

Policy Tools and Supporting Role of Standards for Sustainable Consumption and Production

Received: 11.01.2022

Available online: 30.12.2022

Elka Vasileva^{*}, Daniela Ivanova^{**},
Nina Tipova^{***}, Stiliyan Stefanov^{****}

Abstract

The identified need for a holistic policy to promote Sustainable consumption and production (SCP), as well as the lack of design of appropriate tools for future application in the Bulgarian context, determine the main focus of the study. The role of standards as voluntary (“soft”) policies and the presented typology reveal the deficit of research related to identification of standards applicable in the different categories of SPC policy tools. The presented research is directed to the identification of existing tools and standards that can influence SCP patterns, as well as to the categorization and ranking according to their relative importance by applying the approach of Analytic Hierarchy Process (AHP). The analysis based on the consistent application of different descriptive, qualitative and quantitative methods identifies a variety of SCP tools and standards. This paper discusses the results of a prioritizing process, divided into three categories: six administrative tools,

five economic tools and four information tools. The calculation of global and local weights at three hierarchical levels allowed an analysis of the possibilities for their application in the national context. The results showed the advantage of the designated economic tools, followed by the administrative and information tools. The findings offer a systematic approach to transition from the existing “mosaic” of policy elements to a coherent SCP policy in the Bulgarian economic and social context.

Keywords: Sustainable consumption and production; SCP; Policy tools; Standards; Standardization; Analytical Hierarchy Process (AHP); Bulgaria

JEL: Q50, Q56, Q58

Introduction

Historically, the sustainable consumption and production (SCP) concept was created at the United Nations Rio de Janeiro Conference on Environment and Development in 1992, when governments committed to eliminating patterns of consumption and production that are inadequate for the requirements of sustainable development. In a sustainable economy, the ways of

^{*} Department of Natural Resources Economics, University of National and World Economy – Sofia, Bulgaria

^{**} Department of Natural Resources Economics, University of National and World Economy – Sofia, Bulgaria

^{***} Department of Natural Resources Economics, University of National and World Economy – Sofia, Bulgaria

^{****} Department of Natural Resources Economics, University of National and World Economy – Sofia, Bulgaria

consumption and production should foster the enduring well-being of people, communities, and nature conservation. It is based on the idea of meeting today's consumer needs without limiting the needs and opportunities of future generations. The main definition of sustainable consumption focuses on "the opportunities to consume products and services that meet the needs of consumers in an efficient and effective way, minimizing the negative impact on the society, the economy and the environment". The ultimate goal of sustainable consumption is "to improve the quality of life for all consumers of today and future generations while minimizing environmental damage" (Brundtland Commission, 1987). United Nations Environment Program (UNEP) views SCP as „a holistic approach to minimizing the negative environmental impacts from consumption and production systems while promoting quality of life for all" (Marrakesh Process Secretariat, 2010).

Sustainable consumption and production, also understood as creating and using (consuming) products and services that offer more value with less use of natural resources, is at the heart of the strategies for increasing resource efficiency and promoting a sustainable economy. There is an international consensus that patterns of production and consumption need to change. However, debates on how to get this done in practice are still taking place. The main question is "How can consumption patterns change so that they combine economic development with environmental protection and social development?" In his book, "Prosperity without Growth", Tim Jackson describes this as "the greatest challenge mankind ever faced" (Jackson, 2011, p. 288).

The implementation and adoption of the SCP concept brings also to the fore the problem of the different levels of economic development of countries worldwide. When talking about the industrialized countries the emphasis should be on minimizing the use of natural resources while essential for the developing countries are the satisfaction of basic needs and ensuring a good quality of life (UNEP, 2008, WSSD, 2002). The transition to sustainable consumption and production requires an open and transparent debate to raise the issue of an economic model, the implementation of which will be judged by indicators "beyond the GDP" which measure the environmental footprint, the personal and public well-being, as well as prosperity (EESC, 2010; EESC, 2012; Elkington, 2012; Jackson, 2005).

Promoting sustainable patterns of production and consumption and lifestyle is associated with policy-making involving a large number of stakeholders to create and implement innovative policy solutions to sustainable development issues (Hotta et al., 2021; Spangenberg and Lorek, 2019).

In 2015, the 2030 United Nations Agenda for Sustainable Development was adopted and 17 Sustainable Development Goals were developed integrating the economic, environmental and social dimensions of sustainable development (United Nations Global Goals 2030, 2015). Goal 12 is defined as "Ensuring Sustainable Consumption and Production Patterns" (UN GA, 2015). It has a central role to play in tackling global consumption of resources and the environmental impacts associated with it, as well as numerous social and economic problems.

In recent years, the concept of SCP has become an increasingly important topic on the

European political agenda (European Council, 2008; European Council, 2019; European Commission, 2012 a). Designing a European SCP approach requires the combination of different policies instruments, standards and various actions at all levels of governance with the help of all stakeholders and in all sectors.

In Bulgaria, as a post-socialist country with emerging sustainable behavior patterns, there is no clear and purposeful government policy on creating sustainable consumption and production. It should be noted that the country has no coherent approach to coordination of the policies, programs and projects in different areas and different levels in the overall process of SCP. As a member of the European Union since 2007, a number of instruments have been introduced into national legislation, both for the binding and voluntary approaches of European policy in this field. However, it should be noted that the country has no coherent approach to coordination of the policies, programs and projects in different areas and different levels in the overall process of SCP. The few studies reveal the yet scarcely exhibited sustainable behavior patterns of Bulgarian consumers (Vasileva and Ivanova, 2012; Vasileva and Ivanova, 2012; Vasileva et al., 2012). Against the backdrop of a variety of policy initiatives at international, European and national levels, Bulgaria needs deliberate policies to promote sustainable production and consumption.

This study identifies and categorizes tools for sustainable consumption and production policy and examines their relative importance in the implementation of this policy in Bulgaria. This in itself is an innovative approach against the background of a missing sustainable development policy in the Bulgarian context. The study will help to create a set of tools

for future application in order to move from the current “mosaic” of policy elements to a holistic policy to impose sustainable consumption and production.

The contribution is structured as follows: The theoretical framework of sustainable consumption and production concept, policy tools in this field and their role in changing behavior patterns are examined and analyzed in the specific Bulgarian context. Particular attention is paid to the supporting role of standards as tools of SCP policy. The Methodology part describes the two stages of the study (Focus group discussions and in-depth interviews with experts). The Results section describes the application of AHP for categorizing and hierarchical ranking of identified policy tools for sustainable consumption and production. The article discusses the results of prioritizing the tools and supporting standards of a future SCP policy, divided into three categories: six administrative tools, five economic tools and four information tools. The calculation of global and local weights at three hierarchical levels allowed an analysis of the possibilities for their application in the national context. In the final conclusions, limitations and recommendations for future studies are made.

Conceptual framework

Sustainable consumption and production policy tools

In order to change patterns of consumption and production towards sustainability, it is necessary to mobilize a wide range of policy tools. Policy tools are defined as mechanisms used by the government authorities to achieve the desired change and, in the context of the present study, to achieve sustainable consumption and production (Vedung, 1997). Scholars conceptualize production and

consumption as a complex system and study the complexities of changing such systems (Fuchs and Lorek, 2005; Lorek and Vergragt, 2015). Because SCP policies are interventions into interdependent human-natural systems, this in turn is a complex task that demands a mix of policy tools (OECD, 2007; UNEP, 2015). Given the multifaceted nature of the policy for their enforcement and the many aspects that need to be outlined, policy tools can be found in various areas such as energy, transport, consumer protection, environmental protection, agricultural policy, fiscal policy, educational policy, healthcare, etc.

Within the system innovation research A. Tukker (2008) started to explore governance opportunities to create successful strategies and policies for sustainability (Tukker et al., 2008). To date, there is a wide range of policy tools which are subject to diverse classification. The standard classification is based on the approaches by which governments implement this policy (Tukker, 2015; Tukker et al., 2008). They can be grouped as follows: a regulatory-controlling approach (administrative), which is based on legal instruments; an economic approach based on fiscal, financial, insurance and market tools; an information approach based on a number of information tools focused mainly on consumers and the various business sectors. According to a study by the European Commission (European Council, 2008; European Council, 2019; European Commission, 2012; European Commission, 2012a), a fourth group of so-called 'behavioral tools' has been introduced in recent years. This toolkit aims to influence consumer behavior by utilizing the latest developments in a number of scientific fields such as psychology, sociology and cultural studies. Other authors call these tools "voluntary", "procedural" or "social self-regulatory tools" (Jackson, 2005).

Emphasizing the importance of selection of policy instruments for achieving SCP policy goals, the UNEP distinguishes the following four groups: regulatory instruments and standards; economic instruments, information-based / educational instruments and voluntary agreements (UNEP, 2015). The fourth group of instruments, defined as "Voluntary agreements", aims to promote environmental improvements through voluntary action which go beyond legal requirements. UNEP voluntary programs include the participation of organizations which "agree to standards, related to their performance, their technology or their management, which have been developed by public bodies (UNEP, 2015, p. 73). Management standards such as the ISO 14000 series can be understood as voluntary agreements of the first type, as well as voluntary agreements with the private sector to support corporate social responsibility (CSR) including supporting transparency in sustainability reporting.

Other studies provide an overview of the most important policy instruments to encourage and enable sustainable consumption business strategies by adding two more groups: "Cooperation Instruments" and "Research & Educational Instruments" (Groezinger and Tuncer, 2010; GTZ, 2006). They provide a categorization of the instruments according to their type of intervention ranging from soft to hard, and according to the group that is mainly targeted by the policy action - business or consumers.

