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GREEN MARKETING

Teaching manual

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П80 **Prokopenko O.V., Ossik Yu.I.**
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The teaching manual systematically covers theoretical and practical aspects of introduction of green marketing concept in practice of activity of the enterprises.

Recommended for teachers and students of economic majors at higher education establishments as well as for students of business schools, heads of the enterprises and employees of marketing and environmental divisions, for other experts whose activity deals with green marketing.

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The main task is not
to turn standard
products into green ones, but to make
the latter a standard.

Jonh Grant

PREFACE

In the conditions of ecological crisis which gets considerable development in Kazakhstan and other countries of the world, spreading of environmental marketing* favors economy reforming directed to achievement of sustainable development that is the policy officially proclaimed in Kazakhstan. The skilful organization of green marketing promotes spreading of ecologically balanced kinds of manufactures and distribution under conditions of emergence of new ecological needs. The teaching manual covers research of prospects, problems and particularities of eco-marketing development in the conditions of modern domestic economy.

Environmental marketing development in Kazakhstan will be facilitated by emergence of experts with theoretical knowledge and having practical skills of application of eco-marketing in activity of enterprises. Preparation of such experts will allow improving environmental and economic efficiency of activity of enterprises, their image, and also image of branches, regions and the country as a whole at the international level. For this purpose a teaching manual has been created where they consider in a systematic way both theoretical and practical aspects of introduction in practice of activity of domestic enterprises green marketing concept.

The overall aim of teaching of "Environmental marketing" subject is to provide knowledge of basic provisions, principles, methods and special features of realization of environmental marketing.

The basic tasks of the subject are:

• study of eco-marketing theory;

• study of the newest tools of formation and realisation of environmental marketing-mix at various levels;

• acquisition of practical skills of application of marketing methods and ways in the green goods market.

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*environmental/green/eco-marketing are complete synonyms green and eco-friendly are complete synonyms as well

These and other problems are solved by studying of a theoretical materials of the subject and doing practical tasks that allows getting knowledge of available tools, methods, principles of environmental marketing, methods of motivation of development of green goods market at various levels, as well as to acquire practical skills of their application for specific purposes.

The first part of the book deals with emergence and essence of eco-marketing. There they develop the essence of green marketing concept within sustainable development context, its correspondence to modern concepts of business conduct and the role of social movements in environmental marketing formation as well as essence, kinds and basic development directions are considered.

In the second part one considers both state and trends of environmental needs, methods to reveal them, as well as range of goods corresponding to these tendencies. Factors of environmental needs development have been classified. Types of goods regarding their ecological compatibility level have been singled out, results of their use are considered, and methodical approaches to determine ecological compatibility level of the goods are shown.

The third part covers types of consumers in green marketing area. Types of customers as regards ecological compatibility of their behavior and utility that each of them gets by consuming green goods are considered. Readiness of consumers to pay a premium for ecological compatibility of the goods of different type is studied. It also deals with the order of the analysis of the key motivation constituents of green goods consumption. Eco attributive kinds of both consumer choice and its types according to motivation are shown.

In the forth part particularities of environmental marketing use are studied. Direction of development of the green goods market in Kazakhstan, Ukraine and Russia and in the world as a whole, and also special features of green goods market promotion are considered too. Various types of green marking signs are shown.

The fifth part contains theoretical and methodical fundamentals of grounding of lines of development of the green goods market based on estimation of conformity of a green product to multidirectional interests of market subjects, risk of interaction with the subjects of green goods market and optimization of expenses for promotion of green goods of different level of consumption motivation.

In the sixth part they study the government role in green marketing development. Theory of economic regulation of environmental activity of enterprises and evaluation of expediency of use of motivation methods of greening of enterprises activity are given. Practical aspects of optimization of tools of economic motivation of greening of manufacturing are considered.

It also contains a voluminous exercise book that is usefull to master the subject. It includes schemes, tests, crossword puzzles, control questions, helping to

consolidate theoretical knowledge. Practical tasks with methodical recommendations and sampled solutions enable to get practical skills of application of tools of formation and realization of environmental marketing package at various levels, and also of use of marketing methods and ways in green goods market.

The teaching manual also contains some appendices facilitating perception of a theoretical material, and the list of recommended readings that is indispensable for interested persons to deepen their theoretical knowledge on eco-marketing, and also to get ready for practical studies, tests, as well as to write term papers and research works.

The teaching manual is based on the original one authored by O.V. Prokopenko titled «Екологічний маркетинг» (Київ, видавництво «Знання», 2012.-319 с.). Thus this book has mostly been written by O.V. Prokopenko, topic 14 of part 4 has been done by Yu.I. Ossik, topics 1-4 of part 1 have been written together.

The use of this teaching manual should facilitate and accelerate learning process, deepen mastering of a theoretical material.

The teaching manual will be useful for training of students of economics majors, and also for to post-graduate students, instructors, students of business schools, executives of enterprises, employees of marketing and environmental divisions and other experts, whose activity is connected with green marketing.

PART 1
EMERGENCE AND ESSENCE OF ENVIRONMENTAL MARKETING

Topic 1. Essence of eco-marketing in retrospective review

Nowadays «Environmental marketing» concept is being formed; today there is no standard definition of it. For some authors it means environmental policy, environmental responsibility of business, company openness and production process transparency, green marking [136]. Other experts put environmental marketing into environmental management tools [95]. For a number of authors environmental marketing includes formation of financial structures to support environmental actions, environmental auditing, environmental insurance of company actions, changing of accountability form of manufacturers, new advertisement forms, formation of new trade principles (for example, sale of green products) [100].

A.G. Sarmurzina offers the following definition: «Eco-marketing is environmentalally safe activity connected with working out, creation and sale of products to satisfy population needs, and taking environmental consequences into account» [23]. The marketing encyclopaedia gives such a definition: «Green» marketing is the one which meant to change the outlook of buyers, to provide a new direction for competition and to attain the market agreement to make innovative decisions regarding problems of environment [5].

Environmental marketing is operation of company to meet the interests of consumers by promotion of goods and services doing the minimum harm to the environment at all stages of their life cycle.

The life cycle is consecutive and interconnected stages of production system from getting of raw materials or natural resources and till final placing in the environment. When life cycle is evaluated they consider not only manufacturing stages, but also stages of extraction of natural resources, manufacturing of semi-finished products, auxiliary manufactures, shipment to the consumer, its use, waste placement [17].

There is a widespread opinion that ecological movement as a whole was initiated by Rachel Carson - a marine biologist who in 1962 published the book about the danger of DDT *Silent spring*. (DDT (1,1,1-Trichlor-2,2-di(chlorphenyl)ethane) - pesticide, used against insect pests of cotton, soybeans, peanuts, and also against mosquitoes and mites; its use is forbidden in many countries due to the fact it is able to accumulate in food chains.) Many ecologists mention that it is this book that became a starting point for their choice of future occupation.

In 1975 American Marketing Association held for the first time a seminar called «Environmental marketing». The first book dealing with this issue appeared after that [112].

Some authors date the appearance of green products to early 80s when it was established that aerosols of different function are harmful because of their content of freon that destroys ozone layer of the Earth [45].

The first report on corporate social responsibility in 1988 was published by «Ben&Jerry's» company [134], having added to the traditional financial report description of influence of the company on environment.

After results of «Our Common Future» commission had been published two books with the same *Green marketing* title appeared. One of them was written in 1992 by Ken Peattie in the Great Britain, the other — Jacquelyn Ottman in 1993 in the USA [135].

If environmental marketing to be connected with dynamics of development of subjects of economic management it becomes obvious that the first two concepts (improvement of both production and product) are not expedient to discuss since these concepts as a matter of fact are characteristic for the premarketing period.

During the period from the beginning of 20s till end of 40s of the last century the concept of intensification of commercial efforts characterized by occurrence of advertising for advancement of competitive goods in the market was spread. From the beginning of 50s and till early 70s of the XXth century the marketing concept based on studies of consumers' needs, their formation and effective satisfaction was gaining in scope. In the middle of the 70s there was the beginning of the stage of socially-ethical marketing based on the idea that the enterprise should not only satisfy requirements of consumers more effectively than competitors do but also support well-being of a society. In recent years there has emerged a concept of marketing of relations, focusing enterprises on keeping of long-term relations with customers and other subjects of the market (fig. 1.1).

Annotation

Each subsequent concept of development of economic management subjects does not reject a previous one but complements it. So, if the marketing concept indicates the necessity to meet some needs it does not mean it is not worth paying attention to production price decrease, etc.

Recently among many concepts of enterprise development both the concept of socially-ethical marketing and the one of marketing of relations become especially topical. Together they correspond to the ideology of sustainable development following which favors harmonization of interests of commodity producers (profit),

consumers (satisfaction of needs) and a society as a whole (sustainable environmental and social and economic development). It will be a question of sustainable development in the subsequent topic.

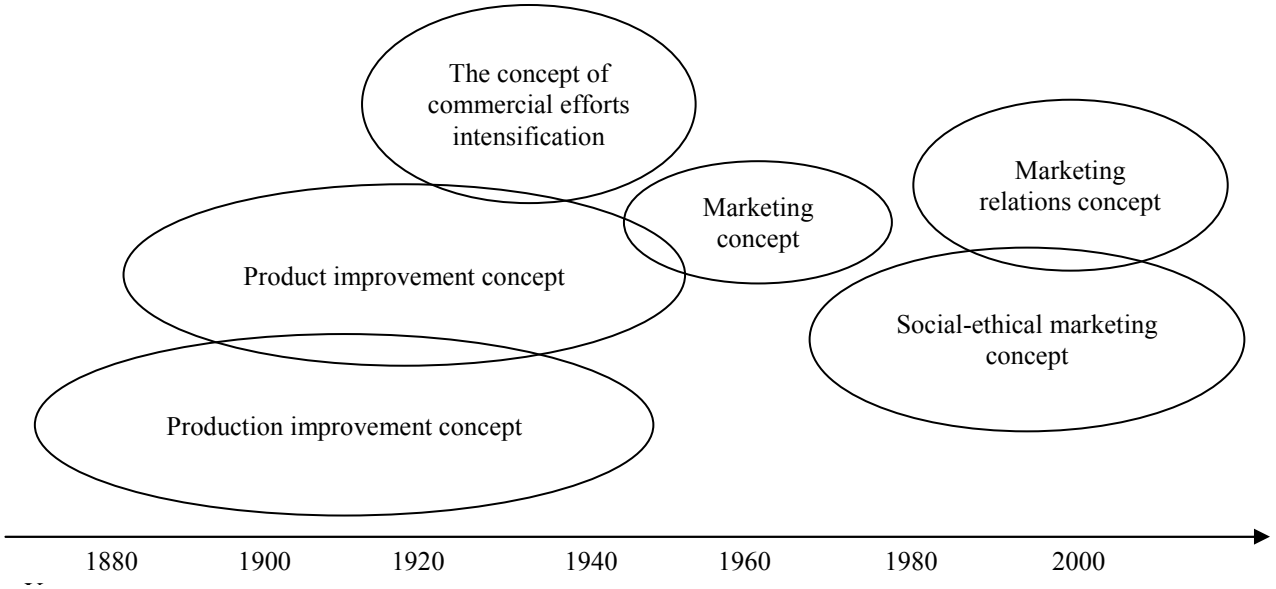


Fig. 1.1. **Time dynamics of widespread concepts of development of economic management subjects**

Within the frameworks of the sustainable development concept in the 90s ***environmental marketing concept*** has emerged. It consists in orientation of production and sale to meet environmentally focused needs and requirements of consumers, creation and stimulation of demand for green goods (products or services) - economically efficient and environmentally safe during manufacturing process and consumption with the account of multidirectional interests of subjects of the market.

