will result in an increase in disposable income compared with the previous consumption pattern. Assuming that consumers' incomes do not decrease at the same time, the money that is released can be spent on other consumption, which may also entail some form of environmental impact.

Policy instrument

Policy instruments are the government's way of steering societal development in the desired direction, by encouraging or discouraging activities, e.g. limiting or increasing the use of a product or service. The starting point is formed by the policy instruments which have already been approved and which are of importance to the attainment of the objectives. Instruments can be divided into the following principal categories: administrative (e.g. legislation), economic (e.g. taxes), informative (e.g. information) and research and development. There are instruments which collectively incentivise change. Examples of policy instruments for reducing emissions of greenhouse gases and atmospheric pollutants generated by people using their car include the tax on petrol, subsidies for public transport and public funds for development of cycle path networks.

²⁴⁶ Sanne (2006) Rekyeffekten och effektivitetsfällan – att jaga sin egen svans i miljöpolitiken.

²⁴⁷ UKERC (2007) The Rebound Effect: an assessment of the evidence for economy-wide energy savings from improved energy efficiency. UK Energy Research Centre

²⁴⁸ EEA (2014) Environmental indicator report 2014 – Environmental impacts of production-consumption systems in Europe.

Measure

A measure is the action that a stakeholder, such as an enterprise or an individual, carries out as a result of a policy instrument.

Green Nudge

‘Nudging’ is aimed at behaviour which is not covered by other instruments, i.e. individuals’ automatic, intuitive and routine actions.²⁴⁹ ‘To nudge’ means to push or shove, and nudging is about carefully leading people in a certain desired direction, without using a carrot or a stick. Instead, a choice is set up so that the desired decision is the one that is easiest to make. The idea behind Green Nudging is to “nudge” behaviour in an environmentally sustainable direction without influencing people’s values.

²⁴⁹ Mont, O., Lehner, M. & Heiskanen, E. (2014). Nudging – Ett verktyg för hållbara beteenden?

11 References

- Avfall Sverige (2011). *Europa minskar avfallet 2011*. Taken on 23 May 2015 from http://www.avfall sverige.se/fileadmin/uploads/Arbete/Kampanjmaterial/111122_Avfall_Sverige.pdf
- Boverket. (2014). *Förslag till strategi för miljö kvalitetsmålet God bebyggd miljö*. Karlskrona: Boverket. Rapport 2014:32.
- Centrum för konsumtionsvetenskap (2014). *Konsumtionsrapporten*. Taken on 10 June 2015. https://gupea.ub.gu.se/bitstream/2077/37778/1/gupea_2077_37778_1.pdf
- EEA (2012). *Consumption and the environment – 2012 update*. The European Environment. State and outlook 2010. Luxembourg: Publications Office of the European Union. doi:10.2800/45669
- EEA (2014). *Environmental indicator report 2014 – Environmental impacts of production-consumption systems in Europe*. Copenhagen: European Environment Agency.
- EEA (2015). *Consumption. European briefings. SOER 2015 – The European environment – state and outlook 2015*. Taken on 28 June 2015 from <http://www.eea.europa.eu/soer-2015/europe/consumption>
- Echa Newsletter. (2015). *Danish app for consumers a big success*. Taken on 25 February 2015 from http://newsletter.echa.europa.eu/home/-/newsletter/entry/1_15_danish-app-for-consumers-a-big-success.
- Energimyndigheten (2007). Energi som miljömål. ET2007:21.
- Energimyndigheten (2013). Energitjänster i Sverige. Statusrapport för tjänster för energieffektivisering. ER 2013:22.
- European Commission (2010). *Europe 2020. A strategy for smart, sustainable and inclusive growth*. COM(2010) 2020 final.
- European Commission (2011). *A resource-efficient Europe - Flagship initiative under the Europe 2020 strategy*. COM (2011) 21.
- European Commission (2011). *Roadmap to a Resource Efficient Europe*. COM (2011) 571.
- European Commission (2013). *Building the Single Market for Green Products. Facilitating better information on the environmental performance of products and organisations*. COM(2013)196 final.
- European Commission (2012). *Innovating for Sustainable Growth: A Bioeconomy for Europe*. SWD(2012) 11 final.
- European Commission (2014). *EU Resource Efficiency Scoreboard 2014*. Taken on 23 March 2015 from http://ec.europa.eu/environment/resource_efficiency/documents/re_scoreboard_2014.pdf