SCP tools can be binding or voluntarily implemented by administration, business organizations, civic organizations and consumers (Böcher, 2012; Pape et al., 2011; Wolff and Schönherr, 2011). In general, administrative tools are aimed at business organizations rather than consumers. They

Articles

regulate the links between governments, manufacturers and product suppliers for the mass consumer along the supply chain. Economic tools are intended to influence producers, but many examples of impact on consumers can be cited. The information tools are targeted both at the supply side and the demand side.

We can summarize that consumer and business sustainability behavior can be influenced by a variety of tools:

- *regulatory (administrative) tools* – they combine all laws and statutory documents. They determine the control in the form of bans or requirements. They can form the basis of sustainable consumption and production policy in the country;
- *economic tools* – they affect the costs and benefits of the opportunities provided to stakeholders. These are taxes and fees, quotas or harmful emission certificates, guarantee deposits and various forms of support. This toolkit also has a great potential for achieving the sustainable consumption and production policy objectives;
- *information tools* – they are used to exchange information and provide knowledge. Providing systematic, accessible and relevant information is a key element of sustainable consumption and production policy.

The few studies in Bulgaria on the tools for sustainable consumption and production policy confirm these findings (Ivanova et al., 2011; Ivanova et al., 2011 a; Vasileva et al., 2012). Implementing each of the tools on its own could hardly lead to a change in consumer behavior towards sustainability. The synergistic and coherent action of the above tools is crucial for changing behavior and

production patterns. Despite the harmonization of national legislation with European policies and the availability of various instruments used in different sectoral policies, the country lacks a holistic view of this change.

Standards and sustainable consumption and production

Over the last decades, numerous standards relating to the implementation of sustainable consumption and production have been created.

Standards have the potential to play a significant role in these processes, amid a wide range of regulations on sustainable production and consumption. A number of authors emphasize that the modern development of standardization builds on its conventional focus on technical objects or systems with the inclusion of social and environmental themes (Bostrom, and Klintman, 2011; Brunsson and Jacobsson, 2000; Busch, 2000; Tamm Hallström, 2008). N. Brunsson and B. Jacobson (2000) argue that standardization appears as a general new form of regulation in the modern, globalized life alongside traditional legislation and the normative society.

There are many examples of voluntary environmental standards designed to solve environmental problems which also involve economic and social aspects. We are witnessing an increase in the standards of CSR and sustainable management of organizations. They all differ significantly in their goals and operating patterns, based on a variety of approaches: certification and labelling of organizations, products and services management systems; achievement of business excellence, learning organizations, etc. (Berliner and Prakash, 2013; Rasche, 2012; Rasche, 2015). In their entirety, they

build a “new institutional infrastructure” for corporate sustainability and responsibility (Rasche, 2015; Waddock, 2008).

The question “How Standards Support Sustainable Production and Consumption?” looks for answers in a number of up-to-date research which reveal a variety of mechanisms.

Standards *reduce existing market information asymmetries* (Akerlof, 1970) by providing product-specific market signals. Eco-labelling and social labelling standards inform consumers about the social and environmental conditions under which products and services are created. This information makes it possible to compare conventional and environmentally-friendly or sustainable products which in turn reduces search costs (Horne, 2009; Noblet and Teisl, 2015). Certification standards and the corresponding labelling can affect the asymmetry of information by transforming the characteristics of “credence” into characteristics of “search”, i.e. into product features that can be verified by the user at the time of purchase (Boer, 2003; Horne, 2009; Rubik and Frankl, 2008).

Standards support *public disclosure of company-level information* on environmental and social activities as the basis for the entire communication of organizations with stakeholders. The enactment of the so-called “soft” policies for the implementation of international environmental management standards and social responsibility initiatives (e.g. voluntary sustainability reporting) has developed strongly (Blackburn, 2007; Field and Field, 2013; Horváth and Pütter, 2017; UN Global Compact, 2015; UN Global Compact, 2019). Responsible for this are forces different in their nature that predetermine their effectiveness - from moral considerations related to the impact of industry on global

warming, climate change and depletion of natural resources to informal public pressure concerning the planet’s future.

Standards can endorse the *discourse on sustainable production and consumption* and help change business practices, values or culture (Blackburn, 2007; Rasche, 2015). In this context, A. Rasche (2015) addresses the main aspects of the “link between standardization and the institutionalization of the discourse on sustainable consumption”: standards (such as ISO 26000) play a key role in formulating terms and definitions, as well as organizational practices related to sustainable production and consumption. Such standards help make sustainable practices available to new players (e.g. small and medium-sized enterprises) and encourage them to adopt these practices (Rasche, 2015).

Types of SCP standards

Of particular importance for the present study is the classification according to certain features of the many sustainability standards. Based on their role as voluntary (soft) SCP enforcement policies, most authors (Blackburn, 2007; Bostrom, and Klintman, 2011; Brunsson and Jacobsson, 2000) distinguish four major groups of standards:

- *Certification standards of organizations management systems and labelling standards of product and services* – here can be noted the standards of Environmental Management Systems (EMS) of the ISO 14000 series, which are considered to be the most widespread global voluntary initiative for a number of industrial sectors (ISO, 2020). Certified companies have a series of their own environmental improvement goals and provide continuous improvement. The Environment Management and Audit Scheme (EMAS) as an

Articles

instrument of the EU public authorities requires continuous improvement of the company's environmental performance and provides a mechanism for registration (EMAS Regulation). Another is the approach of labelling standards of products and services, where obtaining certificates is linked to predefined criteria that must be met. Certification labelling standards are widely applied in the market for environmental and sustainable goods and services;

- *Reporting standards and declarations* - they are based on selection rules based on reporting principles. Certified companies provide detailed information on the economic, environmental and social aspects of manufacturing processes, according to the covered issues and the metrics that were used to disclose information. Here, the Global Reporting Initiative's popularity as a global standard for non-financial sustainability reporting of organizations can be mentioned (GRI, 2021);
- *Voluntary contracts (Codes of Conduct)* – they can be regarded as standards that lack prescribed requirements but at the same time reflect the core principles of governance (mission, values and market practices). These are agreements by which companies voluntarily undertake to improve their environmental and social performance over statutory requirements. Historically, the United Nations (UN) Global Compact establishes the foundation for the modern corporate sustainability movement and provides universal business sustainability principles (Simeonov and Stefanova, 2015; UN Global Compact, 2015; UN Global Compact, 2019);

- *Standards - SCP Guidelines* - can also be defined as process standards as they define management processes and practices which are related to corporate sustainability and responsibility such as processes for stakeholder engagement (Horváth and Pütter, 2017; Rasche, 2015; Simeonov and Stefanova, 2015). They are distinguished from other process standards in that they do not require verification of compliance. By providing common Guidelines and definitions, these standards support the creation of organizational frameworks for sustainable and responsible governance. The ISO 26000 standard is a typical example of a Guideline detailing the content, main themes and principles for implementation by socially responsible organizations. Its purpose is to encourage organizations to go beyond the requirements of the law and take additional steps to achieve sustainable development.

In fact, the variety of sustainability standards predetermine also the difficulties associated with their classification in the above-described groups. It should be noted that they belong to different groups of SCP standards at the same time which allows their study from different perspectives and in different academic fields and subjects.

On the one hand, criticisms can also be noted of the application of SCP standards. The large number and variety of existing certification standards result in a lower level of transparency and confusion among consumers which in turn reduces confidence in the certification system. Under these conditions, the goals of the certification system of quality communication and the valorisation of environmental and sustainable goods and services may not be reached. On the other

hand, the so-called “overlapping” between different standards (different initiatives that regulate close, sometimes identical requirements or criteria) leads to unnecessary cost duplication (time, documentation, control, etc.) for the companies which are certified (Horne, 2009; Noblet and Teisl, 2015).

Finally, the specificity of the European standardization system which “helps Europe to safeguard its advantage as a first mover and to keep pace with changes and opportunities created by market developments” should be emphasized (European Commission, 2020, p. 2). European standards have the potential to play a significant role in the processes for imposing sustainable production and consumption, by guaranteeing a high level of safety, health, consumer and environmental aspects to protect European citizens (European Commission, 2020; Wiegmann, 2017). A distinguishing feature of the European standardization system is the use of so-called *harmonized European standards*, which have been developed on the basis of a mandate from the European Commission for the purposes of law enforcement. When adopted, the standards become part of Union law, and when used, they provide manufacturers across the single market with a presumption that their products are in conformity with the requirements of Union law (CEN).

Based on the typology outlined above, the study aims to identify the standards which support tools for SCP policy in the following categories: administrative, economic and information and verify their relative importance in the application of this policy in Bulgaria.

The identified need for a holistic policy to promote sustainable production and consumption, as well as the conspicuous lack of design of appropriate tools for future application in the Bulgarian context,

determine the main focus of the study. On the other hand, the support role of standards and the presented typology reveal the deficit of research related to identification of standards applicable in the different categories of SPC policy tools.

The present research is directed to the identification of existing instruments and standards that can influence the SCP patterns, as well as to the categorization and ranking according to their relative importance by applying the approach of Analytic Hierarchy Process (AHP). This paper presents the AHP as a potential decision-making method for use in the future policy on sustainable consumption in Bulgaria.

This will allow the development of a set of tools, supported by international and European standards for the transition from the current fragmented elements of different policies in the country to a holistic policy for imposing sustainable consumption and production.