According to green marketing concept all aspects of economical activity of a modern enterprise should be planned and carried out taking into account needs and requirements of the market (including environmental ones) and to be based on principles of environmental safety [83].

Marketing researches started to extend more widely to environmental problems in the late sixties. Nowadays eco-marketing is characteristic for the most farsighted enterprises since it is a means to gain advantages over competitors in the long-term period [60].

Example

As an example of commodity classification change toward greening can be Coca-Cola Company which at first has gained general confidence in the market as the company producing soft drinks which taste consumers like. However after some groups of consumers

and consumer and environmental organizations have expressed their dissatisfaction with environmental problem creation (caused by metallic cans, sugar influence on tooth enamel, influences of drinks on a metabolic process in a human body, caffeine content of the main drink etc.) the company considerably expanded its assortment, substituted bottles and started to produce a diet Coca-Cola without sugar and caffeine, and also green soda water and natural juices.

Thus, green marketing concept is one of the latest concepts of doing business in modern conditions. It is directed on the simultaneous solution of both economic and socially-environmental problems of a society, and also corresponds to sustainable development ideology.

Environmental marketing as continuation of socially-ethic marketing defined a task of any company as to establish needs, requirements and interests of the target markets and to give a desirable satisfaction in more effective and more productive (than those of competitors) ways with simultaneous preservation or consolidation of well-being of the customer and a society as a whole. This concept has resulted from the conflict of the marketing traditional at that time with environment deterioration, shortage of natural resources, population growth, inflation and a negative condition of social services area [40]. Public concern about environment condition, growth of influence of the non-governmental environmental organizations, associations of consumers, groups of public environmental examination was the important factors too.

The new stage in environmental marketing development began in 2006-2007 owing to increase of motivation of citizens to **ecological consumption** (actions of an individual person, group of people and total population, related to consumption of products and services doing the least harm to environment at all stages of life cycle), regardless of the fact what was his/her motive — care about one's own health, financial motivation, faddishness or true concern over environmental issues [87].

Why is this period defined as the beginning of «second round» of eco-marketing? The «Technorati Charts» company investigated the number of daily inquiries of «green marketing» in blogs and noticed that the number of such inquiries since 2006 till the end of 2007 doubled. According to «Google Trends» data the number of web searches with «green marketing» query was increasing during 2007 too. Evidently, considerable number of experts in marketing exactly at this moment decided, that this was the right time to make their brands more eco-friendly [128].

At the same time one observes the growth of environmental market sectors. In particular, that of the market of consumption of the paper with the certificate of Forest Stewardship Council. Wood got from sustainable managed forests is marked with FSC (Forest Stewardship Council) label. The FSC certificate guarantees not

only the right use of timber land, but also that the whole delivery chain (logging companies, wood processing firms, sellers) ships to the customer production harvested in exactly these forests.). This fact is also proved by the growth of the number of registered trademarks of packages to be positioned as green, such as «eco», «clean», «eco-friendly» (fig. 1.2). Trend decrease in 2009 deals with lagging of official publication of such data [106].

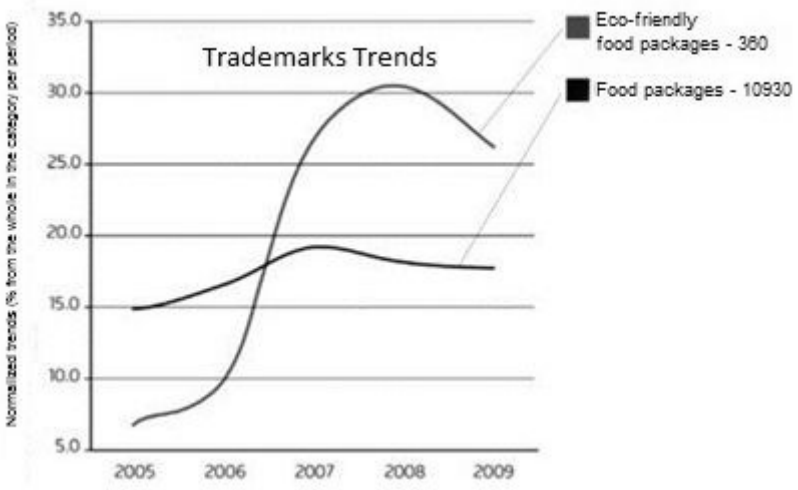


Fig. 1.2. **The normalized trends of the registered trademarks of the packages to be positioned as green and total number of packages, 2005-2008**

Among influential works of recent years we should mention John Grant's book *The Green Manifesto* [111]. It is he who expressed the idea later became an epigraph to this book: «The main task is not to make standard products environment-oriented, but to make the latter ones — standard». He is also the author of ecologization system of any business — from simple steps up to system changes.

In Annie Leonard's book *The Story of Stuff* [114] the main stages of life cycle model of stuff are considered: provision of materials, production of commodities, their sale, consumption and recycling. Their connections with each other, their influence on the human being, a society and our planet as a whole are analyzed. The author of the book directly accuses the established system of thoughtless use of natural resources. There is a 20 minutes film based on the book [146].

In February, 2011 Jacquelyn Ottman's book *The New Rules of Green Marketing* [117] appeared, dealing with marketing in a changing world.

Thus, the environmental component of society development became the new factor of influence on business as a whole and on marketing in particular. Nowadays environmental marketing is not «advisable» but became a norm.

It is usefull to know and understand environmental marketing for a successful marketing expert. But how else can one keep up the conversation with colleagues,

investors and clients, many of whom are well versed in environmental issues? Inclusion of environmental projects in many kinds of activity is nowadays an established trend, and any expert in marketing should have repertoire of knowledge about various areas, including - green marketing. The lack of basic knowledge of environmental marketing and misunderstanding of its role in business development will inevitably lead in our time to competitive ability decrease, loss of consumers and reduction in profit of the company.

Experts having an economic education who were far from environmental science and environmentalists who did not study marketing in high school occupy themselves with green marketing. Therefore the given work will be useful to any employees of companies dealing with practical realization of eco-marketing. It can also be used to explain «what it it is necessary for» to the company director or the director of development.

The urgency of environmental problems of recent decade does not raise any doubts not only among scientists, but already among businessmen, politicians and the population as a whole too. Environmental issues of various levels are regularly covered by mass media, on the Internet there are thousand of blogs, noncommercial sites and forums regarding them. It shows that statement of the problem by the global community in the middle of the XXth century has reached a qualitatively new level - involvement of all social groups into solution of environmental problems. It means that nobody can stand aloof and pretend that it it does not concern him/her.

Basic research of the consequences resulting from the growth of consumption of natural resources to meet needs of mankind started in 1968 by the Roman club that initiated Jay Forrester's works on studying of long-term tendencies of world development. This research has put an end to «happy future of humanity» myth. Moreover, they have shown inevitability of the world calamities that will occur in the beginning of the XXIst century as a result of a population explosion in developing countries, environmental pollution and deterioration of natural resources.

Forrester's works were continued by the group of researchers under the guidance of Dennis Meadows and were reflected in «The Limits to Growth» report, made to the Roman club in 1972. Conclusions of authors of the report were even more disturbing: preserving current trends of economic growth in the conditions of a finite as for its scale planet already following generations of mankind would reach limits of demographic and economic expansion that would result in uncontrollable crisis and crash for system as a whole. For the first time it was shown, that ecological crisis results from the crisis of ethical and moral standards of consumer civilization. It is a human being who is responsible for what is going on.

Agenda 21 adopted at the 1992 UN World conference on Environment and Development in Rio de Janeiro reads: «One of the main reasons of constant

degradation of the environment all over the world - the consumption and manufacturing structure, not ensuring stability, - especially in industrially developed countries. Excessive claims and lavish way of life of the richest part of mankind burden the environment too much». Principle 8 of «Rio Declaration» says that states should «reduce and eliminate unsustainable patterns of production and consumption». In the same document they distinguish two main goals: to pay considerable attention to unstable patterns of production and consumption and to develop national strategies to change consumer behavior patterns.

Ten years later, in 2002 at the World Summit on Sustainable Development in Johannesburg they adopted «Declaration on programs in the area of sustainable production and consumption». Among other things the document states that the industrial countries should become leaders as regards sustainable consumption development, as it is they — cause of the established situation in the consumption growth area [113].

Today it is obvious that overconsumption constantly encouraged/sustained by a commercial advertising causes reduction of volume and quality of natural resources, causes environmental problems, leading as a result to environment deterioration, and in long-term prospect — to decrease in material well-being and quality of life as a whole (fig. 1.3).

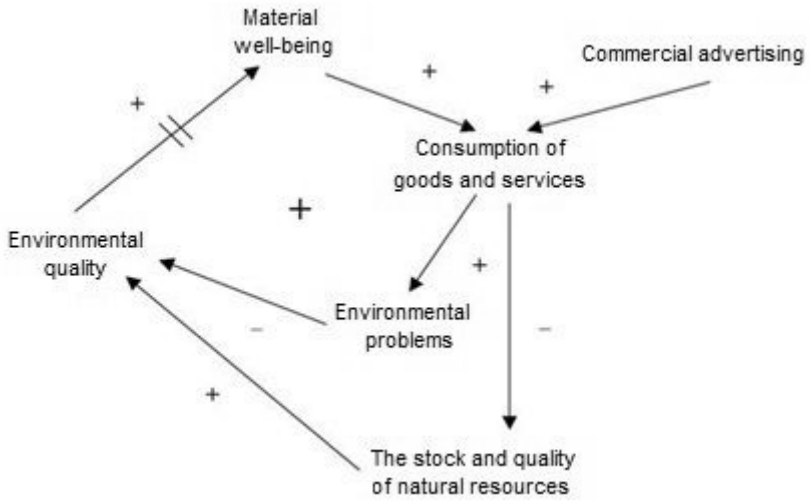


Fig. 1.3. **The mechanism of influence of consumption growth on quality of environment**

This system diagramm helps to understand cause-and-effect relations during the influence of consumption of goods and services on quality of environment. The arrows show the directions of influence of constituents. «+» signs near the arrows mean that connection between two phenomena is reinforcing i.e. if one element increases the other increases too if it decreases the other also decreases. «-» signs mean that the connection is compensating, i.e. alteration of one element causes

alteration of the other in an opposite direction. The systems as a whole have «+» sign. Such systems are called reinforcing (or positive) loops of figurative relation. The signs of such systems: self-replicating, causing the growth, destabilizing the system, accelerating it. The connection between quality of environment and material well-being has a time lag, i.e. consequences become noticeable in long-term prospect.

