INCENTIVES FOR SUSTAINABLE CONSUMPTION AND PRODUCTION: ECONOMIC AND LEGAL INSTRUMENTS

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Sustainable consumption and production are essential for sustainable development. In this article, legal and economic requirements for the development of sustainable consumption and production are analysed. First, the concept of sustainable consumption is briefly discussed. Then sustainable consumption problems are discussed within the context of ecological economics. After this more basic part, regulation requirements and economical instruments for the development of sustainable consumption and production are elaborated.

Darnus vartojimas ir gamyba yra esminiai darnaus vystymosi įgyvendinimui. Šiame straipsnyje yra nagrinėjami teisiniai reikalavimai ir ekonominiai instrumentai darnaus vartojimo ir gamybos plėtrai. Pirmiausia trumpai aptarta darnaus vartojimo koncepcija. Toliau išnagrinėtas darnus vartojimo indikatorių parinkimo problemos ekologinės ekonomikos teorijos kontekste. Po šios bendresnės dalies, aptarti reguliavimo reikalavimai ir ekonomikos instrumentai, naudotini darnaus vartojimo ir gamybos vystymui.

Introduction

The Problem. One of the greatest, and most difficult, challenges of our time is creating the conditions for welfare in all countries without undermining world climate, ecosystems and human health. Without sustainable production and consumption patterns, the world cannot achieve sustainable economic development (Bank, 1995; GRIP, 2004). Already in the Brundtland Commision report (Our common future, 1987) it was stressed that development should be far less material-intensive and more economically and environmentally efficient. The importance of changing consumption and production patterns was first identified as a central theme in sustainable development in Chapter 4 of Agenda 21 from Rio. Agenda 21 states that "the major cause of the continued deterioration of the global environment is the unsustainable pattern of consumption and production, particularly in industrialized countries, which is a matter of grave concern, aggravating poverty and imbalances" (Chap. 4.3). The culture of consumerism promotes an imbalance between wants and needs. As T. Berntsen mentioned (1994), we have made consumption our way of life and too often re-

place quality with quantity. Principle 8 of the Rio Declaration defines that "to achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption". Agenda 21 further notes that "developed countries should take the lead in achieving sustainable consumption" (Chap. 4.8).

We live in a complex society today, and the problems and challenges to sustainable development are deeply rooted in societal structures and institutions. The environment and development crises are part of the same phenomenon arising from global and national social, economic and cultural structures. The tremendous inequalities of economic power and wealth in and among the countries are socially unsustainable and morally indefensible. An economic system rooted in continuous growth necessarily requires that those with purchasing power move into superfluous and luxury consumption. The lifestyles of the rich one-fifth of the world population are an enormous stress on the environment and on social structures and absorb close to 80 per cent of the world's resources. The other four-fifths of the world's population struggle to satisfy basic needs for food, shelter and health, and in fact become poorer as resources deplete (Čiegis, 2002). However, G. H. Brundtland (1994) said, we cannot continue to perpetuate the present production and consumption patterns. A growing gap between rich and poor must be reduced. Equity is the central principle to operationalise and to attain sustainability. The present generation, especially the wealthiest people and countries, have an ethical responsibility to ensure a fair share of "environmental space" and resources for the poor and for later generations, recognizing that our planet has a limited capacity to absorb the by-products of industry and that "with greater freedom for the market comes greater responsibility". If we want to maintain our security of supply, we need to be able to effectively manage our one and only common environmental space. And sharing the environmental space in a fair way means establishing new partnerships, both between countries of the North and of the South and among the various sectors of our society (Sachs et al., 1998; Čiegis, 2002a; Čiegis, Jankauskas, 2001).

So, elimination of unsustainable production and consumption is considered as one of the most important objectives of sustainable development (Brakel, Zagema, 1996). At the World Summit on Sustainable Development in Johannesburg 2002, all countries committed themselves to promoting sustainable patterns of consumption and production, with developed countries taking the lead (WSSD, 2002). However, sustainable consumption and production must be seen in a global perspective, as business is increasingly international, and because consumption in developing countries is increasing fast. In March 2003 the European Council has identified sustainable consumption and production and the development of the 10-year framework as one of the key priorities for the EU in the follow-up to the WSSD.

The Research Objects. The main attention in the article is given to the analysis of sustainable consumption and production.

The Objectives. The content of legal and economic regulation of sustainable consumption and production is critically investigated.

The Tasks. In order to fulfill these objectives, the following research tasks had to be accomplished:

- to analyse the essence of the sustainable consumption concept

- to analyse the problems of sustainable consumption indicators
- to analyse the possibilities for legal regulation of sustainable consumption and production
- to analyse the potential of the market instruments for creating sustainable consumption and production.