Materials and Methods

The relative importance of tools and their grouping is established by applying several methods in the following sequential steps:

- Discussions in a focus group with experts;
- In-depth interviews with experts and implementation of the AHP (Analytic hierarchy process) approach (Saaty, 1988; Saaty, 2008).

Focus group discussions on tools for SCP policy in Bulgaria and related standards

The “Focus Group” method is considered as one of the most suitable ways to collect the empirical information within the context of social science research including policy studies. The advantages of the method are the possibilities for establishing an adequate contact with the interested parties and

providing collective power to all participants in the discussion; discovering the decision making process; clarification and test of pre-conceived notions and findings (Liamputtong, 2011). The counter-arguments for using this method are linked to the existing possibility that the participants may not express their honest and personal opinions about the topic or they may be hesitant to express their thoughts, especially when their thoughts oppose the views of another participant (Stewart and Shamdasani, 2015). Usually the “Focus Group” research is combined with other methods in covering maximum depth on a particular issue as an individual interview approach.

The focus group discussion was held during the Round Table on Sustainable Consumption in Bulgaria on September 17, 2018 at the University of National and World Economy - Sofia. During the second part of the afternoon session, a discussion was held with those present about tools for sustainable consumption policy.

Description of participants/Participants' Profile: The focus group participants were 21 people in total. They included experts from state and government bodies (4 persons), standardization body (2 persons), non-governmental organizations (3 persons), consulting organizations (4 persons), consumer associations (1 person), universities and scientific institutions (6 persons) and packaging waste recovery organizations (1 person).

In order to facilitate the participants the information was presented about the tools for sustainable consumption policy, discovered after a critical analysis of research in this field. They were grouped into three categories: administrative, economic and information.

The discussion moderator gave an introduction explaining the goals and objectives of the discussion in the context of the study.

The participants were then asked questions regarding their comments on the proposed tools and related standards. The participants were asked to make recommendations, suggestions and additions. Each of the attendees expressed their opinion thus an opportunity to compare opinions was provided.

The obtained results were processed using a content analysis. All expressed opinions were audio-taped, transcribed, analyzed using MS Word 2016 and assigned content-related codes in Bulgarian. Groups of similar codes were later categorized and positioned into three groups SCP policy tools and related standards: administrative, economic and information. In this way, identified tools and related standards were used to structure the results. The obtained empirical data were validated by three experts in SCP fields.

All participants in the focus group accepted the proposed information on the categories of tools for SCP Policy. Through their opinions, they confirmed the constituent elements in each category. Only one proposal was made - to add „Targeted subsidization“ of sustainable production and services in the category of economic tools. The categories of tools thus formed will play a major role in conducting the next phase of the study.

In-depth interviews with experts and application of the Analytic Hierarchy Process method

The Analytic Hierarchy Process method is used to solve complex and unstructured problems that can interact and correlate with different goals and objectives. This is a decision making system approach developed by Saaty in the 1980s (Saaty, 1988; Saaty, 2008).

It is designed to decompose complex multi-criteria problems into multiple hierarchy levels, with the highest level being the *goal*

of the study, intermediate levels being *criteria and/or sub-criteria*, and at the lowest level - *offered alternatives*. The AHP then requires the development of priorities between all criteria and sub-criteria (categories and sub-categories) at each level of the hierarchy. It is based on preliminary measurements and expert assessments through a pair-wise comparison system. In policy analysis, interviews are conducted with experts from academia and policymakers. The resulting “pair-wise comparison” estimates are applied to pairs of homogeneous criteria, possibly creating common priorities for arranging alternatives.

The advantage of the method is that it organizes various in their nature factors in a systematic manner and provides the structuring of a relatively simple solution to the problems associated with decision making. Another advantage is that the AHP allows to accommodate experts’ assessments of goals and objectives and to set priorities among them.

This method has been applied in many scientific fields. A limited number of studies have been identified in the area of SCP policies (Attaran and Celik, 2012; OECD, 2001; Shim et al., 2009): a qualitative study on the use of consumer information in the creation of a sustainable consumption policy within an OECD program; in the marketing of “green” buildings; to identify strategic priorities for South Korea’s “green” information technology and communications policy.

Two main stages can be identified when conducting a survey using the AHP:

- *Stage One* - Identification of goals, objectives, criteria and sub-criteria (categories and sub-categories);
- *Stage Two* - Application of the AHP algorithm to the established hierarchy

structure by using the SuperDecisions Software.

This section examines sequentially the two stages of the AHP study, related to tools for sustainable consumption policy in Bulgaria and related standards.

The sequence for conducting the AHP study is presented in Figure 1. The scheme contains the basic eight steps, as developed by the Saaty Guide (Saaty, 2000).

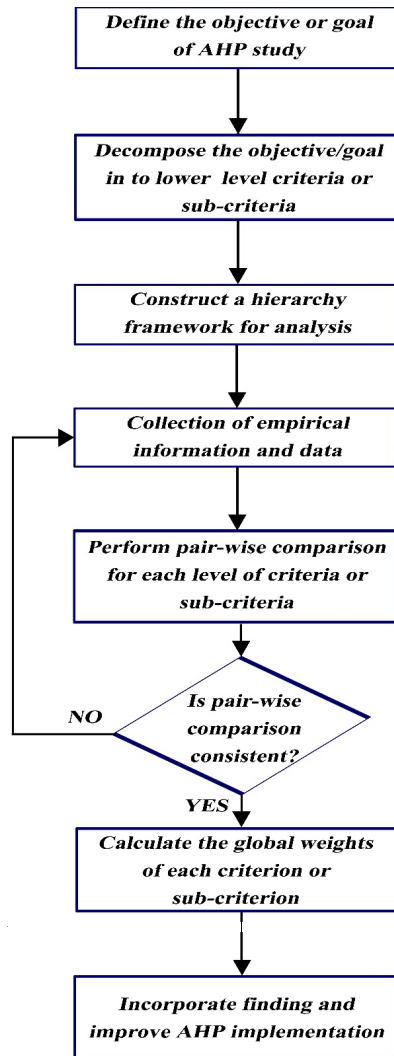


Figure 1. Flow chart to conduct AHP study

Results

This section examines sequentially the two stages of the AHP survey, related to tools and standards for SCP policy in Bulgaria.

Stage One: Identification of tools for SCP policy within the AHP survey

The study in this part of the paper is based on the results obtained from the critical analysis of the research in this area and the discussions in the focus group.

For the purposes of the AHP survey, the in-depth interview method was used. A face-to-face interview is conducted by one interviewer with one respondent within 45-60 minutes, in pre-established major subject areas.

These types of interviews are conducted with experts who are very familiar with the problem under study and are able to broaden, enrich, refine, correct or change the perceptions about it. The research problems studied through in-depth interviews are poorly structured, which was used in the *first part of the interview*. One of the main advantages of an in-depth interview is that it is a flexible method whereby the researcher has a great deal of freedom in interviewing the respondent (to discover new angles of conversation, to

deepen a certain question, to ignore another, etc.). For the purpose of the study in the *second part of the interview* it was crucial to obtain expert assessments of 'pair-wise' comparison of the relevant homogeneous criteria (categories), with the potential to create common priorities for arranging the alternatives.

Description of the participants in the AHP survey

Assessing the fact that the quality of the information obtained from the in-depth interview depends on the interviewer's competence, a list of potential participants was discussed. All of them were contacted (by telephone and/or e-mail, etc.) in order to get acquainted in advance with the objectives of the study and with the main questions for discussion.

As a result, a group of 17 people was interviewed. They were selected according to the requirements of the AHP method (Saaty, 2000). Among them are representatives of academia and policy-makers at national level: experts from state and governmental bodies; experts representing business organizations, non-governmental and consulting organizations; consumer organizations (Table 1).

Table 1. Distribution of participants - experts in the AHP survey.

Institution/organization	Participants (number)
<i>State and government bodies</i>	6
Ministry of Environment and Water	2
Ministry of Economy	1
Ministry of Agriculture, Food and Forestry	1
Public Procurement Agency	1
Commission for Consumer Protection	1
<i>Non-governmental organizations (NGOs)</i>	3
TIME Foundation - Ecoprojects	1
Bioselena Foundation for organic agriculture	1

Institution/organization	Participants (number)
Bulgarian Green Building Council	1
<i>Consulting organizations</i>	1
Sofia Energy Center	1
<i>Packaging waste recovery organizations</i>	1
Ecopack Bulgaria	1
<i>Consumer associations in Bulgaria</i>	1
Bulgarian National Association ACTIVE CONSUMER	1
<i>Business organizations</i>	2
Bulgarian Chamber of Commerce and Industry	1
Bulgarian Industrial Association	1
<i>Universities and scientific organizations</i>	3

Questionnaire

A questionnaire consisting of two parts was developed for the successful conduct of the interviews. The first part contains questions related to the respondents' knowledge about SCP policy in Bulgaria: "How is sustainable consumption in Bulgaria determined? "; „What activities do you identify for the implementation of the policy for sustainable consumption in Bulgaria? “. There is a section where the respondents can provide other opinions and additions: "The following table presents the research instruments of the policy for sustainable consumption in Bulgaria. Please add if you think there are other tools of this policy! “.

The second part presents the tables needed for "pair-wise comparison" of the identified tools and related standards.

Interviews were conducted in (October - November 2019) in the capital city of Sofia, by prior arrangement (time, place and other details) with the interviewees. All interviews were audio recorded.