- European Commission (2014). *Product Environmental Footprint (PEF)*. Taken on 31 March 2015 from http://ec.europa.eu/environment/eussd/smgp/product_footprint.htm
- European Commission (2014). *Attitudes of European Citizens Towards the Environment*. Special Eurobarometer 416. Taken on 23 March 2015 from http://ec.europa.eu/public_opinion/archives/ebs/ebs_416_en.pdf
- FORMAS Fokuserar 12 (2007). *Konsumera mera – dyrköpt lycka*. Stockholm: Formas. ISBN 978-91-540-5998-0.
- Goldstein MC, Titmus AJ, Ford M. (2013). Scales of Spatial Heterogeneity of Plastic Marine Debris in the Northeast Pacific Ocean. *PLOS ONE* 8:11
- Havs- och vattenmyndigheten (2015). *God havsmiljö 2020 Marin strategi för Nordsjön och Östersjön, Del 4: Åtgärdsprogram för havsmiljön*. Dnr 3563-14
- Helcom (2015). *HELCOM RECOMMENDATION 36/1 Regional Action Plan on Marine Litter (RAP ML.)*
- Hennlock, M., Tekie, H. & Roth, S. (2015). *Styrmedel för hållbar konsumtion. Perspektiv från ett urval av utvärderingar*. Stockholm: Naturvårdsverket. Rapport 6658.
- Höjer, M., Moberg, Å. & Henriksson, G. (2015). *Digitalisering och hållbar konsumtion. Underlagsrapport till fördjupad utvärdering av miljömålsarbetet*. Stockholm: Naturvårdsverket. Rapport 6675.
- [http://www.gahp.net/new/press-release-sdgs/The_Global_Alliance_on_Health_and_Pollution_\(GAHP\)_Hämtad_2015-04-15](http://www.gahp.net/new/press-release-sdgs/The_Global_Alliance_on_Health_and_Pollution_(GAHP)_Hämtad_2015-04-15)
- IEA (2012). *Spreading the net. The multiple benefits of energy efficiency improvements*. Paris: OECD/International Energy Agency.
- Ilstedt (2011) *Design, energi och hållbar utveckling*. Produkt och tjänstedesign KTH Industriell teknik och management. TRITA-MMK 2011:19 ISSN 1400-1179 ISRN/KTH/MMK/R-11/19-SE
- ITPS (2008). *Näringslivets tillstånd 2008 Tjänsteparadox skapar tillväxt*. Taken on 16 March from <http://www.tillvaxtanalys.se/download/18.56ef093c139bf3ef89026ab/1349863361739/det-vaxande-tjanstesamhallet-praglas-av-materiell-konsumtion-08.pdf>
- Jambeck, J., Geyer, R., Wilcox, C., Siegler, T., Perryman, M., Andrady, A., Narayan, R and Lavender, L. K. (2015). Plastic waste inputs from land into the ocean. *Science* 13:357 (6223) pp. 768-771.
- Jidesjö, A., Björn, A., Hedbrant, J., and Kalliokoski, S. (2014). *Samhällets utvecklings- och omställningsförmåga: Framgångsrik skolutveckling för lärares arbete med och elevers lärande i energi, resurs, klimat och hållbarhet: Rapportering av forskningsinsatser i skolutvecklingsprojektet ”KNUT”*. Taken on 31 March from <http://du.diva-portal.org/smash/get/diva2:692899/FULLTEXT02.pdf>