The Methods of the research. Logic abstraction, which encompasses generalisations on theoretical systems, analysis of the problems of sustainable consumption and production according to the conclusions and reasoning of scientists from other countries was used. The main scientific works related to the problem have been reviewed and thoroughly analysed.

The essence of the sustainable consumption concept

Consumption involves the use of goods and services to meet current wants. But we must take into account that:

1. Consumption is not good or bad in itself, but must be analyzed to identify the sustainable and unsustainable features. The current material flows induce pollution, resource depletion and biodiversity and landscape destruction. The present levels of those damages appear unsustainable by any standard. The challenge is to make significant reductions in the intensity of damage from the entire life cycle of goods and services. In sustainable consumption the dimension of the environment is attached to the circular flow of economy. This means that a differentiation of resources into renewable and non-renewable is necessary, and some goods can obviously be consumed in abundance whereas we must steadily reduce the consumption of goods that are scarce.
2. Sustainable consumption cannot be understood or dealt with in isolation. It is part of a continuum that links the entire sequence of events from design and raw materials extraction, pre-processing, manufacture, life cycle of the product, factors influencing their purchase, their use and ultimately their disposal. Some problems connected with the consumption of a product can be more easily solved at the production stage, while other problems can be solved by reducing the volume and pattern of consumption. We therefore need a product-oriented approach. Sustainable consumption requires products that are environmentally sound or at least less environmentally damaging.

Consumption and production causes diverse environmental load from all phases of the product lifecycle. Sustainable consumption and production therefore involves actors that can make the whole life cycle more sustainable (GRIP, 2004).

- Business when designing, producing and marketing products.
- Consumers when choosing, buying, using and disposing products.
- Government when defining the framework conditions for business and consumer decisions.

It is obvious that behind the simple phrase "sustainable consumption" lies a complex picture. It has moral and social dimensions, as well as economic and technical ones. The Symposium "Sustainable Consumption", which was held on 19–20 January 1994 in Oslo, Norway, proposed a possible working *definition* of sustainable consumption, which is derived from

the generally accepted notion of sustainable development as formulated by the World Commission on Environment and Development: "Sustainable consumption means the provision of services and related products, which respond to basic needs and bring a better quality of life, while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations". So, sustainable consumption implies that the consumption of current generations as well as future generations improves in quality. E. Salim (1994) noted that such a concept of consumption requires the optimization of the consumption subject to maintaining services and the quality of resources and the environment over time. An emphasis is given here to the concept of needs rather than wants. But, as mentioned in Agenda 21, "Changing consumption patterns will require a multi-pronged strategy, focusing on demand, meeting the basic needs of the poor, and reducing wastage and the use of finite resources in the production process" (Chap. 4.5). The consumer must be given rational, attractive and realistic alternatives to change what may be long-established patterns of behaviour.

The problems of measuring sustainable consumption

As is noted in the UN report at the Johannesburg Summit, absence of concrete, measurable objectives and timetables for their implementation, appropriate quantitative indicators to follow the progress could be considered as important obstacles to achieve an essential progress towards more sustainable production and consumption. However, E. U. von Weizsacker (1994) raised a scientifically interesting question: is there any chance to define quantitatively the objectives of sustainable development as regards human consumption? This is certainly not an easy question, because any quantitative measurement is bound to be limited in scope, geographically, scientifically and politically (Opschoor, Reijnders, 1991; Čiegis, Čiegis, 2003). And in the absence of reliable quantitative measures, scientifically, we should work with crude approximations indicating at least the order of magnitude for the objectives. Politically, we should concentrate on "no regrets" strategies.

The Dutch study "Sustainable Netherlands" tries to define the "*environmental space*", a sustainable consumption level, by estimating the availability of environmental resources like fertile soil, drinkable water and energy on a global level by the year 2010 (Musters et al., 1994; FOE, 1995). Dividing by the expected population and assuming advanced, but already existing technologies, we get a result of per capita resource availability, which gives a first estimate of the necessary changes in the use of natural resources. Such calculations were made for Europe (McLaren, 1996).

The Canadian approach to calculating an "*ecological footprint*" by expressing every kind of use of natural resources in terms of land use follows a quite different methodology (Wackernagel, Rees, 1996). Nevertheless, both the Dutch and the Canadian attempts arrive at postulates of reducing resource consumption by one order of magnitude.

Looking deeper into ecological effects we seem to see that hardly any human-induced movement of materials occurs without damage. So, as a first approximation of the measure of harmful ecological effects, in his pioneering works F. Schmidt-Bleek (1994) con-

siders *the material intensity per service unit* (*MIPS*). Calculations show that for sustainable consumption material intensity ought to be reduced by a *Factor 10* unless we accept significant cuts in the services we are enjoying (Hinterberger, Schmidt-Bleek, 1999).