Identified tools and standards for SCP policy from in-depth interviews

The results of the first part of the interviews of the experts present their knowledge of sustainable consumption and production, identified activities for its implementation in Bulgaria, as well as the selection of appropriate tools and standards for such a policy.

Knowledge of sustainable consumption and production

In this part of the interviews, participants show their knowledge of sustainable consumption and production. They were asked a question that required a definition of sustainable consumption in Bulgaria. The interviewed participants show correct and in-depth knowledge.

They note that "the SCP concept in Bulgaria has different dimensions". One is "according to academic sources and official national strategy papers addressing sustainable consumption and production as part of the broader theme of sustainable development." The second is "with regard to individual citizens who, through their consumer behavior,

contribute to the sustainable consumption policy in a different way”.

In this sense, the concept is interpreted in its internationally accepted meaning as “consumption of goods with less resources, also taking into account the economic and social impacts on the environment and the quality of life in general”. A respondent from the academic community considered the sustainable consumption from the view point of the economic science as “internalizing externalities in the price of the commodity, with the marginal private benefit being less than or equal to the marginal social goals.”

One respondent points out that “SCP in Bulgaria is largely determined by the definitions, statutory and strategic documents of the European Union”. It is emphasized that “in addition to the binding approaches laid down in the European legislation, voluntary models for creating sustainable consumption and production have been adopted.” According to experts, this is “responsible consumption and production”, which is measured in three aspects - environmental, economic and social. They consider that “most of the issues and problems of SCP in Bulgaria are considered in the context of environmental protection” and the other two aspects should not be ignored.

The expert emphasizes that the country “lacks information and public understanding on sustainable development and SCP, as well as a single strategic document which defines the parameters of SCP and the direction of development of society and the market towards sustainability”. Other interviewees focus on consumer awareness and protection of their rights.

“Sustainable consumption in Bulgaria has two faces: that of informed ‘green consumers’ and that of ‘thrifty consumers’. ‘Green consumers’ are those who are

informed and aware of what sustainable consumption/development means in all its aspects. This group includes consumers who have the financial capacity and can afford to make regular purchases of organic products for example. ‘Thrifty’ consumers are those who indirectly contribute to sustainable consumption due to lack of money. Such are the examples of savings in home heating, any energy efficiency measures, canning and preserving food (keeping old local customs and practices) ... Unlike the ‘green’ consumers, whose driving force is a better life (well-being), conservation of the planet and sustainable development, what makes the ‘thrifty’ ones such is, above all, the lack of money. “

Excerpts from an interview
with a participant in the study

In this part of the in-depth interview, participants were asked to describe specific activities for implementing this policy in Bulgaria. The description of responses “Activities and measures for the implementation of sustainable consumption policy in Bulgaria” is presented in *Appendix A*

Established tools and standards for sustainable consumption policy in Bulgaria

For the purposes of the AHP study, it is necessary to identify the tools and related standards for SCP policy. The tools discussed during the interview can be classified as: administrative, economic and information. At the same time, they may be voluntary and binding. The identified tools were presented in Table 2. The interviewed experts were offered the opportunity to confirm the data in Table 2 and to add other tools to those already offered.

Articles

Here are some of their comments: “There is a wealth of tools, but lack of process management capacity”; “In subsidies, incentives through European programs as funding should first and foremost be taken into account as an economic tool. The European Union’s operational programs need to be

used, but through transparent mechanisms”; “Small and medium-sized enterprises (SME) are only observers in procurement, they cannot participate in them. In this way, their involvement in green procurement could also be interpreted”.

Table 2. Tools for SCP policy identified from in-depth interviews.

Type of Tools	Administrative tools	Economic tools	Information tools
Binding	Bans	Fees and charges	Energy Labels
	Licenses and permits	Fines	Emission Register
	Recycling and recovery objectives	Tax reductions/breaks	
	Requirements for material and composition of packaging	Subsidies and funding	
Voluntary	Product standards	Green Public Procurement	Eco-labelling incl. Labels for organic foods
	Voluntary agreements between industry and a public authority		Certification Schemes (EMAS, ISO 14001, etc.)

Stage Two: Applying the AHP to Tools and Related Standards for SCP Policy in Bulgaria

Based on the identified tools for SCP in the previous stage, the AHP method was applied to create common priorities for arranging the alternatives. The AHP survey on tools for SCP policy follows steps 1 to 8.

Step 1. Define the objective or goal of AHP study

The goal of the study is to determine the priorities for the implementation of the innovative tools and related standards for sustainable consumption and production policy in Bulgaria.

Step 2. Decompose the objective/goal into lower level criteria or sub-criteria

The identified policy tools have already been described in a previous stage of the study. Decomposing of the goals, identification of the three categories and the corresponding sub-categories of tools for sustainable consumption and production policy in Bulgaria form a hierarchical abstraction of the problem.

Step 3. Construct a hierarchy framework for analysis

A hierarchy framework of analysis presented in Figure 2 is constructed according to the Saaty Guide (Saaty, 2000) and SuperDecisions Software.

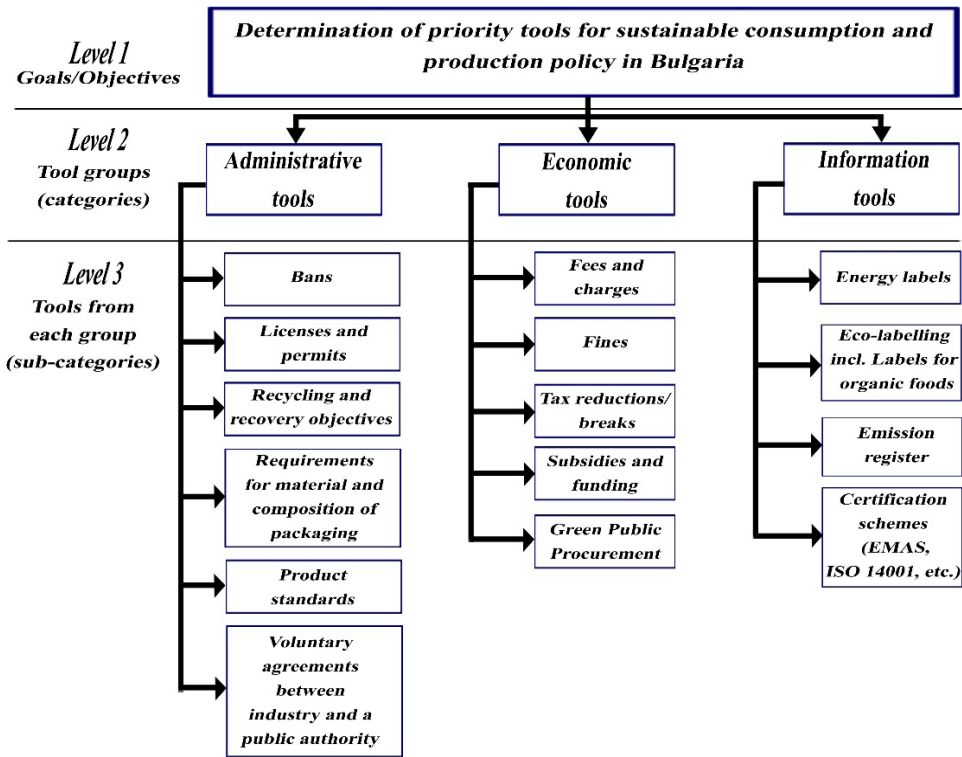


Figure 2. A hierarchy framework for identifying the priority tools for SCP policy in Bulgaria in the AHP study

Step 4. Collection of empirical information and data

Seventeen experts (evaluators) from the academic community and policymakers are selected and interviewed in the study to evaluate the criteria and sub-criteria.

Step 5. Perform pair-wise comparison for each level of criteria or sub-criteria

In-depth interviews with experts were conducted in the AHP study to determine the relative importance of the criteria and sub-criteria at each level.

Table 3. Scale of relative preference for pair-wise comparison.

Equal importance	1
Moderate importance of one over the other	3
Essential or strong importance	5
Very strong or demonstrated importance	7
Extreme or absolute importance	9
Intermediate values between the two adjacent judgements	2; 4; 6; 8

Notes: According to T. Saaty (1988).

As described in the methodology part, “pair-wise comparison” and presentation of the results as a matrix were used. The experts (evaluators) were asked to compare carefully the criteria at each hierarchy level by assigning relative preferences according to a scale of relative preference by ‘pair-wise comparison’ with respect to the goal of the study. Evaluators are required to compare the criteria and sub-criteria of each policy category in pairs using the 9 point Saaty Intensities Scale (Saaty, 1988) presented in Table. 3.

After using the scale, the so-called pair-wise matrix for the three categories of tools is calculated (Table 4). It presents the answers of the experts after the geometric average. The table indicates how important the *i*th instrument is compared with the *j*th criteria.

Table 4. Pair-wise comparison of the three categories tools for SCP policy.

Tools	AT	ET	IT
Administrative tools (AT)	1	0,427	1,330
Economic tools (ET)	2,342	1	2,719
Information tools (IT)	0,752	0,368	1
Total	4,094	1,795	5,049

The next operation is to divide each entry in column *i* of Table 4 by the sum of the entries in column *i*. The generated normalized matrix (Table 5) have lower row where the sum of the entries in each column is ‘1’ (Saaty, 1988).

Table 5. Normalized matrix.