- Jordbruksverket (2012). *Ett klimatvänligt jordbruk 2050*. Rapport 2012:35.
- Jordbruksverket (2013a). Hur liten kan livsmedelskonsumtionens klimatpåverkan vara år 2050? – ett diskussionsunderlag om vad vi äter i framtiden. Jordbruksverket, Livsmedelsverket och Naturvårdsverket. Taken on 1 March 2015 from <http://webbutiken.jordbruksverket.se/sv/artiklar/ovr296.html>
- Jordbruksverket (2013b). *Hållbar köttkonsumtion. Vad är det? Hur når vi dit?* Rapport 2013:1.
- Jordbruksverket (2015). *Uppåt för svenskt kött 2014*. Taken on 25 June 2015 from <http://www.jordbruksverket.se/pressochmedia/nyheter/nyheter2015/uppatforsvensktkott2014.5.30905e7714bc58f22a812de9.html>
- Kemikalieinspektionen (2014). *Handlingsplan för en giftfri vardag 2015–2020. Skydda barnen bättre*. Rapport 5/14.
- Kemikalieinspektionen (2015). *Handlingsplan för en giftfri vardag 2011–2014*. Rapport från ett regeringsuppdrag. Rapport 1/15.
- Kommittén för utbildning för hållbar utveckling (2004). *Att lära för hållbar utveckling*. SOU 2004:104. Stockholm: Utbildningsdepartementet.
- Konjunkturinstitutet (2013). *Miljö, ekonomi och politik 2013*. Taken on 10 March from https://pure.ltu.se/portal/files/75576739/miljo_ekonomi_och_politik_2013.pdf
- Konsumentverket (2005). Konsumentverkets årsredovisning 2004. Taken on 12 April 2015 from <http://www.konsumentverket.se/>
- Konsumentverket (2011) Hur handlar unga? – en studie om ungas konsumtion 2011. Konsumentverket. Karlstad. Rapport 2011:13.
- Konsumentverket (2014) Vår omvärld 2014. Rapport till regeringen 2014-11-30. Taken on 26 June from <http://www.konsumentverket.se/>
- Konsumentverket (2015). *Hallå Konsument* <http://www.hallakonsument.se>
- Larsson, J. (ed.) (2015). *Hållbara konsumtionsmönster – Analyser av maten, flyget och den totala konsumtionens klimatpåverkan idag och 2050*. En forskarantologi. Stockholm: Naturvårdsverket. Rapport 6608.
- Levett, R. and Levett, R. (2003). *A better choice of choice: quality of life, consumption and economic growth*. London: Fabian Society.
- Livsmedelsföretagen. 2014. Livsmedelsföretagens hälsorapport april 2014.
- Livsmedelsverket (2015) Kött och chark – råd. Taken on 10 June 2015 from <http://www.slv.se/sv/grupp1/Mat-och-naring/kostrad/Rad-om-rott-kott-och-chark>
- Luttorp, C., Börjeson Rivera, M., and Henriksson, G. (2013). *Drivkrafter bakom uppkomsten av elavfall. Ett produkt och konsumtionsperspektiv*. Stockholm: Naturvårdsverket. Rapport 6675.

Magnusson, K. and Wahlberg, C. (2014). *Mikroskopiska skräppartiklar i vatten från avloppsreningsverk*. Stockholm: IVL Svenska Miljöinstitutet. IVL Rapport Nr B 2208.

Mont, O., Heiskanen, E. Power, K. and Helka Kuusi, H (2013). *Förbättra nordiskt beslutsfattande genom att skingra myter om hållbar konsumtion*. Norden 2013:552.

Mont, O., Lehner, M. & Heiskanen, E. (2014). *Nudging – Ett verktyg för hållbara beteenden?* Stockholm: Naturvårdsverket. Rapport 6642.

Naturskyddsföreningen (2013) *Raklödder till fiskarna – Om skräp i havet – källor, problem och lösningar*. Taken on 10 May from http://www.naturskyddsforeningen.se/sites/default/files/dokument-media/rapporter/marint_skrap_rapport.pdf

Naturvårdsverket (2003). *Fakta om maten och miljön*. Stockholm: Naturvårdsverket. Rapport 5348.