While considering questions of relationship of humanity with the environment it is necessary to dwell on the possibility of a ratio of consumption resources and biosphere abilities. For this purpose it is important to know, how many resources without detriment to its existence the biosphere can give to us, and how many we are taking from it. Rapid economic growth requires constant increase in use of resources for manufacturing and energy production, and the constant increase in volume of waste requires the increasing area for placing and resources of biosphere for fixing (in case of carbon dioxide emissions).

Topic 2. Aims, tasks and directions of environmental marketing development

Eco-marketing is a function of management which organizes and directs the activity of enterprises regarding estimation and transformation of needs of consumers in environmentally focused demand. That is demand for the goods and services that favor preservation of both qualitative and quantitative level of the basic ecosystems, meet environmental needs of individuals as well as organizations and a society as a whole [13].

Annotation

In the literature one can find such types of marketing as green, environmentally directed, environmentally focused etc. Some of them regard only certain kinds of environmental marketing, others are synonyms.

From the point of view of the enterprises which are focused on manufacturing of green goods, *green marketing* is a kind of activity of the enterprise, directed on revealing and satisfaction of environmental needs of individual customers and of a society as a whole in an effective way in comparison with competitors as a result competitiveness and profitability of the enterprise is ensured [27].

Eco-marketing promotes – along with consumption growth, expansion of consumer choice and consumer satisfaction – growth of quality of life, support of sustainable balanced development of territories, preservation of high quality of environment.

General goal of green marketing is provision of long-term well-being of a society by economic, social and environmental positions on the basis of enterprise activity of economic management subjects [60].

The main *objective of environmental marketing at the level of economic management subject* is to reveal pent-up demand in green environment conditions, green goods, technics and technologies to focus production to satisfy of environmental needs, i.e. provision of working out, release and sale of green products that are in demand in the market.

The main *objective of eco-marketing at both regional and state levels* is creation of such economic conditions for economic management subjects when they will be interested in modernization of production methods and will aspire rationally to use, store and restore natural resource potential of a region (or to compensate harm done to a society).

Annotation

The author considers it more as stimulation of environmental marketing development which the part 6 will deal with, except for application of marketing measures at the state level (advertisement like "Save water..." etc.).

The tasks of green marketing are [13]:

• formation of environmental needs in the market;
• creation of conditions for environment preservation;
• adoptation of production to market conditions;
• creation of conditions for green products to be competitive;
• intensification of green goods sale;
• getting of additional profit due greening of production.

The basic *functions of eco-marketing are* [13, 141]:

• study of green products demand;
• development of green products market;
• planning of green products range, pricing, advertising and sale promotion of such products;
• activity to organize green turnover of commodities, storing, shipment and consumer service;
• environmental focus of production itself and its whole manufacturing - consumption cycle, from production of raw materials till its disposal;
• increase of responsibility for the solution of environmental problems at all levels of organizational structure of the enterprise, the account in system of assessments of work of environmentally focused criteria;

• improvement of system of encouragement of the initiative of environmental improvement of production and consumption;

• creation of a positive environmental image of the enterprise.

The tool of realization of the last function of environmental marketing is certification of the enterprise according to ISO 9001 standards. It means that at the enterprise quality management systems are certified - the enterprise does not cause eco-destructive damage to environment or favors improvement of its condition. Among other systems of certification it is possible to distinguish ISO 14001, ISO 14024 [141, 95] (environmental labeling when the right to use an ecological sign is given by the independent third party), ISO 14030 (enterprise produces eco-friendly output), EMAS (enterprise considers environmental management priorities).

Formation and development of green marketing is not possible without taking into account the following aspects [56]:

• *information aspect*: the analysis of the important environmental problems which influence enterprise activity, may influence in the future; estimation of market possibilities and threats, and also advantages and disadvantages of marketing;

• *philosophical aspect and expediency one*: expansion of mission and goals of the enterprise, assumes the formulation of exogenous principles and aims;

• *analytical aspect*: working out and the analysis of alternatives, in particular separation of target groups of consumers, determining competitive strategy and strategy of green goods positioning;

• *efficiency and coordination aspect*: modification and integration of use of marketing tools to observe environmental marketing principles in a competitive struggle;

• *control aspect*: monitoring, analysis and regulation of marketing activity as strategic control part.

Eco-marketing is divided into two types: commercial and nonprofit.

Nonprofit environmental marketing includes: activity of participants of wildlife preservation movements; marketing of the politicians supporting environment protection; scientific and public programs, ideas, initiatives concerning restoration and keeping of ecological balance; marketing of investments into environmental projects at local, regional and state levels; marketing of regions to attract manufacturers of green production to corresponding regions; marketing of programs to create protected territories and reserves.

Commercial green marketing is that of production of green goods and services, marketing of natural resources and conditions (in eco-marketing they are called the resource products), marketing of environmental quotas for emissions and dumps of pollutants in environment, marketing of economic and environmental stimuli to carry out an effective nature-conservative policy, marketing of ecotourism etc.

Odesa School of nature management economics distinguishes the following *kinds* of environmental marketing [83, 84]:

1. Environmental marketing of conventional goods and services taking into account environmental standards and restrictions as key environment factor.

2. Marketing of green goods and services.

3. Marketing of natural resources and conditions, marketing of rational nature management.

4. Marketing of nature conservation activity and habitat reproduction.

5. Marketing of environmental knowledge and technology (marketing of environmental innovations and know-how).

The listed five kinds of green marketing are logically and functionally related to each other thus forming eco-marketing system (fig. 2.1).

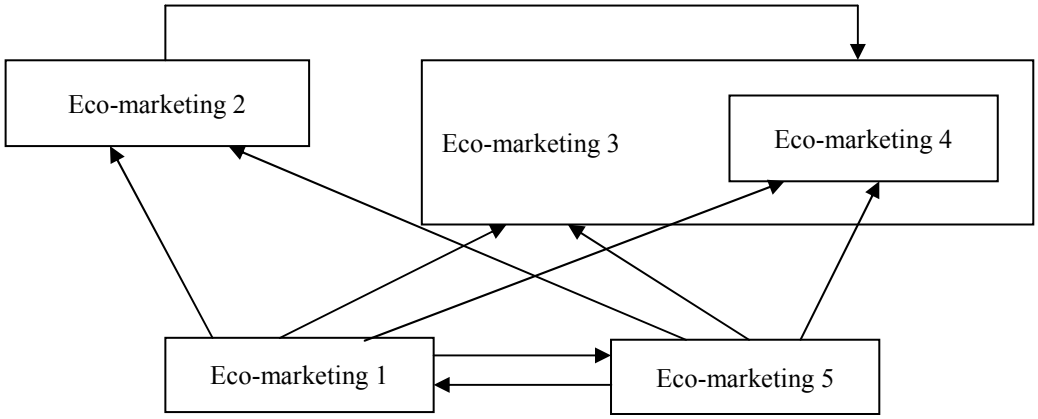


Fig. 2.1. **Green marketing system**

On the fig. 2.1 the arrows indicate functional relations between kinds of environmental marketing.

Eco-marketing 1 and eco-marketing 5 are connected with all other kinds of environmental marketing and perform attendant (background) functions.

Eco-marketing 1 goes along with all other kinds of green marketing. It is obligatory in a way that marketing subjects observe current environmental laws.

Eco-marketing 5 provides scientific and technological support for the rest kinds of green marketing.

Eco-marketing 2 is connected with eco-marketing 4 in the sense that programs of environment and biodiversity protection can be of interest as ecotourism objects.

Eco-marketing 4 is a constituent of eco-marketing 3 therefore it is put in a corresponding block on the fig. 2.1. One considers expedient to separate eco-marketing 4 because of importance of environment protection.

For achievement of tangible success in carrying out of green marketing there should be a balanced development of all its kinds, each of which has its purpose.

The purpose of environmental marketing 1 is the satisfaction of usual needs by means of such exchange when existing environmental standards are adhered to as much as possible, and activity of marketing subjects meets the requirements of the environmental legislation.

Annotation

When realizing such eco-marketing it is necessary to choose for promotion production which at all stages of life cycle exerts minimum eco-destructive influence on environment or at the best - favors elimination of eco-destruction consequences and improves quality of environment.

The goal of green marketing 2 is to satisfy environmental needs with the green products.

The goal of eco-marketing 3 is to meet the needs of corporations using resources to gain some profit (extractive companies, travel agencies, land users, etc.) in such a way that resources to be used considering environment balance and sustainable development of regions was provided.

The purpose of environmental marketing 4 is preservation of the environment of existence of the person and genofond of biosphere, carrying out of corresponding measures on restoration of disturbed ecosystem and individual components of environment.

The goal of green marketing 5 is to satisfy the needs of subjects of environmental marketing 1-4 in environmental know-how, namely: scientific researches to gain environmental knowledge, working out of environmentally safe technologies, analysis and monitoring of environmental legislation, ecological examination, environmental audit and consulting etc.

In this sense as green marketing *objects* can serve (details in [83]):

- natural resources;
- environmental conditions of habitation and activity of people;
- regions;
- green goods and services;
- green technologies;
- green foodstuff;
- green technique;
- environmental programs;
- investments in environmental programs;
- innovations of environmental trend;
- information products;
- environmental certificates, licences, patents etc.

As green marketing *subjects* can be:

• state;

• local authorities at different levels;

• entrepreneurs;

• enterprises and organizations of manufacturing type;

• R&D, DD of higher education establishments;

• public organizations and political parties;

• natural persons.

Measures regarding the complex of environmental marketing, as well as traditional one, are formed on the basis of the situational analysis of market possibilities and threats, and also strong and weak sides of activity of the enterprise.

Eco-marketing complex is formed under the influence of the following factors:

• *legislative restrictions and regulations*, in particular, elements of economical and legal mechanism of regulation of nature management and nature protection activity: environment pollution fee, fee for natural resources use (mineral, water, land, forest, biological), payment of damages caused owing to infringement of environmental protection legislation, system of state (budgetary) as well as off-budget financing of nature protection measures (via state and local environmental funds) etc.;

• *requirements of national and international standards*, in particular ISO 14000, especially it concerns export products;

• *efficiency of expenses*. So, manufacturing of non-green products can be related with considerable expenses for treatment or disposal of waste, compensatory payments to workers engaged in harmful conditions, etc.;

• *environmentally focused public actions*;

• *environmental awareness* of a society as a whole, commodity producers and target customers in particular, ecological education favors understanding of occupational hazard and consumption of environment-unfriendly products;

• *competition* – non-green production may be in lower demand; those among commodity producers who count on ecological compatibility, enjoy higher trust of consumers, favorable image of manufacturers of green production is formed;

• *suppliers* of ecological raw materials and developers of green technologies induce commodity producers to use them;

• *international community*. In the early eighties in the majority of the developed countries there emerged mass democratic movements of the public. Participants of these actions oppose environmental pollution, do not recognize atomic energy, focused on minimization and decentralization of industrial and economic and sociocultural activity and are called themselves "green". Since 1971 there are about

80 «green» parties. Their activity covers first of all territory of the developed countries, but at the same time it gives an example to other states.