As mentioned by O. Johansson (1994), a new way of presenting the environmental problems is the concept of *environmental debt*, which is closely linked to the use of economic incentives, and thereby connects economy and ecology. Pollution and interference with the environment lead to the reduced future possibilities for a high sustainable production and economic standard of living. In this respect the environmental debt, defined as the costs required to restore environmental damage that is restorable, as well as the size of the means required for recurring restoration measures, is similar to the financial debt that will require interest payments and some sort of payoff in the future. Of course, there are limitations in this concept, and the most obvious limitation with regard to environmental debt is non-restorable items like extinct species. In fact, all countries have an environmental debt on top of their national debt. In order to establish sustainability there is a need to identify the measures that have to be taken to stop the environmental debt from rising and then to restore it and to pay back. If not, we transfer the burden to future generations, which is contrary to sustainability.

However, we still need to develop new indicators to better measure and compare the functional alternatives to existing products so that material usage and pollution (including waste) are evaluated per unit of service rather than unit of production (Čiegis, 2004). The tools to effectively measure the indicators such as full cost accounting, product life cycle analysis have also to be further developed. The process of developing international sustainable elaborating indicators was initiated by the United Nations Commission for Sustainable Development in 1996 (United Nations, 1996). The EU is currently developing a *comprehensive set of indicators* in order to provide *the EU Sustainable Development Strategy* with regular structured information about progress in sustainable development objectives. The task force has created a policy-based indicator framework, which consists of ten main themes (six from the EU Sustainable Development Strategy, one from the Commission Communication on global partnership, two from Johannesburg Plan of Implementation), which includes sustainable consumption and production. There are some proposals of indicators for environmentally sustainable *household and communities consumption* too (Valentin, Spangenberg, 2000; Lorek, Spangenberg, 2002).

Legal framework for sustainable consumption and production

Improving sustainability in both production and consumption should be a major goal of national policies. However, as mentioned by B. L. Long (1994), the "management" of the future consumption involves acceptance of *responsibility* for change by all parties of society. This responsibility of government, industry, trade as well as the individual citizens must be based on a broad consensus and shared vision of goals and objectives. So, there is a need for a new vision of sustainable consumption, in a multidimensional system that links people, industries, and countries. The many technical, economic, and social obstacles to sustainable consumption can be overcome, if there is a long-term global commitment to it. However, in

decision-making environmental awareness provides good conditions for social partnership and mutual responsibility development. The ethical dimension of sustainable consumption must be discussed, because campaigns for achieving sustainable consumption will only succeed if they reach and motivate each household and each individual to adopt sustainable practices. On the other side, new strategic alliances are needed among all parties of society for a process of managed change from unsustainable to sustainable consumption. In order to achieve a sustainable consumer behaviour, we need a more joint approach, for example by manufactures, governments and a wide variety of organizations. Really, it is essential that all actors and levels of society, including individual consumers, businesses, administrative organizations and other stakeholders, all integrate the principles of sustainable development into all spheres of activity. Sustainable consumption offers a considerable potential for exploring further societal consensus building and other public participation approaches.

The task of moving production and consumption towards more sustainable patterns at the same time presents a considerable challenge, but also a significant area of economic development opportunities for *governments*. There are several ways governments could respond to this challenge. One of them is to focus primarily on "greening" market forces and to attempt to understand them better (as recommended in Agenda 21). As mentioned by P. M. Johnson (1994), such an approach would rely on technological progress as a means to achieve more environmentally friendly patterns of production and consumption. It would promote new management styles, new technologies, products and services, which would in turn generate environmentally friendly forms of employment. On the other hand, government controls powerful instruments, such as taxes, direct subsidies (grants, soft loans, interest subsidies), loan guarantees, trade protection and export incentive programs, which can be used to set into motion considerable societal changes sometimes capable of achieving greater and longer lasting results. The role of governments in the dialogue between various partners (business and industry, consumer organizations, environmental groups, labor unions, political and religions leaders, and the media) is crucial too.

A very important role belongs to the governmental *green procurement* policies for goods and services (Čiegis, 2003). This can be a very powerful force for change, and the EU has adopted two interpretative communications on the possibilities of integrating environmental and social considerations into public procurement and developed the *"Green Public Procurement"* website. Achieving sustainable development in practice requires that economic growth supports social progress and respects the environment, that social policy underpins economic performance, and the environmental policy is cost-effective. In relation to public procurement, this means that the legislative framework should facilitate the consideration of environmental concerns alongside their primary economic purpose. For greener procurement through partnership, municipalities can take the example of the *"Buy It Green" Network* (BIG-Net), a forum for promoting green purchasing run by the International Council for Local Environmental Initiatives (ICLEI).