Naturvårdsverket (2008). *Konsumtionens klimatpåverkan*. Stockholm: Naturvårdsverket. Rapport 5903.

Naturvårdsverket and Kemikalieinspektionen (2010). *Den svenska konsumtionens globala miljöpåverkan*.

Naturvårdsverket (2011). *Köttkonsumtionens klimatpåverkan*. Drivkrafter och styrmedel. Stockholm: Naturvårdsverket. Rapport 6456.

Naturvårdsverket (2012). *Underlag till en färdplan för ett Sverige utan klimatutsläpp 2050*. Stockholm: Naturvårdsverket Rapport 6525.

Naturvårdsverket (2013). *Förslag till nya etappmål. Redovisning av regeringsuppdrag*. <http://www.naturvardsverket.se/>

Naturvårdsverket (2014a). *Förslag till åtgärder för en mer hållbar konsumtion. Redovisning av ett regeringsuppdrag*. Skrivelse 2014-09-11. Stockholm: Naturvårdsverket.

Naturvårdsverket (2014b). *Matautfallsmängder i Sverige 2012*. Taken on 15 May from <http://www.naturvardsverket.se/>

Naturvårdsverket (2015a). *Miljömålen – Årlig uppföljning av Sveriges miljö kvalitetsmål och etappmål 2015*. Stockholm: Naturvårdsverket. Rapport 6661.

Naturvårdsverket (2015b). *Mål i sikte. Analys och bedömning av de 16 miljö kvalitetsmålen i fördjupad utvärdering*. Stockholm: Naturvårdsverket. Rapport 6662.

Naturvårdsverket (2015c). *Miljö- och klimatarbete i näringslivet. En översikt med fokus på drivkrafter och klimat*. Stockholm: Naturvårdsverket. Rapport 6665.

Naturvårdsverket (2015d). *Miljöstyrning i planeringen – med sikte mot hållbara städer*. Stockholm: Naturvårdsverket. Rapport 6664.

- Nordiska Ministerrådet (2014). *Års- & hållbarhetsredovisning 2014*. Taken on 15 June from: http://www.svanen.se/Documents/%C3%85rsredovisning/MISAB_arsredovisning_2014.pdf
- OECD (2002). *Towards Sustainable Household Consumption? Trends and Policies in OECD Countries*. Paris: OECD.
- OECD (2014). *Greening Household Behaviour: Overview from the 2011 Survey – Revised edition*. OECD Studies on Environmental Policy and Household Behaviour. Paris: OECD Publishing. DOI: <http://dx.doi.org/10.1787/9789264214651-en>
- Oosterhuis, F., Papyrakis E. and Boteler, B. (2014) Economic instruments and marine litter control. *Ocean & Coastal Management*. 102: 47–54.
- Ospar Commission (2014). *Marine Litter Regional Action Plan*.
- Persson, L. Persson, Å. & Nykvist, B. (2015) *Styrmedel och andra insatser för att minska svensk konsumtions påverkan på hälsa och miljö i andra länder*. Stockholm: SEI Working Paper 2015-03
- Proposition 2005/06:190 *Lag om skatt på flygresor den 8 juni 2006* (SFS 2006:909).
- Robèrt, K.-H., G. I. Broman, and G. Basile. (2013). Analyzing the concept of planetary boundaries from a strategic sustainability perspective: how does humanity avoid tipping the planet? *Ecology and Society* 18(2):5. <http://dx.doi.org/10.5751/ES-05336-180205>
- RUS, LEKS och Länsstyrelserna Gotland och Dalarna (2015). *Länsstyrelsens roll och ansvar i arbetet med konsumtion – en förstudie*. Länsstyrelsens i Dalarnas rapportserie 2015:07.
- Räty, R. and Carlsson-Kanyama, A. (2010). Energy consumption by gender in some European countries. *Energy Policy* vol. 38, no. 1, 646-649.
- Röös, E. (2014). *The Meat Guide*. World Wildlife Fund (WWF). Taken on 20 April 2015 from http://www.wwf.se/source.php/1595845/14-8929-WWF-Kottguiden_150608.pdf
- Rreuse.org: New French legislation pushes for longer-lasting products. Taken on 10 June 2015 from <http://www.rreuse.org/new-french-legislation-pushes-for-longer-lasting-products>
- Sanne, C. (2006). *Rekyleffekten och effektivitetsfällan – att jaga sin egen svans i miljöpolitiken*. Stockholm: Naturvårdsverket. Rapport 5623.
- Sanne, C. (2012). *Hur kan vi leva hållbart 2030?* Stockholm: Naturvårdsverket. Rapport 6524.
- SCB (2009). Mer pengar på fritid än mat. Article published in *Välfärd* 2009(3). Taken on 23 May 2015 from <http://www.scb.se/>