Tools	AT	ET	IT
Administrative tools (AT)	0,244	0,238	0,263
Economic tools (ET)	0,572	0,557	0,539
Information tools (IT)	0,184	0,205	0,198
Total	1,000	1,000	1,000

The next Table 6 is generated by computing the average of the entries in row *i* of Table

5. Finally, priority weights were produced. Priority means the relative importance or strength of influence of a criterion in relation to other criteria that are placed above it in the hierarchy.

Table 6. Priority weights of the three tools for SCP policy.

Tools	Priority weights
Economic tools (ET)	0,556
Administrative tools (AT)	0,249
Information tools (IT)	0,195
Total	1,000

The results show that the highest priority is given to the category “Economic tools”, followed by “Administrative tools” and lastly “Information tools”. Similarly, the sub-criteria are prioritized.

Step 6. Check the consistency in the pair-wise comparison

The AHP methodology provides that if inconsistency is found, the experts’ evaluations are to be revised. Following the original guidelines for calculating consistency parameters (Saaty, 2000), the results for consistency ratios at different hierarchy levels are presented in *Appendix B*.

Step 7. Calculate the global weights of each criteria and sub-criteria

At this step of the AHP study the priority weights are calculated divided by:

- local priority weights – the priority weights with respect to the preceding hierarchy level;
- global priority weights – the priority weight with respect to the highest hierarchy level.

To summarize the sub-criteria arrangement, the AHP method combines priority weights with sub-criteria comparisons. The global weights are represented as

follows: \sum (local weight of the i th criterion \times local weight for j sub-criterion versus i th criterion). Table 7 shows the local and global weights of the three categories of tools as well as the 15 sub-categories of tools in the study.

Table 7. The local and global weights of the three categories tools and the 15 sub-category or sub-criteria tools in the study.

Hierarchy level	Categories of tools/ sub-categories of tools	Local weight	Global weight
		Weights/ Ranking	Weights/ Ranking
<i>Level 2 With respect to categories of tools</i>			
	Administrative tools	0,249/2	0,249/2
	Economic tools	0,556/1	0,556/1
	Information tools	0,195/3	0,195/3
Total		1,000	1,000
<i>Level 3 With respect to sub-category "Administrative tools"</i>			
	Bans	0,235/1	0,059/8
	Licenses and permits	0,193/3	0,048/10
	Recycling and recovery objectives	0,127/5	0,032/13
	Requirements for material and composition of packaging	0,162/4	0,040/11
	Product standards	0,210/2	0,052/9
	Voluntary agreements between industry and a public authority	0,074/6	0,018/15
Total		1,000	0,249
<i>Level 3 With respect to sub-category "Economic tools"</i>			
	Fees and charges	0,182/4	0,101/4
	Fines	0,227/2	0,126/2
	Tax reductions/ breaks	0,223/3	0,124/3
	Subsidies and funding	0,236/1	0,132/1
	Green Public Procurement	0,132/5	0,073/5
Total		1,000	0,556
<i>Level 3 With respect to sub-category "Information tools"</i>			
	Energy labels	0,375/1	0,073/6
	Eco-labelling incl. Labels for organic foods	0,324/2	0,063/7
	Emission register	0,111/4	0,022/14

Hierarchy level	Categories of tools/ sub-categories of tools	Local weight	Global weight
		Weights/ Ranking	Weights/ Ranking
	Certification schemes (EMAS, ISO 14001, etc.)	0,190/3	0,037/12
Total		1,000	0,195 Total 1,000

Here again, the average evaluations of the seventeen experts are consistent. From the calculations made in the previous steps, the three categories of sustainable consumption policies and the corresponding 15 sub-categories of policies in each category can be prioritized.

Step 8. Application of the results to the SCP policy in Bulgaria

Using the AHP method allows the results to be successfully applied, because the resulting structure and hierarchy of the problem can be easily modified by introducing new specific categories. Previous studies by the author's team found that no purposeful policy for sustainable consumption is being implemented in the country (Ivanova et al., 2011; Vasileva et al., 2012). In this sense, the application of the results of the AHP survey is related to the adoption of prioritized tools at different levels and the creation of future national policies in this field.

At level 2 of the hierarchy concerning the three categories of tools (Table 7), the expert evaluators identified the category „Economic tools“ as the most important followed by „Administrative tools“ and „Information tools“ (ET j 0.556, AT j 0.249, and ITj 0.195). As the three categories of tools form the second level of the goal, the local and global weights are the same. For the 15 sub-categories of tools, the results are presented separately to express their local and global priority weights.

Local priority weights of 15 sub-categories of tools in each category

At level 3 of the hierarchy, the study examines the first sub-category “Administrative Tools”. Experts have shown that “Bans” (0.235) is the most important tool in this category, followed by “Product Standards” (0.210), “Licenses and Permits” (0.193), “Requirements for material and composition of packaging” (0.162), “Recycling, and recovery objectives” (0.127) and “Voluntary agreements between industry and a public authority” (0.074).

The “Economic Tools” group has 5 sub-categories of tools in order of importance for sustainable consumption policy: “Subsidies and funding” (0.236), “Fines” (0.227), “Tax reductions/breaks” (0.223), “Fees and charges” (0,182) and “Green Public Procurement” (0,132).

The sub-category “Information tools” has the following layout: “Energy Labels” (0,375), “Eco-labels, organic food labels” (0,324), “Certification schemes (EMAS, ISO 14001, etc.)” (0,190) and the “Emissions Register” (0,111).

Global priority weights of the 15 sub-categories of tools in each category

The calculated global weights show that “Subsidies and funding” (0,132) is the most important tool among the 15 tools included in the AHP survey and ranked first. “Fines” (0.126) and “Tax reductions/ breaks” (0.124) follow next. These are the three most important

Articles

tools and their weights are in the same order. The fourth tool is “Fees and charges” (0.101), followed by “Green Public Procurement” (0.073), “Energy Labels” (0.073), “Eco-labelling incl. Labels for organic foods” (0,063) and “Bans” (0,059).

Next in the ranking are “Product standards” (0,052), “Licenses and Permits” (0,048), “Requirements for material and composition of packaging” (0,040), “Certification schemes (EMAS, ISO 14001, etc.)” (0,037) and “Recycling, and recovery objectives” (0,032). The tools ranked in the last two places, the “Emissions Register” (0.022) and the “Voluntary agreements between industry and a public authority” (0.018), are also significant in policymaking and cannot be ignored.

Discussion

Within the scope of the study, 15 tools for SCP policy were identified using an analysis of a number of up-to-date scientific studies, focus group discussions and in-depth interviews with experts. They were grouped into three main categories. The AHP-study identified the priorities of the three categories and the 15 sub-categories of tools. Based on their relative importance, they could be implemented in the country’s sustainable consumption policy.

Three categories of tools

The highest priority given by the participants in the AHP study to *economic tools* underlines the particularly important role of the “carrot” of “Subsidies and funding” and other financial incentives in encouraging consumers and households to make more sustainable choices for products and services (European Commission, 2012 a; Spangenberg and Lorek, 2019). Economic tools, such as fines, taxes and fees, have been assigned the role of the “stick” by experts, which should

influence sustainable market decisions (Darnall et al., 2019; UNEP, 2015). All this does not contradict other analyses of policy instruments for resource efficiency, which rank economic tools among highly effective tools (GTZ, 2006). These results are in line with the conclusions drawn for other Central and Eastern European countries about the current general lack of funding for sustainable production initiatives, both by business organizations and from public funding (Brizga, 2014).

It could be concluded that, in pursuing a national sustainable consumption policy, the established economic tools should be applied first and foremost. For example, restrictive tools such as “Fines” can be used in addition to incentive economic tools such as “Subsidies and funding” and “Tax reductions/ breaks”. The imposition of binding tools such as “Fees and charges” can be combined with voluntary ones such as “Green Public Procurement”.

The place of the group of *administrative tools* confirms the processes of harmonization with international and European production standards, which are mainly stimulated by external factors based on integration with the EU. This is supported by studies by other authors of countries in transition and the post-Soviet republics about the low degree of harmonization of product and production standards and the lack of integration with the SCP concept at the national level (Brizga, 2014, p. 50). The experts in the present study evaluate the advantages of the administrative tools which are dominant in the European environmental policy. Defining bans, objectives and developing the relevant standards have been done at European level and, as a consequence, environmental policy objectives at national level have been clearly formulated (European Commission, 2012 a; UNEP, 2015). This is in line with the

established high effectiveness of bans, norms and standards tools directed at the business in the study of policy instruments for resource efficiency (GTZ, 2006).

Sustainable consumption policy should also focus on promoting administrative tools. In addition to “Bans”, an important tool in this category is the strict implementation of “Product Standards”. In addition to the “License and Permits” regimes, the application of the “Requirements for material and composition of packaging” and the implementation of “Recycling, and recovery objectives” would also be successful. Albeit of low priority, “Voluntary agreements between industry and a public authority” should not be dismissed.

Information tools are the alternative with the lowest-priority in the AHP survey, which completely coincides with the place they take in other analyses of relatively low-effective SCP policy tool (GTZ, 2006). As a result of the developments in information technology leading to reduced costs for disseminating and retrieving information, these tools are growing in popularity (Darnall et al., 2019; European Commission, 2012 a). Despite their diversity, the study identifies tools for which the government requires some actors to provide certain information (disclosure of information), such as data on emissions of toxic substances from manufacturing facilities (“Emission Register”) or on energy consumption of products during the usage phase (e.g. “Energy Labels”). Here, voluntary information approaches such as certification standards of organizations management systems and labeling standards of products and services and reporting standards and declarations are ranked with a low priority. A key factor in the effectiveness of these tools is the need for adequate basic knowledge and information in the field of sustainable development among consumers, investors,

government officials and other key market players (Tukker, 2015; Tukker et al., 2008; Vasileva and Ivanova, 2012; Vasileva and Ivanova, 2012; Vasileva et al., 2012).