Many countries already have practices and infrastructure that lead to consumption with low environmental impacts. The environmental impacts of industry and agriculture can be

significantly reduced through the use of new and more advanced techniques and technologies. Adapting best available techniques (BAT) can help to improve the management of material flows, increase energyefficiency and cut emissions. It is a basic requirement that relevant data and *information* can be passed on to the different parties. The development of an effective information system is a basic precondition for the success of any reform. (*The European Pollutant Emission Register* was launched in February 2004. Objectives of the register are the collection of comparable emission data from around 20,000 individual polluting industrial sources and activities; storage of the reported data in a register and dissemination of the data to the public via reports and Internet). Neverthless, special programs, such as EU *The Environmental Technology Action Plan* adopted in January 2004, and international responsibility of the Western countries, based on capacity building in the developing countries and promoting technological co-operation are still needed for the exchange of information and international cooperation on good practices and policies for achieving sustainable consumption and production, focusing on cleaner technologies, cleaner products, and general cleaner production experiences, to bridge the current information gap. As mentioned by H. Rensvik (1994), sharing the economic risk of introducing cleaner methods of production and the subsequent transfer of information should continue until the potential has been realized.

The practical steps toward sustainable consumption are as follows: to change unsustainable consumption and production; to improve public awareness; to change the social, cultural and psychological traditions and values driving unsustainable consumption (ultimately sustainable consumption is not a scientific or a technical question; it really is first and foremost a question of values); to implement new strategies for sustainable transportation and cities; to accelerate the use of more efficient and cleaner technologies throughout the chain of production and by manufacturing goods with a longer life so that increasing needs are covered by a less or the same use of resources (so, sustainable consumption necessarily incorporates the concept of "*cleaner production*", which has been developed by UNEP in cooperation with a network of other agencies and governments); to promote products and services supporting sustainable production and consumption.

The actual conditions in the market are also changing, and the market is gradually demanding new forms of production and new products or services. Business leaders in this new economical environment must develop and apply new products and technology based on the whole life cycle chain. Ecological knowledge, biological materials and ecological cycles together with a wise and careful use of technology are necessary components for a sustainable society. More and more business leaders, of both large and small companies, are committed to running their firms in a way that will turn sustainable development from a costly dream into reality (Schmidheiny, 1992). The concept of "*eco-efficiency*", elaborated by the Business Council for Sustainable Development (BCSD, 1993), seems to be a very valid approach to the sustainable development end of the equation. Improving eco-efficiency – by creating more value with less environmental impact – has been recognized as one of the main ways business can contribute to sustainable development. Therefore, industry can play an enabling role in developing sustainability.

R. F. Chase (1994) mentioned threes moments why industrial leaders are moving in this direction:

1. Industry is not separated from society. Firms have shareholders and employees who care every bit as much about the environment as anyone else. And so do firm's customers.
2. Industrial organizations care about economics. They have to because they have to manage costs, including the cost of change, which are often high. The leaders are those who make the best use of their resources, which is the way to a more sustainable future.
3. Industry survives by developing and applying technology to solve new problems. This expertise will benefit others.

So, sustainable development is a precondition for a long-term existence of everyone, including the business community, and sustainable consumption and production measures applied within a company often lead to positive effects like innovation, reduced costs and new marketing opportunities.

There are calls for business to play a proactive role in creation of welfare for local communities and environmental protection of municipalities and regions. Most companies respond rationally by seeking dialogue, not conflict (Jeurissen, 1995). A growing number of countries require prior consultation with indigenous communities based on ILO (International Labor Organization) Convention (1969). The international community is reinforcing this role of corporate responsibility through the development of codes of conduct to guide business as global corporate citizens. UN Global Compact (2000) initiative calls for action by business to promote human rights, the avoidance of complicity, labor rights and environmental protection.

However, it is clear that the achievement of sustainable consumption and production needs a mixture of different *policies* and *tools*. We must provide *incentives* for sustainable consumption using two different approaches:

a) regulating the damage to the environment by *legislation*
b) internalizing environmental damage and costs in prices (to use *economic instruments*).

Environmental *legislative* and *regulatory* systems can influence and orientate consumption. Regulations that have already proven to be successful to promote sustainable production and consumption have to be more widely used and effectively enforced. Such regulations should set clear environmental performance targets, but should be flexible regarding the means that meet those requirements.