It is necessary to constantly monitor and account changes of structure of external factors and their influence on competitiveness of production and the enterprise: to detail their action, precisely separate market possibilities from threats.

Besides, it is necessary to analyze internal strong and weak sides of a commodity producer from the point of view of green marketing, namely:

• extent and abilities to solve environmental and economic problems;

• ecological compatibility degree of raw materials being used;

• eco-destructive influence extent on environment of the enterprise itself (production process, waste, etc.);

• aims of the management directed on the solution of environmental issues;

• enterprise image from the point of view of customers and public at large etc.

Both external and internal factors should be considered when defining possible directions of development of enterprises on the basis of green goods (products and services).

To ensure competitiveness of the green goods an enterprise needs to possess the information about new environmental technologies as well as to have the corresponding equipment too. Its acquisition, as a rule, is accompanied by considerable costs. Therefore to begin with the manufacturer of green goods should have financial resources or possibility to get loans on reasonable terms.

Directions to gain a competitive success in the market by eco-marketing use are shown in the table. 2.1. The arrows show rational directions of development.

Let us consider the given scheme in detail [33].

Table field 1. If the green goods do not exert eco-destructive influence on environment and assure consumers of efficiency of consumption not lower, than the substitute goods then environmental advantages become competitive advantages.

There is "profitable ecology" concept. This direction of greening of economic development processes has emerged and is developing in many countries of the world. Its main idea is reduction of ecodestructive influence on environment with a simultaneous improvement of economic indicators of the manufacturer due to introduction of new technics and technologies, increase of competitiveness of production, cost price decrease, and in toto - production efficiency growth. Examples of such products are small automated gas filling compressor stations, scarce products and the energy, obtained after recycling of both municipal solid and vegetative waste etc. [31].

Table 2.1.

Directions of environmental marketing development

Consumption costs	Product environmental advantages	
	individual	socially important
Lower than that of analogous conventional products	Table field 1. **Initial position of environmental marketing:** → protective competitive advantages ↓	Table field 2. **Formation of socially focused image:** competitive and environmental advantages
Higher than that of analogous conventional products	Table field 3. **Removal of competitive barriers:** rationalization and differentiation	Table field 4. **Marketing as environmental protection tool:** state stimulation of greening by taxes, environmental fees and fines etc.

Table field 2. If products possess socially significant advantages, i.e. are acceptable by a society from the environmental point of view and besides at the lower price or at that of the substitute goods then they will be accepted easily enough by the market (for example, garbage packages, made of recycled plastic ware). It is enough just to run a corresponding advertisment.

Table field 3. The green goods which are more expensive than usual products, for example, foodstuff will face certain difficulties in the course of their promotion to the market. To resolve emerging difficulties it is necessary to focus on those groups of customers which agree to overpay for ecological compatibility. Besides, it is necessary to explain to consumers, that by giving preference to eco-friendly foodstuff, they preserve their health thereby raising the quality of their life. An efficient means of green goods promotion to the market is their backing (topic 20).

Table field 4. If the green goods are more expensive than their usual analogues, and have no individual preferences they will not be accepted by the market. In this case it is virtually impossible to dispense with measures of the state or regional support. So, without acquisition of the expensive treatment equipment industrial enterprises pay high environmental fines and fees.

For effective green marketing development it is necessary to investigate environmental demand and to influence on motives of its emergence in the following sequence [69]:

1. Research of both existing and potential demand in the green goods market, motives of its occurrence and change. It allows developing the goods which more than the goods of competitors, meet the motivation of customers.

2. Selection, working out and improvement of the green products that most fully satisfy system of motives of consumers. Appraisal of pilot samples in the market, their production and sale.

3. Influence on motives of consumption (formation of environmental needs).

In summary we want to mention, that there are different approaches to environmental marketing classification, particularly at the level of an individual enterprise, region and state; commercial and noncommercial green marketing; on the basis of distinguishing of various eco-marketing types. Each of the approaches has its specific purpose, however the main idea is awareness of the fact that *environmental marketing* is a kind of activity of the *enterprise*, directed on revealing and satisfaction of environmental needs of individual customers and of a society as a whole in more efficient way in comparison with competitors as a result competitiveness and profitability of the enterprise is ensured. From this definition it follows that green marketing is the conceptual approach to doing business by the certain enterprise. For successful environmental marketing introduction by concrete economic management subjects, one needs to know, under the influence of what external factors the environmental marketing mix is formed, and also in what directions it is the most expedient to develop it.

Having considered the issues of occurrence of the green marketing concept, its essence, the purposes, tasks and aspects of functioning in this section, allow passing on to study of concepts of environmental marketing development. In the next topic such basic concepts as «ecological footprint» and «sustainable development» will be considered.

Topic 3. Estimation of influence of mankind economic management on environment and sustainable development concept

3a. Ecological footprint

«Ecological footprint» indicator serves as evaluation system of the use of resources by a human being. «Ecological footprint» was introduced by William Rees in 1992 that had PhD. in population ecology from the University of Toronto. Rees's book in which he has analysed an ecological footprint together with a post-graduate student at that time, and later PhD. Mathis Wackernagel, was published in 1996 and it has been translated into Japanese, Chinese, French, German, Spanish, Hungarian, Italian and Latvian languages [119]. This research shows fundamental incompatibility between continuation of economic growth and environmental safety. Ecological footprint is quantitative tool that estimates humanity influence on environment.

Ecological footprint expresses consumption by mankind of production and services of ecosystems using the area of biologically productive territories and water areas which is necessary for reproduction of the renewable resources being consumed by the individual and absorption of anthropogenous CO_2 emissions. It allows matching the needs of mankind for resources of biosphere and ability of the latter to reproduce them which is defined by «biocapacity» concept. The measurement unit of both biocapacity and the ecological footprint is «global hectare» (gha) - conventional unit being average global biological productivity of 1 ha of the land.

When calculating the ecological footprint they take into account:

1) area of territories and the water areas necessary for production of renewable resources, used by the person (including pastures, forests, arable lands and fishing zones);

2) area of the territories occupied by infrastructure (including transport infrastructure, residential development, industrial constructions and water storages of the HPS and so on.);

3) area of the territories necessary for assimilation of the generated waste (only CO_2 emissions are accounted at the present, therefore this indicator is called «carbon footprint». It is calculated as the area of forests necessary to absorb CO_2 emissions from burning of fossil fuel, changes in land tenure and chemical processes, excluding the part absorbed by oceans).

In 2007 the ecological footprint of mankind has reached 18 bln. gha, or 2,7 gha per capita (fig. 3.1) and exceeded biocapacity of the Earth (11,9 bln. gha or 1,8 gha per capita) by 50 percent. It means that it would have taken one and a half year for our planet to reproduce the natural resources consumed by mankind in 2007, and to absorb all carbon dioxide gas emitted in that year. In other words, in 2007 the mankind has used an equivalent of one and a half planet Earths to maintain its activity. From 1966 till 2007 the total ecological footprint of mankind has doubled. It is related, mostly, to «carbon footprint» increase that has grown 11 (!) times since 1961.

The national ecological footprint is important for development of policy and plans of action by governments, large noncommercial organizations and global corporations. However for the majority of companies this value is only of theoretical interest as they can and want to be responsible only for their own activity. Many foreign companies estimate their ecological footprint and inform the public about it, building the company policy depending on results of such a calculation.

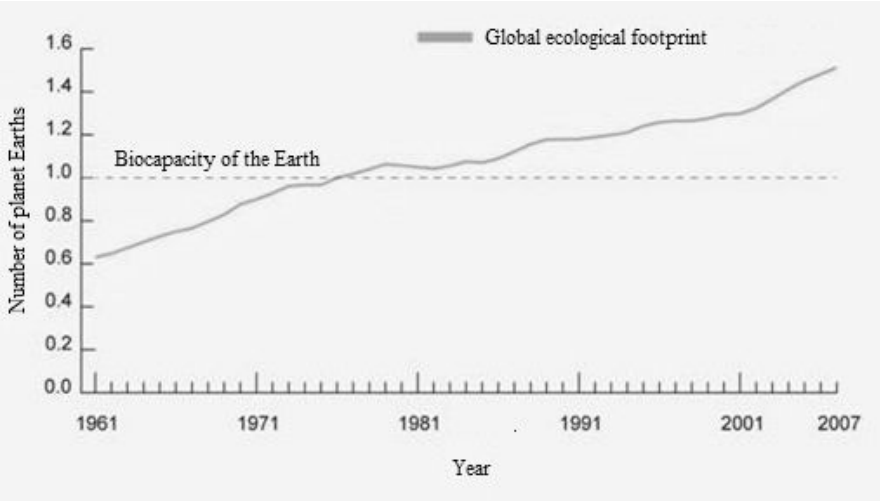


Fig. 3.1. **Global ecological footprint, 1961–2007.**

There are calculation methods of ecological footprint calculation of every person, i.e. you can independently calculate your personal footprint: resources of how many planets you are using in your daily life. One can do it, for example, on the site of the World Wildlife Fund (http://www.wwf.ru/footprint/calculator).

Why is it so important to know about the ecological footprint? What for it is to business, especially small and medium-sized one? Because business is responsible for the majority of emissions of carbon dioxide gas in atmosphere, business uses a considerable share of natural resources and also because business can change the existing state of affairs.

Traditionally it is considered that business exists only for the sake of profits, and any investments in greening are unprofitable. So it was before, but nowadays everything is changing. This change is taking place under the influence of consumers who have a good understanding of environmental activity of the companies, owing to the influence of the state, nongovernmental organizations. Besides, business plays the important social role in a society, and not only for creation of favorable image (it is important too) but also to have the bases for development in long-term prospect. Let us be frank: investments in environmental projects are of two types, the first — do not bring a profit per se, but can yield it in long-term prospect, the second — are compensated.

For an estimation of human intervention in the nature it is also important to examine «Water footprint of production» concept being an indicator of volumes of water use, and allows estimating the level of need for water resources too [103]. This indicator considers volumes of the rain water irrevocably taken from sources and consumed for manufacturing of plant and animal products in agriculture, and also those of the polluted water originated in agriculture and industry and during economic domestic use.

How do you think, what is the water footprint of a cup of black coffee? Answer: 140 liters. This volume includes water expenses for coffee plant cultivation, gathering, processing, transportation and packing of coffee beans, sale of coffee and, at last, for preparation of a portion of coffee itself. And the water footprint of a cup of «latte» with sugar, bought to take out - 200 liters. One should add to it the water footprint of milk and sugar and also the volume of water used to produce a cup [104].

VirtualWater Company calculates the water footprint of various products. In particular, according to the company, the water footprint of a half kilo pack of sugar is 750 l, white bread loaf (500 g) - 650 l, a pork stake (300 g) - 1440 l. By the way, the company issues surprisingly informative and beautiful posters dealing with the water footprint. They can be ordered at the company website [132].