The final step should be to focus on the information tools of this policy. Both the binding requirements for “Energy Labels” and the voluntary approaches for products and services such as “Eco-labelling incl. Labels for organic foods”, “Certification Schemes (EMAS, ISO 14001, etc.)” are ranked highest in importance. The low priority of the “Emission Register” does not preclude the application of this binding information tool.

15 sub-categories of tools for each category

Economic tools are ranked by their global priority weights in the top five, confirming their importance in pursuing a SCP policy. Experts included in the AHP survey ranked among the top three most important tools - “Subsidies and funding” and “Tax reductions/ breaks”, which shows that stimulating approaches of this type would make SCP policy succeed. Equally important for future policy in this area are the tools that express the polluter pays principle – “Fines” and “Fees and charges”, ranked second and fourth respectively in this group. The voluntary “Green Public Procurement” tool could help the policy of supplying environmentally friendly products and services in the public sector.

The study demonstrates the power of economic tools which encourage “Subsidies and funding” and “Tax reductions/breaks” or discourage certain behaviors and practices through economic measures such as “Fines” and “Fees and charges” (UNEP, 2015). Other authors’ concerns relate to the fact that the effects of economic tools on environmental quality and resource consumption are not as predictable as under a regulatory approach.

This requires the availability of appropriate institutions for design, accomplishment and implementation in the Bulgarian context. An example of this are the developed programs for imposing “Green Public Procurement” and the lack of widespread practices among public institutions in the country (Vasileva et al. 2009).

In the overall ranking of *administrative tools*, evaluators give the highest priority to the “Bans” tool. Future sustainable consumption policy could rely on the strict implementation of “Product Standards” and, to a lesser extent, on “Voluntary agreements between industry and a public authority”. The imposition of “Requirements for material and composition of packaging” and the implementation of “Recycling, and recovery objectives” could complement this policy.

Prioritization results confirmed the role of administrative (regulatory) tools in influencing European consumers’ behavior through laws, directives and regulations (European Commission, 2012 a; Spangenberg and Lorek, 2019). Although these “command” tools are not specifically targeted at consumers but at local and national authorities, manufacturers or retailers, etc., they do impose certain “Bans” (e.g. a ban on the production of incandescent bulbs), fulfillment of specific objectives (“Recycling, and recovery objectives”) or requirements (“Requirements for material and composition of packaging”).

Regarding *information tools*, the evaluators ranked highest the binding energy efficiency labeling “Energy label” and the voluntary “Eco-labelling incl. Labels for organic foods”. Obviously, product-oriented tools and standards are expected to have a greater effect in future policy than process-oriented tools such as “Certification Schemes (EMAS, ISO 14001, etc.)”. Despite its binding nature, the “Energy label” tool is not rated as a high priority in the implementation of this policy.

This ranking distinguishes information tools as a modern source of knowledge about the environmental aspects of particular products, services or systems. With the help of a number of international and European standards (EMAS, ISO 14001, etc.), stakeholders, both consumers and business organizations, can make informed choices for sustainable products and services.

Conclusions

This study is focused at an area that has not been studied theoretically and methodologically in the former socialist countries in Central and Eastern Europe - the sustainable consumption and production policy toolkit and related standards. In this regard, the conclusions drawn here represent a solid basis for research in this area.

In order to change patterns of consumption and production towards sustainability, it is necessary to mobilize a wide range of policy tools. The study examines SCP policy tools and the various criteria for their classification.

In the present paper the authors pose a research question “How do standards support sustainable consumption and production?” A variety of mechanisms are revealed on the basis of the analysis of a number of up-to-date scientific studies. Various standards are systematized along certain criteria, taking into account their role as voluntary (“soft”) policies for implementing sustainable consumption and production. Within this typology are presented four major groups of standards: a/ Certification standards of organizations management systems and labelling standards of product and services; b/ Reporting standards and declarations; c/ Voluntary contracts (Codes of Conduct); d/ Standards - SCP Guidelines.

The analysis based on the consistent application of different descriptive, qualitative

and quantitative methods identifies a variety of tools for SCP policy. They cover a wide range of binding and voluntary tools and standards. Within the AHP survey, they were divided into three categories: six administrative tools, five economic tools and four information tools.

Applying the developed algorithm for conducting the AHP survey, the priorities for application of the innovative tools of the sustainable consumption and production policy in Bulgaria have been determined. The conclusions of the analysis of the priorities made at the three hierarchical levels are mainly related to the implementation of the established *economic tools*. The AHP survey revealed opportunities to integrate incentive economic tools (“Subsidies and funding” and “Tax reductions/ breaks”) and restrictive tools (“Fines”). National policies for sustainable consumption and production should also rely on the *administrative tools* ranked with a lower priority in the survey but proven successful in the gradual elimination of unsustainable products and manufacturing practices in the European context. *Information tools* put in the position of a relatively low priority tool of SCP policy should not be ignored either.

The imposition of binding administrative and information tools (“Fees and charges”, “Energy Labels”) can be combined with voluntary ones such as “Green Public Procurement”, “Eco-labelling incl. Labels for organic foods”, “Certification Schemes (EMAS, ISO 14001, etc.)”. Such an integrated approach forms the basis of a future sustainable consumption policy in Bulgaria.

The study identifies the types of standards that support tools for Sustainable Production and Consumption policy in the Bulgarian social and economic context, respectively in the three categories: administrative, economic

and information. The influence of European standardization policy seems to be critical for advancing SCP policy.

The presented study offers a systematic approach to transition from the existing “mosaic” of policy elements to a coherent SCP policy. This study provides knowledge on the implementation of innovative tools and the AHP as a potential decision-making method for use in the future SCP policy in Bulgaria. Future research and real-life practices would confirm the categories and sub-categories of tools for this policy, proposed in this article.

Limitations and recommendations for future studies

Here it is necessary to emphasize the limited scope of applicability of the results and conclusions of this study, based on the evaluations of Bulgarian experts only. Application of the developed algorithm for conducting the AHP survey in Bulgaria reveals some limitations. Contextual factors related to the social and economic development play a significant role in perceiving SCP policy tools and supporting standards in comparative terms. By avoiding the generalization of the results obtained in this study, future uses of the methodology in another context can lead to its validation and enrichment. Appropriate tools for sustainable consumption and production policy could be revealed in future interviews with experts already involved in the implementation of successful national policies in other European countries. The lack of research in the field of behavioral tools in Bulgaria also narrows the scope of the study. However, these results provide a good basis for future research and policy-making in the area of sustainable consumption and production.

Appendix A

Activities and measures for the implementation of sustainable consumption policy in Bulgaria

(First part of in-depth interview)

Public administration experts said that “depending on the binding nature of the tools, different activities can be identified that are appropriate for both larger social groups and individuals.” They argued that “in order for a SCP policy to succeed, activities and measures are needed to facilitate the purposeful building of a well-established model of consumer behavior.” In their view, of crucial importance for promoting this model is the purposeful choice of goods, products and services that protect the environment and conserve resources.

At the same time, they find that “there is no overall view and coordination of the responsible institutions”, “the initiatives are sporadic and without further development”, “the measures introduced need to be improved and expanded, not to go back”, “there is no understanding of the goal and methods for achieving it”, “there is no link between the scientific community, the business and the state for the transition to a green economy”, etc.

Another participant believes that SCP is “not a popular topic in Bulgaria”, but sees as an element of this policy “consumer policy and more specifically the provision of consumer information: to provide clear and non-misleading information about products and services; clear and specific clauses in the terms of service contracts.”

Representatives of the business and sectoral organizations agree that such activities are focused on specific areas such as energy efficiency, utilization of waste from

production, etc. They believe that “it is difficult to conclude that there is a comprehensive approach of companies to sustainable development strategies in Bulgaria”. It is emphasized that “the social and environmental aspects of the management of Bulgarian companies are almost missing”. They list a number of standards for organizations management such as ISO 14 001, EMAS, or corporate social responsibility systems.

An interviewee points out that “demonstrating the results and benefits of successfully implemented models also plays a very important role in the acceptance of these policies by the public.”

Most participants express regret that there are very few examples of “green” procurement in the public authority’s area. They believe that “this is a very good tool for achieving sustainable consumption” and that thus “organizations and companies that have the capacity and the desire [can] include not only the lowest price in the supplier selection criteria but also other sustainability criteria”. Here they list the standards for the eco-design and eco-labeling of products.

Another expressed opinion shows that “tax preferences and financial incentives are a good tool in themselves, but the main driver would be the increased demand and consumption of sustainable products and services in the country.”

Most interviewees identify activities related to statutory requirements for product information, such as “energy labels”. They believe that organic food labels and certification schemes are less well recognized in the Bulgarian market.

A large number of respondents emphasize specific practices related to “buying healthier foods (organic) and a common understanding of the need for a healthier and cleaner

environment". Organic farming and its development in recent years in Bulgaria has also been cited as an example by the respondents: "it is farming that uses natural resources in a sparing way, and the products obtained from the organic production method are useful for humans and are produced with environmentally friendly methods".

According to one of the respondents, "one of the few working tools leading to sustainable development in Bulgaria is separate waste collection. Our country strictly adheres to the European regulatory documents on this activity, and the organizations engaged in this activity take a number of initiatives to promote it." At the same time, other participants question the effectiveness of the separate waste collection system.