Additionally, self-perpetuating measures such as ethical codes, the use of a practice where the enterprises require their suppliers and sub-contractors to satisfy a certain standard of resource productivity, green auditing, environmental reporting, life cycle impact assessment (LCA), ISO 14000, EMAS, SA 8000, "green business systems", as results-oriented instruments in industry, and transparent and differentiated *eco-labelling* are important supplements to environmental legislation and economic instruments (Winter, 1989; INEM, 1992; Čiegis, Čiegis, 2001).

The profile and environmental costs are major driving forces for business taking into use tools that enable them to have a full overview over their environmental performance. The main policy tools aiming to implement sustainable production patterns are *quality*, *environmental* and *social management systems*. These systems help to implement three dimensions of sustainability in the production of

goods. These systems guarantee a well structured organizational and management system, planning, reporting, corporate social responsibility and proficiency. (The financial community, especially pension funds and insurance companies, is increasingly interested in the environmental and ethical perspectives in their investments and expects relevant information in company reporting (Schmidheiny, Zorraqui, 1996)). Implementation of these management systems in production promotes organizations to use efficiently environmental, human and economic resources, guarantees preventive activities and continuing progress in waste disposal, improvement of working conditions and microclimate. The main standardized management systems are the following: the environmental management system ISO 14001, the social management system SA 8000 (a new subject in Lithuania up to now) and the quality management system ISO 9001.

The main policy tools for implementing the sustainable consumption aims are *environmental, social* and *ethical labeling* of tradable goods. Sustainable consumption will only succeed with the willing participation of consumers. (Principle 10 of the Rio Declaration states: "Environmental issues are best handled with the participation of all concerned citizens, at the relevant level"). The consumer's right to information means the right to make an informed choice of products and services. Consumers need simple information, which helps to identify the tradable goods according to the main sustainability dimensions: economic, environmental and social. Better-informed citizens can make informed choices to bring about concrete changes in their attitudes and behaviour with a beneficial impact on environmental protection. The labeling of goods with environmental, ethical and social trade marks allows to evaluate and compare the environmental impact and other social and ethical aspects of these goods and to select goods that satisfy their demand for goods produced by sustainable production patterns. Consumers choosing a product bearing the eco-label logo are assured that it has a better environmental performance than similar products on the market. Several labeling provisions, notably for food products, have been adopted at the EU level to provide consumers with appropriate information to help them to choose products adapted to their needs and expectations.

The idea of trade mark is very simple and successful. The most popular *ethical* labels are fair trade marks: *TransFair*, which is used for coffee, tea, honey, chocolate and juice labeling and indicates the minimal environmental and social requirements for the production of these goods; *Rugmark*, indicating that products are produced with exploitation of child's work; *FLP*, a trade mark for flowers, indicates that flowers were planted and grown in environmentally and social friendly conditions without violating the main labor rights, guaranteeing employment and minimal wages.

The most popular and well-known *environmental* labels are as follows: organic product labels, the German *Blue Angel* trade mark, which was created in 1978; schemes of different sorts in Canada, Japan; the Nordic countries' eco-label *North Swan*, which was created in 1989 for products that satisfy environmental criteria (now developed for 62 product categories from paper to hotels and from washing powder to heat pumps), defined by the Nordic countries, and the Europe-wide voluntary scheme *Flower*, which was introduced ten years ago by the EU to encourage the production of products of high environmental quality and to give consumers in Europe a clear guid-

ance on greener products. The *Flower* is awarded by an independent third party only to products that meet a set of strict environmental and performance criteria taking into account the full life cycle of the product. These criteria are set with a full stakeholder's participation and cover over 20 different product groups, such as textile, paints, paper products, detergents, household appliances, one service group, tourist accommodation. In Lithuania also the environmental label *Lily* was created in 1996, but no one product has got it yet. On the other hand, various forms of environmental labeling, the main idea of which is to indicate that the product is produced with the least environmental impact are useful, but if we get a swarm of different labels (there are about 35 environmental labeling programs known in the world, grouped according to national, regional and international scales) they will lose their value. We often see *organic labels* saying "natural" or "natural ingredients only", "healthy", "following old traditions", the use of which has not been legalized. Besides, the use of such labels misleads the consumer regarding identification of the origin of a product. Only the term "organic" has been legalized in the EU Regulations (EEC) 2092/91 and Lithuanian legislation. By using the official organic agricultural and food products certification label (in Lithuania – the *Ekoagros* organic certification label) the producer guarantees that his product is truly organic, leaving no room for doubt to the customer. And now the task of the *Global Ecolabelling Network, GEN*, a non-profit organization comprised of members from eco-labelling organizations from all over the world, to foster co-operation, information exchange and harmonization.

To promote a higher resource productivity, an important instrument is to establish a more distinct *strategic management*. The market forces will not have the desired effect if the concrete frameworks for our goals are not recognized in the companies. However, the objective is not to distort the marketplace, but to make it more efficient and effective in advancing sustainable consumption and long-term economic growth through industrial restructuring and technological innovation.