SCB (2014a). SCB-indikatorer. Ekonomisk månadsöversikt mars 2014. Taken on 23 May 2015 from <http://www.scb.se/>

SCB (2014b). *Hushållens ekonomi* (HEK). Taken on 23 May 2015 from www.scb.se

Schwartz (2004). *The paradox of choice – why more is less*. New York: Harper Perennial.

Skånberg, K. (2015). Framtidens hållbara konsumtion. Förslag till näringsliv och politik för omställning till hållbar konsumtion. Global Utmaning.

SMED (2011). *Kartläggning av mängder och flöden av textilavfall*. Norrköping: SMED Rapport Nr 46.

SMED (2013). *Konsumtion och återanvändning av textilier*. Norrköping: SMED Rapport Nr 149.

SMED (2015). *Indikatorer för att följa konsumenters omställning till en hållbar konsumtion*. SMED rapport 158. <http://www.smed.se/avfall/rapporter/rapportseriesmed/3547>

SOU (2004). *Hållbara laster. Konsumtion för en ljusare framtid*. Finans departementet. SOU 2004:119.

SOU (2013). *Fossilfrihet på väg*. Miljö- och energidepartementet. SOU 2013:84

SOU (2015). *Kemikalieskatt. Skatt på vissa konsumentvaror som innehåller kemikalier*. Kemikalieskatteutredningen. SOU 2015:30.

SPREAD (2013). Sustainable Lifestyles 2050 – Social Platform identifying Research and Policy needs for Sustainable Lifestyles. Taken on 23 March 2015 from [www: http://www.sustainable-lifestyles.eu/project-content.html](http://www.sustainable-lifestyles.eu/project-content.html)

Sterner, T. (2003). *Policy Instruments for Environmental and Natural Resource Management*. Washington: RFF Press.

Svensk Handel (2014). *Det ansvarsfulla företaget 2014. Svensk Handels årliga undersökning om CSR- och hållbarhetsfrågor bland medlemsföretag och konsumenter*. Taken on 4 May from <http://www.svenskhandel.se/Documents/Milj%c3%b6%20och%20CSR/Det%20ansvarsfulla%20f%c3%b6retaget%202014.pdf?epslanguage=sv>

Svärd, B. (2013). *Analys av data från Ospars referensstränder åren 2001–2011*. Rapport till projektet Ren kust i Bohuslän och Göteborg.

Söderholm (ed.) (2008). *Hållbara hushåll: Miljöpolitik och ekologisk hållbarhet i vardagen. Slutrapport till Naturvårdverket från forskningsprogrammet SHARP*. Stockholm: Naturvårdsverket. Rapport 5899.

UNEP (2009) Marine Litter: A global challenge. Nairobi:UNEP. Taken on 1 July 2015 from: http://www.unep.org/pdf/unep_marine_litter-a_global_challenge.pdf

UNEP, 10 YFP A 10 year framework of programmes on global action for sustainable consumption and production. Taken on 27 May 2015 from: <http://www.unep.org/10yfp/tabid/106264/Default.aspx>

UNEP (2015). Global Action for Sustainable Consumption and Production.
<http://www.unep.org/10yfp/> [23.03.2015]

UKERC (2007). *The Rebound Effect: an assessment of the evidence for economy-wide energy savings from improved energy efficiency*. UK Energy Research Centre

Wright, S.L., Thompson, R.C. and Galloway, T.S. (2013). The physical impacts of microplastics on marine organisms: A review. *Environmental Pollution* 178:483-492.