The water footprint of «BigMac» is not easy to calculate as it consists of many components and the data is absent for some of them, in particular among its constituents there are no data on sauce, onion, cucumbers, salad and cheese. They know the water footprint of a bun (74 g) - 118 l and a hamburger (90 g) - 1395 l [102].

Why is such data important? Knowing the ecological footprint and water footprint of your production will allow you to reduce costs, and also to use it in positioning of goods as well as the company itself. Using of the actual data will be of benefit to formation of an internal environmental policy of the company and for communication with all clients without exception.

3b. Sustainable development concept as the model of harmonious management of society development processes

In the modern literature and mass media «sustainable development» concept occurs still more often proposed by the International Commission on Environment and Development headed by Gro Harlem Brundtland. In 1987 the commission published «Our Common Future» report where the key issue became the necessity to find a new civilization development model. There sustainable development definition is given for the first time as «development that meets the needs of the present without compromising the ability of future generations to meet their own needs». «The time has come to give up our old habits... The economy and ecology should be completely interconnected when any decisions are made... », — consider authors of the report.

For years the person felt the conqueror of the nature. The model of extensive increase of scales of involving of natural resources in expansion of industrial activity, then transport communications and domestic sphere has been formed. Social and economic development of a society in the XXth century mainly focused on fast rates of economic growth, done harm to a natural environment. The mankind has faced

contradictions between growing needs of the world community and impossibility of biosphere to meet these needs.

For the last 20-25 years economic load on natural complexes has sharply increased and acutely the question arose about preservation of the environment from an excessive anthropogenous pressure.

By the end of the 1960s in global scientific community there formed an idea about environmental tension growth. Many researchers tried to reveal tendencies of social and economic development and possible ecological consequences as for individual regions as the whole world. Within the frameworks of these tendencies global and regional models of development started to be developed, international nongovernmental scientific organizations to study global processes on the Earth were created. The emergence of the sustainable development concept became a logic continuation of processes taking place at that time.

The «sustainable development» term has originally appeared in nature management area, in particular in fishery and forestry. This concept was used by the people who were engaged in regulation of fishery in Canada in the middle of the XXth century. So they called the system of exploitation of fish resources when these resources are not exhausted, catch of fish matches the possibilities of simple reproduction of populations. But 100 years prior to fishers the same idea, but with reference to forest resources was proposed by German forestry specialists: they meant such system of exploitation of forests when the latter is preserved and felling does not exceed a natural increase [18].

From nature management sphere where it was used concerning local ecosystems, the «sustainable development» term has been borrowed by global ecology. However it was still a long way to its modern interpretation. Gradually theories of «limits of growth» as well as of «sustainable growth» began to appear. Founders of global development projects have come to conclusion that realization of «sustainable growth» policy inseparably linked with formation of «sustainable society». For the first time the basic ideas about such social order were put down in the fullest form by L. Brown in his work *Building a Sustainable Society* (1981) [101]. Later ideas of «sustainability» achievement began to spread more and more in the academic sphere. The number of publications dealing with this issue increased, international scientific conferences began to be held to discuss it.

The major moments in origin of the the sustainable development concept became aforementioned report of The Club of Rome (international nongovernmental organization established in 1968 on initiative and using funds of the western countries and engaged in studying of universal and global problems) «Limits to Growth» (1972г.) and "Mankind at the crossroads" model.

In the report of The Club of Rome titled "Limits to Growth" scientists have drown the following conclusions:

- if tendencies of growth of population, of pollution, of foodstuff production and of exhaustion of resources do not change then growth limits on our planet will be achieved within the next hundred years. The global system collapse may occur during the period from 2020 till 2040;
- there is a possibility to change these trends and to reach environmental and economic sustainability which can be kept up for long time;
- if the world community decides to follow the second way, instead of the first one, the earlier it will make it the higher chances of success [49].

In Mesarovitch and Pestel model, shown in the book Mankind at the crossroads for the first time the global system has been divided into regions: the simulation dealt with not the world as a whole, but with the system of interconnected countries and regions. Results of forecasts by the second global model have detailed and have confirmed the conclusion got by means of the first model: load on biosphere is dramatically increasing in all regions of the world; it is necessary to make urgent measures to prevent the progressing exhaustion of natural resources as delays may result not only in economic losses but also in destruction of habitat at wide regions.

As a result in many countries preservation of the environment laws were adopted, they started to transfer the industrial production away from large cities, closure of hazardous industries (collieries, strip mines, open pits etc.) and so on.

Along with the works of The Club of Rome H. Daly's work *Toward a Steady-State Economy* has appeared [107]. The author has proposed «steady state economy» concept.

The following characteristics are inherent in steady state economy:

- constant population size;
- constant stock of made (goods) or capital;
- ratio of the first two characteristics is established such as to provide good vital conditions and to support them for a long time;
- birth rate and mortality are equal and are supported on a low level, ensuring longer life expectancy. Production rates of articles are equal to those of their deterioration; low rates of deterioration ensure both low rates of exhaustion of resources and low levels of environmental pollution.

H. Daly notices that necessity of development at stationary society direction is determined by restrictions related not so much to exhaustibility of natural resources, as to limits of permissibleenvironmental pollution.

American research institute Worldwatch (Institute of global monitoring), established in 1974 and headed by L.R. Brown, was solving almost the same problems, as The Club of Rome did. The sustainable development concept was being

developed by employees of the institute was based on the idea of equal possibilities for all generations: the society can develop sustainably only if it satisfies its needs not at the expense of the future generations.

Holding of the United Nations Conference on the Human Environment in 1972 in Stockholm and creation of the United Nations Environment Programme (UNEP) has marked the involvement of the international community at the state level in the environmental problems solution. The Stockholm conference was the first attempt to estimate a global ecological situation, to systematize the reasons of its aggravation and to plan ways of solution of the existing problems, environmental policy and diplomacy; environmental law began to develop, for the first time there emerged ministries and departments of environment.

In 1978 at XIV the General Assembly of the International Union for the Conservation of Nature and Natural Resources (IUCN) a World Conservation Strategy was adopted.

In the given document the sustainable development is defined as “the modification of the biosphere and the application of human, financial, living and non-living resources to satisfy human needs and improve the quality of human life quality".

Publication of «Our Common Future» (1987) report by the International Commission on Environment and Development became a landmark in working out of theories of global «sustainability». After that "sustainable development" term became widespread and a new triune concept of the sustainable development appeared [93].

Thus, the sustainable development concept appeared as a result of combination of three basic points of view: economic, social and environmental.

The economic approach to the concept of sustainability of development is based on Hicks-Lindahl concept of maximum income. This concept means optimum use of the limited resources and use of green — nature-, energy- and material saving technologies, including production and processing of raw materials, creation of environmentally appropriate products, minimization, recycling and elimination of waste.

The social component of sustainability development is focused on the person and directed on preservation of stability of social and cultural systems, including, the reduction of number of destructive conflicts among people. The important aspect of this approach is fair distribution of the benefits. Preservation of cultural capital and variety within global scales, and also fuller use of practice of the sustainable development which is available in not dominating cultures is desirable too. It is important to achieve not only intra- but also intergenerational equity.

From the ecological point of view, sustainable development should provide integrity of biological and physical natural systems. The viability of ecosystems

which global stability of whole biosphere depends on is especially important. The main attention is paid to preservation of abilities to self-recovery and dynamic adaptation of such systems to changes, instead of their preservation in some «ideal» static condition. Degradation of natural resources, environmental pollution and biodiversity loss decrease the ability of ecological systems to self-recovery.

The coordination of these different viewpoints and converting them into language of the concrete measures being the means to achieve the sustainable development is an extremely difficult task since all three elements of the sustainable development should be considered in a balanced way. Mechanisms of interaction of these three concepts are also important. Economic and social elements, interacting with each other, generate such new tasks as achievement of equity within one generation (for example, regarding distribution of incomes) and giving a targeted help to poor sections of the population. The mechanism of interaction of economic and ecological elements has generated new ideas concerning a cost estimation and internalization (to be accounted in economic reports of enterprises) of external influences on environment. At last, the connection of social and ecological elements has evinced interest to such issues as intragenerational and intergenerational equity, including observance of the rights of the future generations, and participations of the population in decision-making process.

The sustainable development assumes creation of such social and economic system which would provide on a long-term basis not only a high standard of living, but also high level of its quality, i.e. growth of active incomes, of educational level, public health services improvement etc. It is impossible to call "developing" a society where the capital (means of production, the real estate etc.) is not being increased and environmental riches are being exhausted or a society achiving its economic growth to the detriment of other components of development. Connectedness of economy and ecology, their interdependence - one of the main conditions of a harmoniously developing society. «Unsustainable development» is inherent in a whole number of ecosystems, branches of economy and geographical areas of the modern world.

Conclusions and recommendations of the ICED were favourably received by The United Nations General Assembly and were taken as a principle for "Conservation Goals to the Year 2000" for the world community, developed under the aegis of the UNEP.

Authoritative international prognostic «Futures» journal has devoted to «sustainable development» problems a special issue. The editors of that issue M. Redclift and D. Pearse write: «whether the sustainable development is regarded as a new paradigm in the human history, as return to traditional wisdom or as the important measurement of human activity which we neglect because of enthusiasm for high technology, is obviously fruitful basis for debate. The nature of idea itself

makes us to reconsider the traditional way of thinking and enables us to overstep the limits, rigidly dividing individual subjects — economics and ecology, and also human culture, as opposite to human ecology» [118].

Into the world orbit when the term became really common, "sustainable development" went after a conference in Rio de Janeiro in June, 1992. The conference was timed to twenty years after the one in Stockholm. If the Stockholm conference was called the United Nations Conference on the Human Environment then in Rio the range of problems was expanded: the United Nations Conference on Environment and Development took place there.

Besides a political declaration, the conference in Rio de Janeiro has adopted the document titled "Agenda 21" (over 1000 pages). It is all built round certain ideas about the sustainable development. But an attempt to provide a theoretical basis for the concept or at least, to adjust its definition, the document does not contain. In «Agenda 21» they tried to lump together all modern world problems (environment, poverty, differentiation of countries by the standard of living, resources scarcity, terrorism, equality of women, upbringing and education, drugs etc. - everything that they could remember). The fact that all these issues have been discussed - is certainly good; it is bad that they have not been systematized, their generality has not been revealed and their mutual roots have not been emphasized and therefore adequate approaches to their solution have not been found (trying to solve them as independent - a lost cause). «Agenda 21» underlying idea is like that: if we live well and we will have solved our problems that it will be the sustainable development. And if problems at least partly remain unresolved, - it means the development will not be sustainable, but it will be no one knows what.

In 10 years after the Rio conference, the next United Nations Conference, this time in Johannesburg was held. In spite of the fact that great number of goals, schedules and obligations has been coordinated there, none of these results allows activating at once struggle against poverty as well as a continuous deterioration of environment condition. In this sense the summit meeting in Johannesburg has not proposed any universal solutions or recipes - it has just given the understanding of the fact that it is necessary continually to take practical measures for the solution of a great many of the most urgent problems of mankind.