Economic incentives for sustainable consumption and production

The main trend in modern social and environmental policies aiming the society's sustainable development is switching from *administrative* instruments to *economic* tools. *Regulatory* approaches need to be supplemented by a wider use of *economic instruments* to encourage *less materials consumption* (reductions in the ratio of resource use to product output) and a *more sustainable consumption pattern* (switch to less resource intensive products). The UNCED concluded very clearly that the world cannot sustain global development at the level of the consumption patterns of the industrialized countries. But we are wrong stating that what is needed is a *simple reduction* in consumption! Only if our interest is in reducing *resource consumption*, as it should be, then *changing consumption patterns* from resource intensive products to less resource intensive products will help achieve the desired effect. And if we are to achieve sustainable consumption patterns, individuals must also be prepared to pay the environmental costs of their consumption. On the other side, as mentioned by D. Pearce (1994), making consumption sustainable involves not just the *decoupling* of consumption and resource consumption, but the *re-investment of rents* from the exploitation of natural

resources to building up new stocks of natural capital and, just as important, human capital in the form of education and training.

It is important that EU have *the Thematic Strategy on the Sustainable Use of Natural Resources*, the overarching goal of which is to decouple environmental impacts associated with the use of natural resources from economic growth, in support of an overall sustainable development. To achieve this, the strategy will provide a framework and measures that allow resources to be used in a sustainable way without harming the environment. It is based on three core tasks: to gather and keep update information, to assess the policies that directly or indirectly affect resources, and to identify appropriate measures, which will be primarily integrated into other EU policies, such as *EU Consumer Policy Strategy 2000–2006*, providing essential health and safety requirements and safeguarding the economic interests to ensure a high level of protection and meet the expectations of citizens throughout the EU, and *Integrated Product Policy*, focusing on products and how they contribute to environmental degradation at the various stages of their life cycles. IPP is not attempting to reduce consumption; rather, it is seeking to reduce the environmental impact of increased consumption.

There is a specific need to better understand how fiscal systems can orient consumption patterns towards sustainability. The focus of economic and fiscal policy should be shifted from *labour* productivity to *resource* productivity, which can be defined as a measure of efficiency calculated by comparing the wealth obtained from products with the physical resources (material, energy, etc.) spent to produce them, e.g., ***ecological tax reform***, which could usefully shift the tax burden from resources such as labour toward finite natural resources (OECD, 1997; Čiegis et al, 1997); ***internalizing environmental costs in prices***; etc.

An economic instrument operates by *charging a price* for the use of environmental resources. This *price* might be introduced as:

a) direct tax (a *carbon tax*, for example)
b) more indirectly (through a *tradable pollution permit* or *resource quota*).

While the "*command and control*" approaches can help achieve the desired outcome of sustainable consumption, it is well known that *economic instruments* are a superior means of achieving this end. Raising the cost of unsustainable consumption is one way of applying the *Polluter Pay Principle*. And economic instruments will help the market to reduce costs and stimulate innovation, because taxes and fees in the environmental field work efficiently and at low administrate costs. Economic instruments do have the advantage that they respect the individual's freedom to choose.

Economic instruments work to achieve sustainable resource consumption in two ways. First, they encourage reductions in the ratio of resource use to product output. Resource productivity can be improved by using a known and economically available cleaner technology at one or several places in the chain of production, by manufacturing other types of goods with a longer life, so that an increased need is covered by a less or the same use of resources. Second, because some of the costs is passed on to consumers, they encourage consumers to switch consumption from resource-intensive products to less resource-intensive products. In the language of Agenda 21, they achieve both reduced materials consumption and changes in consumption patterns.

Generally, as mentioned by D. Pearce and J. J. Warford (1993), the superiority of economic instruments lies in:

- cost efficiency: economic instruments tend to involve industry in generally lower compliance costs for industry than command and control instruments. This is because they give industry a much greater flexibility in the means of compliance
- dynamic incentives: economic instruments contribute to the continuing search for a better and better technology to reduce resource use. This is because the price incentive remains as long as pollution damage remains
- revenue raising for environment and development: in recent years the role of environmental taxes as revenue raisers has become increasingly important
- providing incentives to consumers and industry to cooperate
- stimulating employment: it is recognized that environmental taxes can serve a "double function" of *reducing resource consumption* and helping to *stimulate employment* by using the revenues to reduce payroll taxes (see Goulder, 1995).

Speaking about production, it can be mentioned that production and *product charges* should be based on:

a) *cradle to grave responsibility* (we must develop products with a longer life span)
b) *the Polluter-Pays-Principle* (*3P* principle) – the question is not *if* we will have to pay when the environment is damaged, but *when*, *how* and *who* will be forced to pay
c) *the Precautionary Principle*.