WWF (2014). *Living Planet Report 2014. Species and spaces, people and places*. Taken on 27 May 2015 from www: http://wwf.panda.org/about_our_earth/all_publications/living_planet_report/

12 Appendix 1

Appendix 1 is presented as a separate publication [in Swedish only] which can be downloaded from the Environmental Protection Agency's website. The appendix collates background material prepared by members of the working group for the focus area 'Sustainable consumption' in the in-depth evaluation of the environmental quality objectives 2015. The working group consisted of representatives from government agencies, universities, industry and stakeholder organisations. The aim was to present relevant examples of transitions to resource-efficient consumption patterns with the least possible impact on environment and health. The articles give examples of the preconditions necessary for Swedish consumers to choose and use environmentally sustainable products and services, as well as examples of motive forces and barriers to bringing about a transition. *The authors are responsible for the content of the respective articles.*

Contents of the appendix

- A. A region's opportunities for creating the right conditions for sustainable consumption. *Birgitta Nilsson, Region Västra Götaland.*
- B. Marine litter – Reducing littering from consumer products in the Baltic Sea and the North Sea. *Anna Mellin, Agency for Marine and Water Management.*
- C. UN programme improves information concerning products. *Anna Fransson and Helena Bergström, Chemicals Agency.*
- D. Transition to environmentally sustainable consumer behaviour through awareness and good examples. *Emilie Vejens, County Administrative Board of Gotland and Magnus Eriksson, County Administrative Board of Dalarna, RUS.*
- E. Impact on environment and health in other countries from Swedish consumers' choice of textiles. *Per Thege, Swedish Environmental Protection Agency.*
- F. Food wastage. *Anna-Karin Johansson and Ingela Dahlin, National Food Administration.*
- G. Biobased products in Europe. *Ingrid Haglind, Forest Industries Federation.*
- H. Collaborative consumption – from private product consumption to shared access. *Karin Bradley, Department of Urban Planning and Environment, Royal Institute of Technology (KTH).*
- I. Ecolabelling. *Jens Henriksson, Swedish Consumer Agency.*
- J. Sustainable consumption – potential effects on the economy and welfare. *Eva Alfredsson, Agency for Growth Policy Analysis.*
- K. Health-promoting processes as support for sustainable development and socially oriented consumers. *Magnus Eriksson, County Administrative Board of Dalarna, RUS.*

Transition to sustainable consumption patterns

REPORT 6746

SWEDISH EPA
ISBN 978-91-620-6746-5
ISSN 0282-7298

Synthesis within the framework of the in-depth evaluation of the environmental objectives 2015

The in-depth evaluation of the environmental objectives in 2015 is the fourth of its kind. The objectives were adopted by the Parliament in 1999. The in-depth evaluation is part of a systematic and regular monitoring of environmental policy and progress towards the objectives. By analyzing the driving forces and policy instruments we get a deeper understanding of what is needed in order to secure an ecologically sustainable future. The evaluation provides the basis for strategic and proactive measures. It serves as a basis for government policy and priorities.

Consumption affects all environmental objectives. Sustainable consumption was chosen as one of three focus areas for the evaluation.

Society actors need to act together to assist in the transition to sustainable consumption patterns. By putting consumers in the spotlight of the transition, this report highlights how the policies and instruments can pave the way and enable Swedish consumers to select, acquire, use and re-use goods in ways that benefit the transition to a resource-efficient society.

This synthesis report was produced within the government assignment for the in-depth evaluation of the environmental objectives 2015. Representatives from national authorities, industry, county administrative boards, regions and non-governmental organisations have been involved in the preparation of the report.



NATUR
VÅRDS
VERKET