The first stage of the ingenuous preparation of “coming into the world" of the sustainable development theory in Russia became V.I. Vernadsky’s works about the development of biosphere that led him to the necessity to consider the planetary aspect of activity of mankind and to recognize the necessity to change the mode of existence of mankind. "Historical process is radically changing before our eyes. For the first time in the history of mankind interests of public masses - all and sundry - and free thought of the individual determines the life of mankind, are criterion of its

ideas about equity. The mankind taken as a whole is getting a powerful geological force. And the humanity, its thought and labor faces an issue about biosphere reorganization in interests of freely thinking mankind as a single unit. This new status of biosphere which we are approaching to, taking no notice of it that is "noosphere" indeed [12].

V.I. Vernadsky's merit consists in that that he, in essence, introduces into the analysis of relationships of “individual - nature” system a new criterion measurement "mankind as a single unit", and moves a social analysis to a global sphere. In the center of noosphere viewpoint system which meant to provide socially effective development of the world, there is not simply a person with an abstract humanistic system of values which as social facts show impartially for millenia, is used often than not for its humiliation and enslavement, but mankind with concrete system of essential material practical needs and interests for survival of the present and future generations.

More professional interest in the sustainable development problems in Russia was shown from the second half of the 90s of the XXth century.

In the end of 1993 for the first time in Russia a national plan of action on environment was developed according to The Rio Conference’s decisions. It was based on the Federal Law of the Russian Federation “About environmental protection", the decrees of the Russian Federation government, the Environmental Program for Central and Eastern Europe [58].

The basic directions of transition of Russia toward the sustainable development, which can be also used as blueprint for action by other post-Soviet countries, are given below.

1. Creation of a legal basis of transition toward the sustainable development, including improvement of the current legislation that determines, in particular, economic mechanisms of regulation of nature management and preservation of the environment.

2. Development of the system of stimulation of economic activities and establishment of limits of responsibility for its environmental results when the biosphere is perceived already as not only a supplier of resources but as the life foundation which preservation should be the precondition of functioning of social and economic system and its individual elements.

3. Estimation of economic capacity of local and regional ecosystems of the country, defining an admissible anthropogenous influence on them.

4. Creation of effective system of propaganda of ideas of the sustainable development and creation of a corresponding system of upbringing and education system [16].

At the end we will draw several conclusions. The sustainable development concept is characteristic for singling out of main «countertendencies» which balancing is capable to provide survival of mankind at a qualitatively acceptable level. Selection of corresponding requirements allows formulating fundamental principles of the sustainable development:

- balance between nature and a society (directly — economy);
- balance within a society at the current stage of its development (among individual countries and their regions, among civilizations and large world agglomerations of North — South kind);
- balance between a present and a future condition of mankind as some kind of «criterion function» of development (requirement to preserve vital resources of the nature for future generations) [94].

Topic 4. Global tendencies of penetration of environmental aspects in social movements and business

Eco-marketing origins are in the development of such movements, as consumerism (consumer protection movement) and environmentalism (environment protection movement) [13].

Consumerism - organized movement of citizens and government bodies, directed on increase of the rights and influence of buyers on sellers of production. It emerged in the beginning of the XXth century in the USA and was related to increase in prices, scandals in meat and a pharmaceutical industry. The second wave of the movement of consumers appeared in the thirties and was caused by sharp rise of consumer prices and the next scandal in pharmaceutical branch. The third wave of the movement has begun in the sixties. At this time many societies of consumers were organized, and US president J.F. Kennedy declared that consumers had the right to safety and information, to choice and the right to be heard. From now on the consumerism has become the international and very influential movement in Europe. According to the consumerism principles basic rights of consumers are:

– the right not to purchase a product which is on sale;
– the right to safety of a product;
– the right to be assured, that a product will correspond to the information spreaded about it;
– the right to be well informed of the major characteristics of a product;
– legal protection against doubtful products and methods of sales;
– the right to influence products and sale methods so that it promoted life quality improvement.

Environmentalism - organized movement of interested citizens and state bodies, directed on protection and environmental improvement. It has emerged owing to awareness of limited natural resources and concern about the impact of growing production and consumption on the environment. Environmentalists demand that commodity producers and consumers when making decision take into account the influence on the environment.

Unlike consumerists, environmentalists do not recognise principles of a priority of consumers if their needs lead to environment destruction. In their opinion it is not satisfaction of the consumer as such, but life quality improvement as a whole, should be the purpose of economic system.

Undoubtedly, the influence of movements of environmentalists on the economic environment and vital activity of mankind is pretty significant. Many branches are compelled under its influence to introduce greening into their behavior.

Annotation

The movement of environmentalists has influenced a number of branches, particularly steelmaking, chemical and heavy industry. Municipal services had to allocate considerable means for treatment facilities, wasteless and cleaner technologies and environmental pollution means of control. However the environmental policy in different countries varies very much by its development. Such countries as Denmark, Germany, Japan and the USA have already completely developed their environmental policy; other countries are at different stages of this process. Moreover, the environmental factors which are of great importance for consumers in some countries mean nothing in others. Thus, in Germany and Switzerland it is forbidden to use plastic bottles for soft drinks. However they are widely used in France and became very popular in Kazakhstan too. But if in France they have developed an effective technological process of their recycling then unfortunately, in our country (Kazakhstan) almost all plastic things - growing accumulation of garbage.

One of consequences of the environmental movement is occurrence of new generation, so-called ***"green" consumerists***. They realize the possibility of the consumption compatible with personal needs and requirements of protection of the environment, and induce manufacturers and dealers to give the preference to the green goods.

Greening of consumer needs creates considerable restrictions for some enterprises, for others - opens new possibilities concerning adaptation of products to requirements of ecological compatibility to ensure their competitive advantages.

There exists opinion that *green marketing* - reaction of commodity producers to new requirements of the market [13]. Many corporations and companies hastened to declare that their goods were green ones. According to research data by "Marketing Intelligens Ltd" (Great Britain), since 1986 the quantity of the green goods was

growing 20 times faster, than one of other products. Such labels as “disintegrates under the influence of natural factors", "suitable for secondary processing", "self-destructing", "free from fluorine compounds», «does not destroy an ozone layer", “cleaner", “environmentally safe product" and others are seen more and more on packages and in advertising pamphlets of products.

Annotation

Often these labels are not true or not proved by any documents or researches. "Green" consumerists consider that the lack of common standards of such labels misleads consumers and accordingly causes mistrust towards the environmental marketing.

Recently they began to relate almost 90 percent of problems with population health to pollution [141]. It is caused by the fact that over last two decades the concern of people with an environment condition has considerably increased (fig. 4.1).

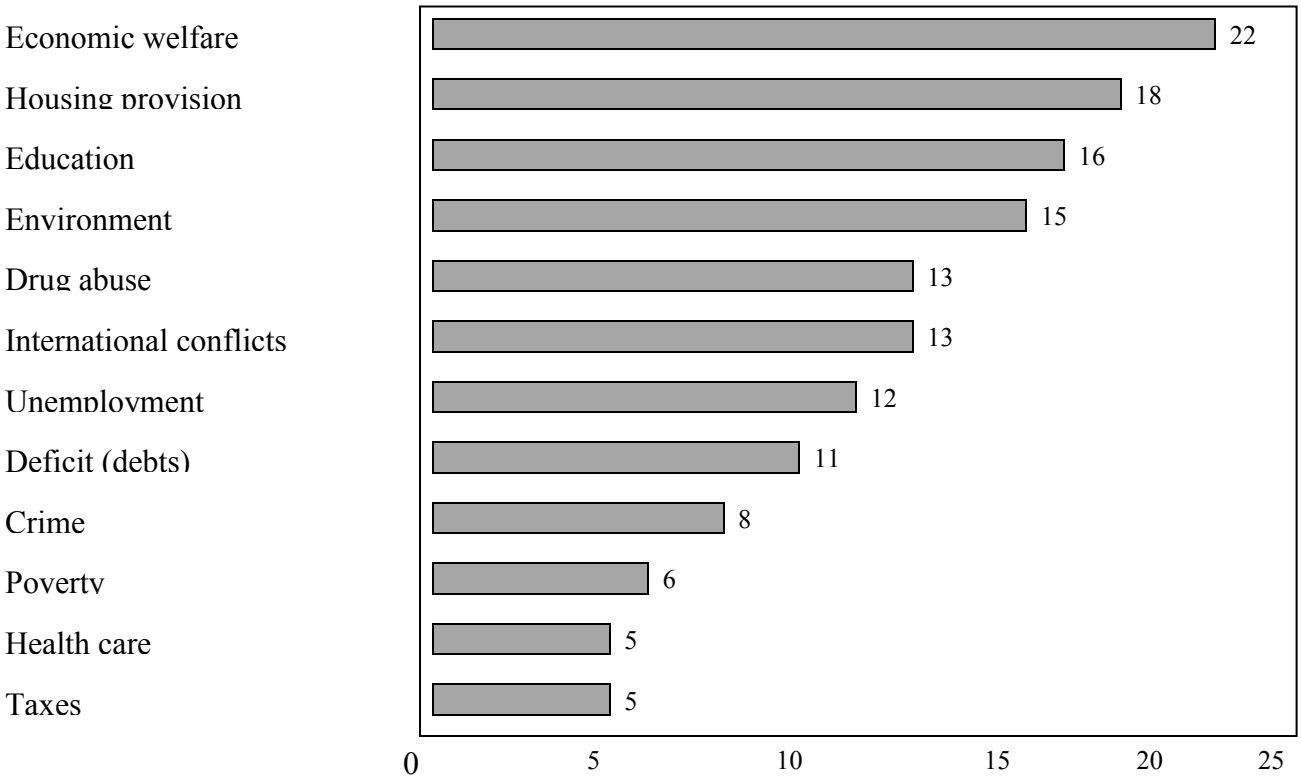


Fig. 4.1. **The problems the mankind is concerned about most of all in the XXIst century [13]**

Annotation

Inhabitants of Sumy city (Ukraine) are very concerned about environmental problems. Below in table 8.1. we will give the picture of their concern regarding separate environmental issues.

Applying green marketing in practice of activity of the enterprises promotes development of the market of the green goods and as a result - solution of environmental problems. On fig. 4.2 it is schematically represented how reorientation in different scales from traditional on the green goods (GG) influences an environmental condition. The diagram shows that the bigger the scales of introduction of the green goods the lower eco-destruction of territiries.