However, we must take into account that the use of green taxes and fees can lead to the loss of international competitiveness and jobs if countries fail to act together. And if "green fees" are introduced unilaterally, by only one or some countries, there is a risk that this will lead to a loss of competitiveness and to more unemployment (Gale et al., 1995; Siniscalo, 2000).

In the EU, *the 6th Environment Action Programme* encourages the use of market-based instruments, such as taxes or tradable permits, in order to support sustainable production and consumption patterns. As concerns environmentally related taxes, energy taxes form by far the biggest part of such taxes in Member States. As they can also have a strong impact on the internal market, it is in this area that the EU framework has been pursued. The EU has decided to introduce an *internal emissions trading system* from 2005 onward, which limits carbon dioxide emissions from a broad range of industries, such as power generation, covering approximately 45% of the EU's CO_2 emissions, and places them within a regulatory framework. Large carbon dioxide emitters will be allocated allowances on an annual basis through national allocation plans, and they are required to match-keep their emissions with their holdings in the limits set by the allowances. If they reduce emissions to a level below their limits, they can sell the excess allowances to other companies or keep them for future use. *Vice versa*, companies that exceed their limits can invest in abatement technology or buy allowances on the market to match their emissions, whichever is cheaper. In this way the EU scheme will allow the required emission reductions to take place at a minimum cost to the economy and is in line with the Kyoto flexible mechanism (Emission Trading Scheme, Joint Implementation).

Conclusions

1. Sustainable consumption is not a certain level between poverty-induced and affluence-induced types of consumption, but rather a different style of consumption for all levels of personal income in all countries.

2. Consumption is not necessarily destructive if it is properly redefined and made consistent with sustainability. So, sustainable consumption implies that the consumption of current generations as well as future generations improves in quality.

3. Absence of concrete, measurable objectives and timetables for their implementation, appropriate quantitative indicators to follow the progress could be considered as an important obstacle to achieve an essential progress towards more sustainable production and consumption.

4. Production and consumption patterns must be changed to decouple economic growth from negative impacts on the environment, while ensuring that people's basic needs are met.

5. Sustainable consumption problems require the mobilization of a comprehensive international effort. There is a broad international agreement that the matter of changing unsustainable patterns of production and consumption must be tackled on a priority basis.

6. There is a need for a detailed analysis of the relationship between production and consumption patterns and their environmental, economic and social impacts.

7. Business and industry should be encouraged to shoulder their corporate social responsibility so that companies voluntarily integrate social and ecological considerations in their activities, in co-operation with various groups of stakeholders.

8. Environmental *legislative* and *regulatory* systems can influence and orient consumption and production in the direction of sustainability. The *regulatory* approaches need to be supplemented with a greater use of *economic instruments* to encourage a *less consumption of materials* and a *more sustainable consumption pattern*.

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DARNAUS VARTOJIMO IR GAMYBOS INICIATYVOS: EKONOMINIAI IR TEISINIAI INSTRUMENTAI

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Santrauka

Vienas iš didžiausių ir sunkiausių mūsų laikų iššūkių yra sukurti gerovę visose šalyse nepakenkiant pasaulio klimatui, ekosistemoms ir žmonių sveikatai. Darbotvarkėje 21 pažymėta pirmą kartą identifikuota, kaip svarbu pakeisti vartojimo ir gamybos būdus. Be to, pažymėta, kad „išsivyščiusios šalys turi pirmos pradėti siekti darnaus vartojimo".

Šiame straipsnyje daugiausia dėmesio yra skiriama darnaus vartojimo ir gamybos analizei. *Tyrimo tikslas* – ištirti teisinį ir ekonominį darnaus vartojimo ir gamybos reguliavimo turinį. Pagrindiniai *uždaviniai* yra išanalizuoti darnaus vartojimo sąvoką; darnaus vartojimo indikatorių problemą; galimybes įstatymais ir normomis reguliuoti darnų vartojimą ir gamybą; rinkos instrumentų potencialą kuriant darnų vartojimą ir gamybą.

Tyrimo metodai. Naudotas loginės abstrakcijos metodas, apimantis darnaus vartojimo ir gamybos problemų teorinę analizę, apibendrinant užsienio šalių mokslininkų argumentus ir tyrimų rezultatus.