Eco-labeling standards for organic food, packaging recycling and more have been identified. The experts list the main principles on which SCP policy in our country should be based:

- *Greater awareness of the benefits* of implementing sustainable models;
- *Commitment* - on the one hand by public authorities, the businesses and the individuals;
- *Consistency* - long-term and informed implementation of SCP policies over time;
- *Activity* - attracting new followers based on personal example of consumer behavior and among a wider range of stakeholders.

Appendix B

Following the original guidelines for calculating consistency parameters (Saaty, 2000), the results for consistency ratios at different hierarchy levels are presented here.

Table B1. Consistency ratio (CR) results for the three categories of tools.

Tools	δ	Eigenvector, λ
Administrative tools (AT)	0,746	3,0015
Economic tools (ET)	1,670	3,0034
Information tools (IT)	0,587	3,0012
		$\lambda_{\max} = 3,0034$

Note: CI = 0,0017, RI = 0,58, CR = 0,00294 for n = 3

Note 1. To obtain the eigenvector, the following sub-steps were performed: a/ compute ' δ ' (i.e. Table 5 multiplied by Table 6); b/ Compute the eigenvector $\lambda = (\text{ith entry in } \delta) / (\text{ith entry in priority weight})$.

Note 2. The consistency ratio (CR) is used to check whether a criterion can be used for decision-making. It is derived from the ratio of the consistency of the results being tested to the consistency of the same problem evaluated with a random number. Thus, CR is calculated according to the following equation: $CR = CI/RI$. Consistency index (CI) is obtained by the following equation: $CI = \lambda_{\max} - n/n - 1$, where 'n' is the number of criteria or sub-criteria of each level and λ_{\max} is the largest eigenvector in Table B1.

In this analysis, a critical value of CR was considered to be 0.10 (Dyer and Forman, 1992). In the AHP survey on the SCP tool categories the obtained CR value is less than 0.10, so the average evaluations of the seventeen experts are consistent.

Table B2. Pair-wise comparison of the six sub-criteria with respect to Administrative tools category.

Administrative tools	Bans	LP	RRO	RsP	PS	VA	Priority weight
Bans	1,000	1,674	2,038	1,247	1,095	2,464	0,235
Licenses and permits (LP)	0,597	1,000	1,641	1,221	1,167	2,591	0,193
Recycling and recovery objectives (RRO)	0,491	0,609	1,000	0,725	0,655	2,071	0,127
Requirements for material and composition of packaging (RsP)	0,802	0,819	1,379	1,000	0,575	2,390	0,162
Product standards (PS)	0,913	0,857	1,528	1,740	1,000	2,801	0,210
Voluntary agreements between industry and a public authority (VA)	0,406	0,386	0,483	0,418	0,357	1,000	0,074

Note: $\lambda_{\max} = 6,0810$, CI = 0,0162, RI = 1,24, CR = 0,01307 for n = 6.

The calculations show that for the "Administrative tools" sub-category, the average evaluations of the seventeen experts are consistent.

Table B3. Pair-wise comparison of the five sub-criteria with respect to Economic tools category.

Economic tools	FCh	Fines	TaxRB	SF	GPP	Priority weight
Fees and charges (FCh)	1,000	1,055	0,765	0,805	1,069	0,182
Fines	0,948	1,000	1,445	1,225	1,586	0,227
Tax reductions/ breaks (TaxRB)	1,307	0,692	1,000	1,063	1,676	0,223
Subsidies and funding (SF)	1,242	0,816	0,941	1,000	2,573	0,236
Green Public Procurement (GPP)	0,936	0,630	0,597	0,389	1,000	0,132

Note: $\lambda_{\max} = 5,1102$, CI = 0,0275, RI = 1,12, CR = 0,02460 for n = 5.

Table B4. Pair-wise comparison of the four sub-criteria with respect to Information tools category.

Information tools	EngL	EcoL	ER	CS	Priority weight
Energy labels (EngL)	1,000	1,518	2,831	1,783	0,374
Eco-labelling (EcoL)	0,659	1,000	3,810	1,679	0,324
Emission register (ER)	0,353	0,262	1,000	0,645	0,113
Certification schemes (CS)	0,561	0,595	1,550	1,000	0,190

Note: $\lambda_{\max} = 4,0720$, CI = 0,0240, RI = 0,90, CR = 0,02666 for n = 4.

The calculations show that for the sub-categories „Economic tools“ and “Information tools“ the average evaluations of the seventeen experts are consistent.

References

- Akerlof, G. The market for lemons: Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics* 1970, 84 (3), 488-500.
- Attaran, S.; Celik, B.G. A Conceptualization for Using Analytical Hierarchy Process in Green Building Market Research. 48th ASC Annual International Conference Proceedings, Birmingham, UK, 11-14 April 2012.
- Berliner, D.; Prakash, A. Signaling environmental stewardship in the shadow of weak governance: the global diffusion of ISO 14001. *Law and Society Review* 2013, 47 (2), 345-373.
- Böcher, M. A theoretical framework for explaining the choice of instruments in environmental policy. *Forest Policy and Economics* 2012, 16, 14-22.
- Boer, J. Sustainability Labelling Schemes: The Logic of Their Claims and Their Functions for Stakeholders. *Business Strategy and the Environment* 2003, 12 (4), 254-264.
- Blackburn, W.R. The sustainability handbook. The complete management guide to achieving social, economic and environmental responsibility; Earthscan: London, UK, 2007.
- Bostrom, M.; Klintman, M. Eco-standards, product labelling and green consumerism; Palgrave Macmillan: London, UK, 2011.
- Brizga J.; Mishchuk Z.; Golubovska-Onisimova, A. Sustainable consumption and production governance in countries in transition. *Journal of Cleaner Production* 2014, 63, 45-53.
- Brundtland Commission (1987). Our common future: report of the World Commission on Environment and Development. UN Documents Gathering Body of Global Agreements, World Commission on Environment and Development.
- Brunsson, N.; Jacobsson, B. The contemporary expansion of standardization. In *A World of Standards*; Brunsson, N., Jacobsson, B., Eds; Oxford University Press: Oxford, UK, 2000; pp. 1-17.
- Busch, L. The Moral Economy of Grade and Standards. *Journal of Rural Studies* 2000, 16, 273-283.
- Darnall, N., Welch, E., Cho, S. 2019. Sustainable supply chains and regulation. Sarkis J (ed.) *Handbook on the Sustainable Supply Chain*. Cheltenham, UK: Edward Elgar. Chapter 30, pp. 513-525.
- Dyer, R.F.; Forman, E.H. Group decision support with the analytic hierarchy process. *Decision Support Systems* 1992, 8, 99-124.
- Elkington, J. *The Zeronauts – Breaking the Sustainability Barrier*; Routledge: New York, USA, 2012.
- EMAS Regulation - The Environment Management and Audit Scheme Regulation. Available online: https://ec.europa.eu/environment/emas/emas_publications/policy_en.htm (accessed on 22 February 2022).
- European Commission. 2012. Green Behaviour, Future brief, Science for Environment Policy, Available online: http://ec.europa.eu/environment/integration/research/newsalert/pdf/FB4_en.pdf (accessed on 27 November 2021).
- European Commission. 2012 a. Policies to encourage sustainable consumption, Technical report 2012, Available online: https://ec.europa.eu/environment/eusssd/pdf/report_22082012.pdf (accessed on 27 November 2021).
- European Commission. Communication from the Commission to the European parliament, the Council, the European economic and social committee and the Committee of the regions The Annual Union Work Programme for European standardisation for 2020. Available online: <https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/annual-union-work-programme->

- european-standardisation-2020 (accessed on 27 November 2021)
- European Council, 2008. Communication on the sustainable consumption and production and sustainable industrial policy Action Plan, COM/2008/0397 final; European Commission: Brussels, Belgium, 2008.
- European Council, 2019. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. The European Green Deal, COM 640 final, European Commission: Brussels, Belgium, 2019.
- European Economic and Social Committee (EESC). Building a sustainable economy by transforming our model of consumption, Brussels, 15 July, 2010, Available online: <https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/building-sustainable-economy-transforming-our-model-consumption> (accessed on 27 November 2021).
- European Economic and Social Committee (EESC). Opinion on Promotion of sustainable production and consumption in the EU, Brussels, 26 April, 2012, Available online: <https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/eesc-opinion-promotion-sustainable-production-and-consumption-eu> (accessed on 27 November 2021).
- European Committee for Standardization CEN <https://www.cen.eu/work/supportLegislation/Pages/default.aspx> (accessed on 27 November 2021)
- Field, B.C.; Field, M.K. Environmental economics, An Introduction, 6th edition; McGraw-Hill Irwin: New York, USA, 2013.
- Fuchs, D.A.; Lorek, S. Sustainable consumption governance: A history of promises and failures. *Journal of Consumer Policy* 2005, 28, 261–288.
- GRI Database. Global Reporting Initiative 2021. Available online: <http://database.globalreporting.org> (accessed on 23 November 2021)
- Groeziinger, R.; Tuncer, B. (2010) What public policy framework is required to encourage sustainable consumption business strategies? Editor Kuhndt, M., Eds. UNEP/Wuppertal Institute Collaborating Centre on Sustainable Consumption and Production (CSCP).
- GTZ - Deutsche Gesellschaft für Internationale Zusammenarbeit. Policy Instruments for Resource Efficiency: Towards Sustainable Consumption and Production, GTZ: Eschborn, Germany, 2006.
- Horne, R.E. Limits to Labels: The Role of Eco-labels in the Assessment of Product Sustainability and Routes to Sustainable Consumption. *International Journal of Consumer Studies* 2009, 33 (2), 175–182.
- Horváth, P.; Pütter, J.M. Sustainability Reporting in Central and Eastern European Companies. In *International Empirical Insights*; Horváth, P., Pütter, J.M., Eds.; Springer: New York, USA, 2017.
- Hotta, Y.; Tasaki, T.; Koide, R. Expansion of Policy Domain of Sustainable Consumption and Production (SCP): Challenges and Opportunities for Policy Design. *Sustainability* 2021, 13, 6763.
- International Organisation for Standardisation (ISO). The ISO Survey of Management System Standard Certification 2020. Available online: <https://www.iso.org/the-iso-survey.html> (accessed on 23 November 2021)
- Ivanova, D.; Vasileva, E.; Stefanov, S.; Tipova, N. The Role of Stakeholders in Establishing Sustainable Consumption in Bulgaria. In *Special issue of Economics Scientific Book of Poznań University (“ZESZYTY NAUKOWE”): Current Trends in Commodity Science, Environmental and Market research*; Foltynowicz, Z., Witczak, J., Eds.; Poznan