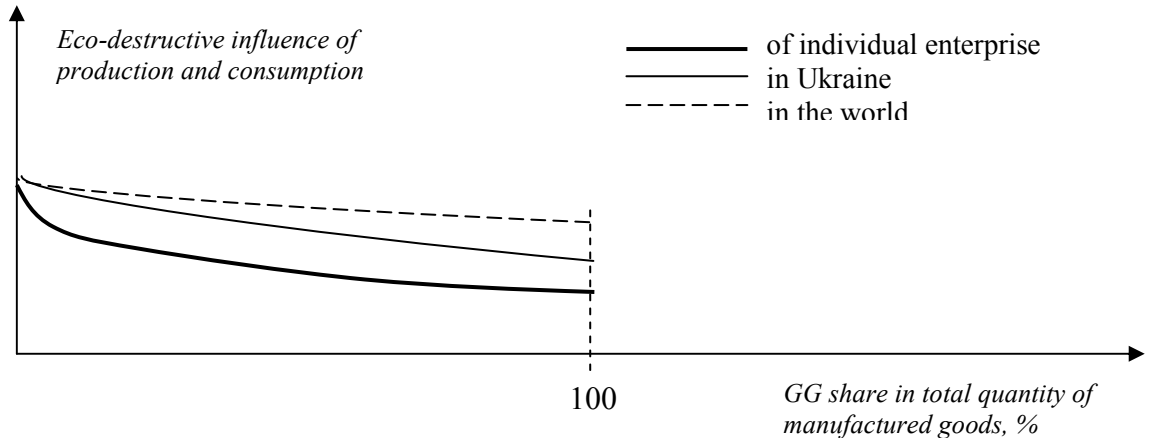


Fig. 4.2. **Dependence of level of pollution on the type of manufactured products**

Advancement of green goods to the market of Kazakhstan is necessary to increase environmental safety level. Besides there are sufficient preconditions and potential possibilities for it with which the Kazakhstan economy is able to overcome actual environmental and economic problems. Increase of environmental safety of the country is one of the most important advantages of formation and development of the market of the green goods.

Environmental safety is the state of environment which provides conditions of functioning, reproduction and development of present and future generations of people at a certain level [31].

Annotation

Environmental safety which is a component of national safety, also is understood as a state when there is no threat of causing damage to natural environment and health of the population [88]. According to another point of view [90, p. 9-19] the concept of environmental safety is interpreted as protection and environment preservation. Thus, in the concept of Environmental safety of the RK for 2004-2015 the ways of solution of unrealized problems have been offered. Among them: assurance of advance development of scientific researches on the major problems of environmental safety and sustainable nature management, including fundamental ones; introduction of uniform system of monitoring of

environment condition; environmental zoning and special mapping of the territory of the RK [41].

There are the following *environmental safety levels*:

I – natural - it has not been changed directly by economic activities of the person (local nature experiences only weak indirect influences from global anthropogenous changes);

II – equilibrium - Rate of regenerative processes is higher or equal to rates of anthropogenous infringements;

III - crisis - rate of anthropogenous infringements exceeds the rate of self-regeneration of nature, but there is no radical change of natural systems yet;

IV - critical - recovery replacement of previous ecological systems under anthropogenous pressure by less productive (partial desertification);

V – catastrophic - hardly recovered replacement of the previous ecological systems under anthropogenous pressure by less productive, fixation of unproductive ecosystems (desertification);

VI - collapse - nonrenewable loss of biological productivity [22].

I-II levels of environmental safety provide perfect conditions of functioning, reproduction and development of mankind, III-IV levels threaten functioning, reproduction and development of future generations, V level - threaten functioning, reproduction and development of present and future generations, VI - leads to the ruin of mankind (and other biological species) [76].

Let us consider, how level of ecological compatibility of the goods influences environmental safety of the country. The environmental safety level of the country depends on volumes of production of the goods of different level of ecological compatibility (in the simplified kind it is the function of the sum of products of ecological compatibility levels of the goods divided by volumes of their production and consumption). On fig. 4.3 dependence in long-term prospect of level of environmental safety from a share of the green goods in manufacture and consumption total amount has been sketched.

The dependence curve has a convex profile since constituents of eco-destructive influences on environment are superimposed against each other, causing total impact increase. This curve does not touch the border of I level of environmental safety because even at 100 % manufacture of the green goods some ecodestructive negative influence on environment will be all the same (in case in the future people will not be able to provide food, housing, etc. by synthesising of a solar energy and so on).

Thus, calculations whose author is O.V. Prokopenko shows that to a modern condition of the market in Ukraine there corresponds the A point on the fig. 4.3.

Thus, formation of the market of the green goods is the precondition to assure of environmental safety of the country.

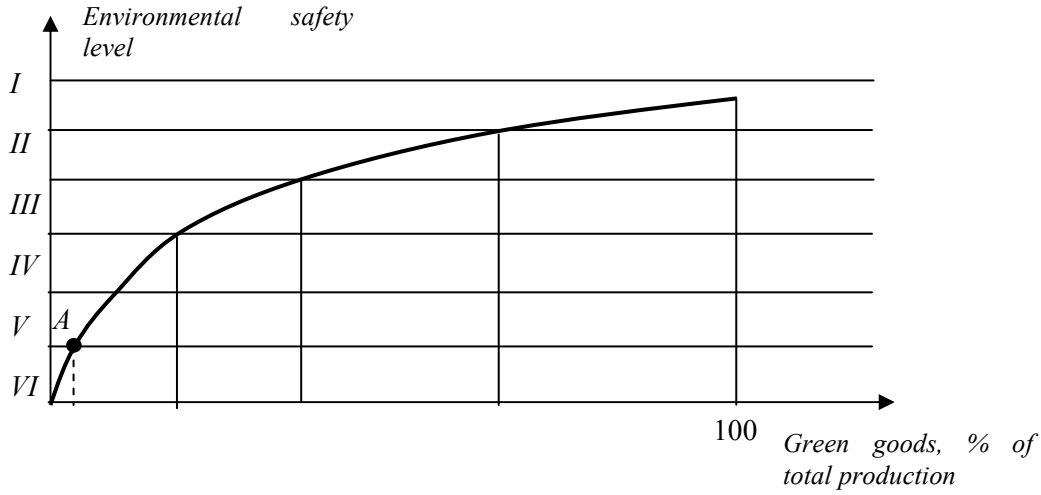


Fig. 4.3. **Dependence of environmental safety level of the country on a share of green goods in total volume of production and consumption**

Curvature of diagram on the fig. 4.3 changes depending on production volumes. At their growth the part of the green goods which is necessary for production, progressively grows.

The ecological situation in a number of the post-Soviet countries threatens internal stability a lot nowadays. Individual regions have got the official status of a zone of ecological disaster [10]. Thus, the Kara-Kalpak autonomous region (AR), being nowadays a part of Uzbekistan (located in the east of the Ustyrt Plateau, in the western part of the Kyzylkum Desert and the delta of the Amu Darya; in the north it is washed by the Aral Sea), was declared already in the late eighties a zone of ecological disaster.

Example

One of the most powerful social movements of an ecological orientation is «Nevada-Semipalatinsk» antinuclear movement which arose in Kazakhstan and which got the international status.

The history of antinuclear movement has begun on February, 25, 1989. That day Olzhas Suleimenov's election speech was appointed who run for the deputy of the Supreme Council of the USSR. But the poet started talking not about his election program, but about that what had happened several days ago at the Semipalatinsk nuclear test site, about radioactive gases leakage, about what danger for Kazakhstanians, for the whole country, represented explosions in Semipalatinsk, about that that nuclear test sites should be shut down, and appealed to Almaty residents to go to a protest rally.

And on February, 28 thousands of people have come to the edifice of the Union of Writers of Kazakhstan. Thus on the long-suffering land of Kazakhstan truly nationwide antinuclear movement titled "Nevada-Semipalatinsk" was born.

"Nevada-Semipalatinsk" movement has expressed a mass protest against nuclear tests at the Semipalatinsk nuclear test site. The movement is two million of Kazakhstanians who have put their signature to an antinuclear appeal during the first days after that rally and who took part in demonstrations, protest marches, peace marches in Kazakhstan, Russia, America, Japan.

At the 1st theoretical and practical conference of the movement in 1992 they have adopted «Revival of the Earth and the Person» program (environmental aspect) according to which the movement has been working up till now. Their observations, researches and recommendations are given by expert scientists, specialists of leading branches of science and technology who are participants of «Nevada-Semipalatinsk» movement.

In 1992 the movement has created an independent public problem committee «Radiation. Ecology. Health». The given committee since first days has started consolidation of efforts of scientists and experts of Kazakhstan for rehabilitation of regions of the Kazakhstan which has suffered from nuclear tests and other technogenic influences on the nature. Active participation of experts of the movement in work of the state bodies enabled the government of the Republic of Kazakhstan to prepare and adopt a number of decrees during 1992.

Today one can say that the International antinuclear movement "Nevada Semipalatinsk" has played a positive role in understanding by the global community of necessity of struggle against the nuclear threat, in understanding of community of destinies of inhabitants of our Planet.

The Movement states as the main kinds of its activity connected with environment:

– participation in environmental law improvement;

– realization of the open public nongovernmental expert control over implementing the international acts about human rights, contracts and agreements on preservation of the environment and the common cultural heritage of the person;

– organization of the mass and nonviolent actions directed, against pernicious coercion over the nature and the person, in protection of the world of environment, culture and other universal values;

– bringing of civil law suits to departments, enterprises and private persons, whose activity causes a damage to environment and the population;

– in coordination with corresponding bodies, participation in the work of the commission concerning protection of ecology, health and human rights;

– Submiting of projects of legislative acts to the parliament by way of deputies' representatives.

From the interview with the chairman of the Union of writers of Kazakhstan, a public figure and a poet Olzhas Suleimenov who led the movement:

«As is known, on the basis of "Nevada-Semey" movement the National congress of Kazakhstan party has been created, through it we integrated pretty many ideas and not only

purely political, but also social ones which, being combined with criticism of actions of the then government, promoted correction of directions and scopes of reforms. And a number of our ideas have been realized due to joint actions - ours and that of the government. We helped to adjest the course».

Today's problems of the Semey region and its inhabitants who have suffered from nuclear tests - financing of post-conversion processes, recultivation of territories polluted as a result of placing and testing of nuclear weapons, rehabilitation of health of the population which has suffered from weapons of mass destruction tests. In a nut-shell: the population as well as the land of Kazakhstan requires the rehabilitation assistance. And it is necessary to find financial means for it [125, 138].

Ecological crises were always primary sources of any social and economic revolutions. In mankind development one knows five ecological crises and technical revolutions corresponding to them [53]:

1) crisis of impoverishment of hunting and gathering (collecting of ready kinds of food: roots, wild fruits, mollusks etc.) - biotechnical revolution (beginning of the use of tools);

2) the first anthropogenous ecological crisis (crisis of consumers overhunting) - agricultural revolution, transition to a productive economy;

3) crisis of primitive irrigated agriculture - second agricultural revolution - wide development of not irrigated lands;

4) the second anthropogenic ecological crisis (of producers) - industrial revolution;

5) modern global ecological crisis of decomposers (i.e. reproducing ability of biosphere) and threat of shortage of mineral resources - scientific and technical revolution.

As we see, environmental marketing development meets the requirements of social movements that struggle for satisfaction of requirements of customers and for the preservation of environmental quality. Therefore the enterprises that will carry out their activity on the environmental marketing, not only will not face resistance of social movements, but also will remove a certain part of psychological pressure of the population connected with sensation of dissatisfaction with the environmental condition in cities where they reside, ecological cleanliness of production which they consume, etc. Such an activity will also promote ecodestructive influence level decrease on environment due to advancement to the market of the green goods and as result - increase of environmental safety of the country.