Vartojimas ir gamyba yra įvairiapusės naštos gamtai visais produkto gyvavimo etapais priežastis. Darnus vartojimas ir gamyba įtraukia daugybę veikėjų, kurie gali padaryti visą produkto gyvavimą darnesnį. Tampa aišku, kad „darnus vartojimas" apima ne tik ekonominę ir techninę, bet ir moralinę bei socialinę dimensijas. Simpoziume „Darnus vartojimas", įvykusiame Osle 1994 m., pasiūlytas darbinis darnaus vartojimo apibrėžimas, kuris yra analogiškas bendrai vartojamai darnios plėtros sąvokai, suformuluotai *Brundtland* komisijos.

JT konferencijos Johanesburge ataskaitoje pažymėta, kad nėra konkrečių, išmatuojamų tikslų ir jų įgyvendinimo plano bei atitinkamų darnios plėtros monitoringo indikatorių, ir tai gali būti laikoma didele kliūtimi siekiant darnesnio vartojimo ir gamybos. Nesant patikimų kiekybinių matavimo priemonių, tenka naudotis tik apytiksliais skaičiavimais, jų tam tikri variantai aptarti straipsnyje.

Vartojimo *„valdymas"* ateityje reiškia visų visuomenės grupių *atsakomybės* pripažinimą. Ši vyriausybės, pramonės, prekybos, taip pat piliečių atsakomybė turi remtis plačiu visų sutarimu ir bendra tikslų bei uždavinių vizija. Taigi reikia ir naujos darnios plėtros vizijos multidimensinėje sistemoje, sujungiančioje žmones, pramonę ir valstybes.

Vyriausybė kontroliuodama tokius galingus instrumentus, kaip antai: mokesčiai, tiesioginės subsidijos, paskolų garantijos, prekybos apsauga bei eksporto skatinimo programos, gali juos naudoti siekiant didesnių permainų visuomenėje darnaus vartojimo ir gamybos srityje. Norėdama pasiekti geresnių ir ilgalaikių rezultatų vyriausybė taip pat turi imtis vadovauti įvairių partnerių (verslo ir pramonės, vartotojų organizacijų, aplinkosaugos grupių, profesinių sąjungų, politinių ir religinių lyderių, žiniasklaidos) dialogui.

Praktiniai žingsniai darnaus vartojimo link yra: pakeisti nedarnų vartojimą ir gamybą; padidinti visuomenės informuotumą; pakeisti socialines, kultūrines ir psichologines tradicijas ir vertybes, lemiančias nedarnų vartojimą; įgyvendinti naujas strategijas darniam transportui ir miestams; paspartinti efektyvesnių ir švaresnių technologijų plėtrą per visą gamybos grandinę bei gaminti ilgesnio gyvavimo prekes, kad didėjantiems poreikiams patenkinti būtų naudojama tiek pat arba mažiau išteklių; skatinti produktus ir paslaugas, palaikančius darnią gamybą ir vartojimą.

Siekiant darnaus vartojimo ir gamybos reikia įvairių *instrumentų*. Darnaus vartojimo iniciatyvas reikia skatinti dviem būdais:

a) *įstatymais* reguliuojant gamtai daromą žalą;
b) kainomis įvertinant aplinkai daromą žalą ir išlaidas (naudojant *ekonominius instrumentus*).

Svarbus vaidmuo turi tekti ir savanoriškam gamintojų bei vartotojų pasirinkimui daryti ekologiškus gamybos ir pirkimo sprendimus. Tai apimtų ekologinį auditą, produkto gyvavimo ciklo poveikio vertinimą, kokybės, aplinkos ir socialines vadybos sistemas, aplinkosauginį, socialinį ir etinį parduodamų prekių žymėjimą, kurie taip pat yra svarbūs papildant aplinkosaugos įstatymus ir ekonominius instrumentus.

Straipsnyje padarytos šios pagrindinės išvados:

1. Vartojimas nėra destruktyvus, jei jis apibrėžiamas pagal darnios plėtros principus. Taigi darni plėtra reiškia, kad ne tik dabarties kartų, bet ir ateities kartų vartojimo kokybė gerėja.
2. Gamybos ir vartojimo būdai turi būti keičiami taip, kad ekonominis augimas būtų atsietas nuo neigiamo poveikio aplinkai, kartu užtikrinant, kad būtų patenkinami pagrindiniai žmonių poreikiai.

3. Verslas ir pramonė turi būti skatinami, bendradarbiaujant su įvairiomis suinteresuotomis grupėmis, prisiimti bendrą socialinę atsakomybę, kompanijoms savanoriškai įtraukiant į savo veiklą socialinius ir ekologinius aspektus.

4. Aplinkosaugos įstatymai ir normos gali nukreipti vartojimą ir gamybą darnumo link. *Normatyvinis* požiūris turi būti papildomas platesniu *ekonominių instrumentų* naudojimu, *mažesniu medžiagų vartojimu* bei *darniu vartojimu*.

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