- University of Economics Press: Poznan, Poland, 2011; pp.26–33.
- Ivanova, D.; Vasileva, E.; Tipova, N.; Stefanov, S. 2011 a. Sustainable consumption in Bulgaria – Implementation Policy and Tools. *Forum Ware Int.* 2011, 1, 70–75.
- Jackson, T. *Prosperity without Growth: Economics for a Finite Planet*; Taylor & Francis Ltd: London, UK, 2011.
- Jackson, T. *Motivating Sustainable Consumption. A review of evidence on consumer behaviour and behavioural change. A report to the Sustainable Development Research Network; Centre for Environmental Strategy: University of Surrey, UK, 2005.*
- Liamputtong, P., *Focus Group Methodology: Principle and Practice*; SAGE Publications Ltd: London, UK, 2011.
- Lorek S.; Vergragt, P.J. Sustainable consumption as a systemic challenge: inter- and transdisciplinary research and research questions. Reisch, L., Thøgersen, J., Eds.; *Handbook of Research on Sustainable Consumption*; Edward Elgar Publishing: Cheltenham, UK, 2015; pp. 19-32.
- Marrakesh Process Secretariat (United Nations Environment Program and United Nations Department of Economic and Social Affairs). *Paving the Way to Sustainable Consumption and Production – Background paper for the Commission on Sustainable Development*; UN-DESA: New York, USA, 2010.
- Noblet, C.L.; Teisl, M.F. Eco-labelling as sustainable consumption policy. In *Handbook of Research on Sustainable Consumption*; Reisch, L., Thøgersen, J., Eds.; Edward Elgar Publishing: Cheltenham, UK, 2015; pp. 300-312.
- OECD - Organisation for Economic Cooperation and Development. *Instrument Mixes for Environmental Policy*; OECD Publishing: Paris, France, 2007.
- OECD - Organisation for Economic Cooperation and Development. *Environment Directorate Programme on Sustainable Consumption Experts. Workshop on Information and Consumer Decision-Making for Sustainable Consumption*; OECD Headquarters: Paris, France, 2001.
- Pape, J.; Rau, H.; Fahy, F.; Davies A. *Developing Policies and Instruments for Sustainable Household Consumption: Irish Experiences and Futures. Journal of Consumer Policy* 2011, 34, 25–42.
- Rasche, A. Global policies and local practice: loose and tight couplings in multi- stakeholder initiatives. *Business Ethics Quarterly* 2012, 22 (4), 679–708.
- Rasche, A. Voluntary standards as enablers and impediments to sustainable consumption. In *Handbook of Research on Sustainable Consumption*; Reisch, L., Thøgersen, J., Eds.; Edward Elgar Publishing: Cheltenham, UK, 2015; pp. 343-358.
- Rubik, F.; Frankl, P. *The Future of Eco-labelling. Making Environmental Product Information Systems Effective*; Greenleaf Publishing Ltd: Sheffield, UK, 2005.
- Saaty, T.L. Decision making with the analytic hierarchy process. *International Journal of Services Sciences* 2008, 1, 83–98.
- Saaty, T.L. *Fundamental of decision making and priority theory with the analytic hierarchy process*; RWS Publication: Pittsburgh, Canada, 2000.
- Saaty, T.L. *The analytic hierarchy process*; Pergamon Press: New York, USA, 1988.
- Spangenberg, J. H., Lorek, S. 2019. Sufficiency and consumer behaviour: from theory to policy. *Energy Policy* 129: 1070-1079.
- Shim, Y.H.; Kim, K.Y.; Cho, J.Y.; Park, J.K.; Lee, B.G. *Strategic Priority of Green ICT Policy in Korea: Applying Analytic Hierarchy Process*. *World Academy of Science, Engineering and Technology* 2009, 58, 16-20.

Articles

- Simeonov, S.; Stefanova, M. Corporate Social Responsibility in Bulgaria: The Current State of the Field. In *Corporate Social Responsibility in Europe. CSR, Sustainability, Ethics & Governance*, Idowu, S., Schmidpeter, R., Fifka M., Eds; Springer: New York, USA, 2015.
- Stewart, D.W., Shamdasani, P.N. *Focus Groups: Theory and Practice*, 3rd; SAGE Publications, Inc: California, CA, USA, 2015
- Tamm Hallström, K. ISO expands its business into social responsibility. In *Organizing Transnational Accountability*; Boström, M., Garsten, C., Eds; Edward Elgar: MA, USA, 2008.
- Tukker, A. Priorities for sustainable consumption policies. In *Handbook of Research on Sustainable Consumption*; Reisch, L., Thøgersen, J. Eds.; Edward Elgar Publishing Limited: Cheltenham, UK, 2015 pp. 145–160.
- Tukker, A.; Charter, M.; Vezzoli, C.; Sto, E.; Munch Andersen, M. System innovation for sustainability 1. Perspectives on radical changes to sustainable consumption and production; Greenleaf Publishing: Sheffield, UK, 2008.
- UN Global Compact. *Guide for General Counsel on Corporate Sustainability*. Version 2.0, United Nations Global Compact and Linklaters LLP. Available online: <https://www.unglobalcompact.org/library/5722> (accessed on 23 November 2021)
- UN Global Compact. *IMPACT: Transforming Business, Changing the World The United Nations Global Compact*; DNV – GL: Oslo, Norway, 2015.
- UNEP - United Nations Environment Programme. 2008 Planning for Change. *Guidelines for National Programmes on Sustainable Consumption and Production*. Available online: https://wedocs.unep.org/bitstream/handle/20.500.11822/7627/Planning%20for%20Change_%20Guidelines%20for%20National%20Programmes%20on%20Sustainable%20Consumption%20and%20Production-2008800.pdf?sequence=3&isAllowed=y (accessed on 27 November 2021).
- UNEP - United Nations Environment Program. *Sustainable Consumption and Production. Global edition. A Handbook for Policymakers*; Briggs E. Ed.; UNEP: Paris, France, 2015.
- United Nations Global Goals 2030. *UN Chronicle: Goal 12— Ensuring Sustainable Consumption and Production Patterns: An Essential Requirement for Sustainable Development*. Available online: <https://unchronicle.un.org/article/goal-12-ensuring-sustainable-consumption-and-production-patterns-essential-requirement> (accessed on 27 November 2021).
- UN GA - United Nations General Assembly. *Transforming our world: The 2030 agenda for sustainable development. Resolution adopted by the General Assembly on 25 September 2015*; United Nations: New York, USA, 2015.
- Vasileva, E.; Ivanova, D. Consumer Behaviour and Food Consumption Patterns in South East Europe. *Handbook of Doing Business in South East Europe. Part II Perspectives on Economic Developments in South East Europe*; Sternad, D., Döring, T., Eds; Palgrave Macmillan: London, UK, 2012; pp. 271–293.
- Vasileva, E.; Ivanova, D. Towards a sustainable consumer model: the case study of Bulgarian recyclers. *International Journal of Consumer Studies* 2014, 38, 475–484.
- Vasileva, E.; Ivanova, D.; Tipova, N.; Stefanov, S. Sustainable Consumption in Bulgaria; Publishing Complex – UNWE: Sofia, Bulgaria, 2012.
- Vasileva E.; Ivanova, D.; Tipova, N.; Stefanov, S. The Role of “Green” Public Procurement in Establishing Sustainable Production and Consumption in Bulgaria. *Forum Ware Int.* 2009, 37(1/2), 33– 39.

Vedung, E. Public Policy and Program Evaluation; Transaction Publishers: New Brunswick, NJ, USA; 1997.

Waddock, S. Building a new institutional infrastructure for corporate responsibility. *Academy of Management Perspectives* 2008, 22 (3), 87–108.

Wiegmann P.M.; de Vries, H. J.; Blind, K. Multi-mode standardisation: A critical review and a research agenda. *Research Policy* 2017, 46(8), 1370-1386.

Wolff, F.; Schönherr, N. The Impact Evaluation of Sustainable Consumption Policy Instruments. *Journal of Consumer Policy* 2011, 34, 43-66.

WSSD, United Nations Division for Sustainable Development. 2002 World Summit for Sustainable Development Johannesburg Plan of Implementation. Available online: http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf (accessed on 27 November 2021).