The main movers of corporate ecological responsibility are consumers and shareholders. For the first three months of 2008 shareholders of American corporations have made 110 moves concerning global warming, the sustainable development and protection of animals — twice as many as two years earlier. As

consumers show the adherence to the green goods/services and the green company, each company tries to coordinate its business activity according to their requirements and expectations. 60 percent of western companies have already included nature protection projects in their general strategy of development [79].

In 2007 among 2687 managers from different countries 48% of respondents have put environmental problems on the first place among factors which will make the greatest impact on shareholder value (let us note that in 2005 it was 28%), 20 percent of them — requirement to produce healthy and safe products.

In the early 2008 when asked «What is the role of the account of climatic changes in business strategy of your company? » The «very important» or «important» answer was given by 71 % of companies in Asian-Pacific region (excluding India and China), 68 % — in China, 65 % — in Europe, 63 % — in India, 57 % — in Latin America and 51 % — in the North America [115].

The Globe Scan Company has analyzed the view of companies about their sustainable development. When asked «When you think about the social responsibility of your company and sustainability strategy for next 12 months, what directions seem to you as that of priority?» Among the answers the most often (over 60% of respondents) was climate change, the forth place (50%) was given to - availability and quality of potable water, the fifth - social principles of the movement toward the sustainable development (48%), the sixth - sustainable consumption (47%) [140].

The analysis of worldwide tendencies in demand and shipments, and also in the general business environment, made by McKinsey & Company, shows that two tendencies from major ten have environmental directivity — ecological literacy of consumers and popularity of a healthy way of life [91].

Nowadays the market of the green goods and services is $230 bln. (of them 76 bln. — sustainable economy, 27 bln. — healthy way of life, 30 bln. — alternative medicine, 10 bln. — personal growth, 81 bln. — ecological way of life), and it will have increased up to 845 bln. by 2015. It is one of the most fast-growing markets. In particular, in the USA demand for green buildings annually grows by 5-10%, and for ecoturism services — by 5 percent [126]. In the USA the number of the green products has increased from 100 in 2004 till 1570 in 2009, and consumption growth of the eco-friendly foodstuff is 5,6% per year. In the USA 82 per cent of customers buy the green products [129].

When asked «Doing the shopping do you choose products that are more friendly to environment?» in the USA in 2009 59,9 percent respondents answered positively, and in 2010 — 62,8% [145].

According to results of the survey done by Information Resources company, 29% of respondents make the decision to buy, based on friendliness of a product and

its package to environment, 23% have declared, that pay attention to ecological compatibility of shops where they do the shopping, and 39 per cent aspire to buy environmentally safe products.

According to the Organic Trade Association estimates global market «organic products» grows annually by 16-20 percent that is four times faster, than the foodstuffs market as a whole. In the USA departments of organic products are available in 72 % of all malls [61].

In 2000 the market of the green goods in Europe was 10,3 bln. euros, and by 2009 it has grown up to 56 bln. According to forecasts it will be 114 bln. euros by 2015. The average household in Europe annually spends on the green goods 369 euros (highest value — in Switzerland where expenses are equal to 555 euros per year) [110].

According to psychologists, inclination of people to natural and green goods/services is explained by the aspiration to better control their life in the world which becomes more and more dynamical, unpredictable, stressful and technogenic [143]. On the fig. 4.4 system and dynamical diagramm of the green goods market development is shown.

From the picture it follows that the whole system has «+» sign. Such systems are called balancing (or negative) loops of figurative connection. Their signs: purposeful behavior, counteracting the growth, stabilizing the system, returning the system to equilibrium.

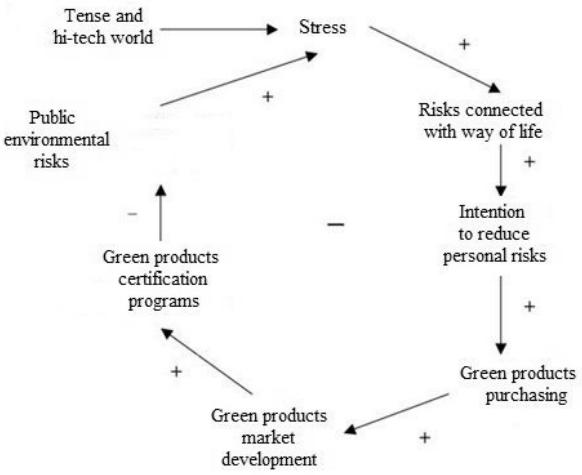


Fig. 4.4. **The mechanism of influence of the stress caused by the intense and high-tech world, on the green goods market development**

Successful business cannot ignore the general direction of market movement towards greening, whether it is the green goods, services, use of renewable energy sources or decrease in a carbon footprint.

PART 2
GREEN MARKETING DEVELOPMENT TRENDS

Topic 5. State and trends of environmental needs

The main categories of environmental marketing are environmental needs and green products which are able to satisfy them.

If for traditional marketing is characteristic for orientation of activity on traditional needs, then green marketing - on the environmental needs resulting from ecological crisis and quality deterioration of the environment of existence.

Annotation

Sometimes ecological requirements are understood as sum-total of natural and sociocultural parametres providing harmonious conditions of life of the person in the nature and a society [21]. But needs are understood also as kinds of products, services, works which are necessary for people and which they wish, aspire to have, consume and use. Therefore environmental needs are needs for green products.

Thus the *satisfaction of environmental needs of consumers (and society as a whole)* should occur so that not to make eco-destructive influence on consumers, their habitat and life activity, and also to promote improvement of environmental conditions.

At the present stage of economy development the majority of products negatively influence environment. However the market of eco-friendly goods grows rapidly and develops thanks to existence of environmental needs which evolution passes four basic stages [51] (fig. 5.1).

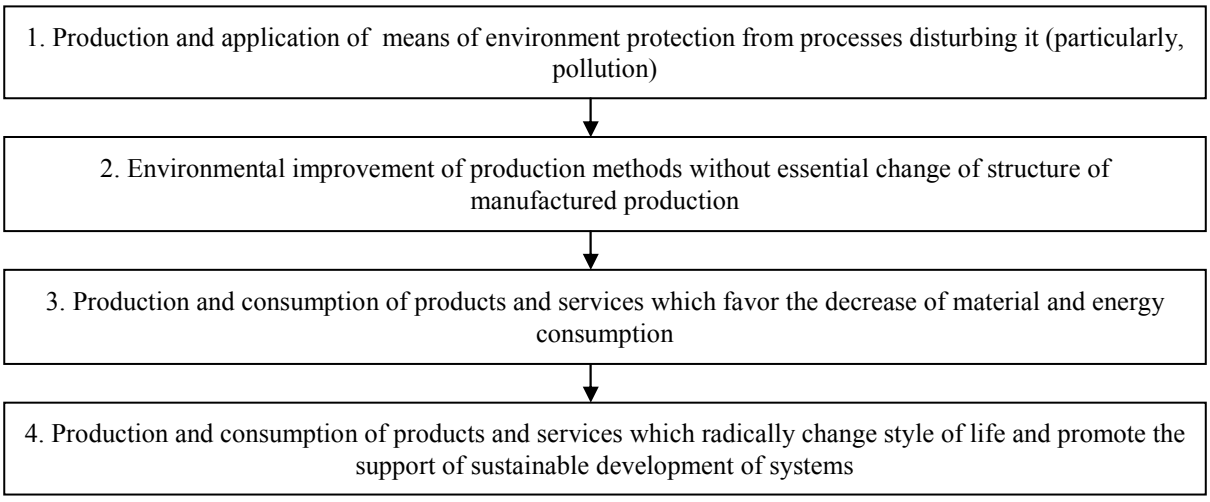


Fig. 5.1. **Stages of environmental needs evolution**

Environmental needs considerably differ by motives of their occurrence, content of the green goods meeting these needs, in particular, depending on, whether these needs are nationwide (social) or originate from commodity producers or customers [30, 52, 64, 72].

The needs of the first group become apparent in occurrence of demand for environment protection tools from destructive, in particular polluting, processes. The main purpose of nature conservation tools - to compensate environmental imperfection of available industrial technologies and consumer products.

These needs are dictated mainly by nationwide (public) interests and are grounded on reasons of necessity to suspend processes of high degree of environmental pollution (mostly owing to technogeneous and anthropogenic influence), that have already caused ecological disasters in some regions of the world (actual destruction of the Aral Sea, the accident on the Chernobyl atomic power station, nuclear weapon test in Kazakhstan, large-scale floods in the Western Europe, etc.), that threaten an ecological disaster on a global scale (global warming, ozone layer destruction, rise of the level of the World Ocean, etc.) and, hence, to the existence of a human civilisation itself. They are real for the population of the majority of the countries of the world, however far from everybody is agreed (or is able) to pay to satisfy them. That is, a share of those consumers, which without corresponding stimulation will pass to the category of demand (needs which are supported by purchase power), is insignificant. It is obvious, that such consumers should be stimulated as at the level of individual states and their regions, as at the international level, mainly - economically and legislatively (including making certain ecological requirements to perspective candidates to influential international organizations or unions). One can also use methods of environmentally focused propaganda. Stimulation of environmental needs occurs during production process of various treatment facilities, equipment for neutralization of harmful emissions and waste.

The second group needs consist in an ecological improvement of production methods without the change of structure of made kinds of production being produced. The basic environmental demand at this stage is focused on technological systems which modernize available industrial and consumer base. This group of environmental needs is connected with economic interests of commodity producers that account for by reduction of costs in case of production greening (for example, saving of material and power resources when wasteless technologies are used), and interests which are stimulated at the state or regional level, when by replacement of "dirty technologies" by" green ones" sizes of environmental penalties and fees, expenses for neutralization and recycling of waste, protective measures are decreased.

The third group needs are based on replacement of ecologically adverse goods and services by more favorable green equivalents within traditional style of a life. The primary goal of the goods and services which succeed old analogues is the essential increase of efficiency of stages of life cycle of each unit of production or service. In particular, production and use of new materials and products should dramatically decrease power consumption of life-support systems of the person. Materials and products, whose manufacture is connected with considerable influence on natural systems, should be succeded by others whose production is greener. This group of needs is connected with economic interests of both manufacturers and customers. They are met by the goods favoring saving of material and energy resources and also ensuring decrease resource intensity of production. Formation of the given group of needs may occur by accelerated rates if there are corresponding, first of all external, conditions for it.

Example

The energy crisis of the 70s caused by the OPEC countries policy has caused in its turn barest necessity of the economically developed countries in energy saving technologies.

This process can be also accelerated by the growth of degree of openness of national economies as its consequence is the aggravation of competitive struggle in which those win who most effectively satisfies the needs of consumers by selling the products which are more economic in consumption, ensuring higher quality of life. For example, less energy-consuming electrical appliances provide saving of means to their consumers; consumption of green foodstuff ensures preservation of health and reduces expenses on medicines.

The fourth group needs are connected with manufacture and consumption of the goods and services which change style of life. It is a question of increase in a share of the information goods and services in total amount of consumption and transition toward the structure of consumption favoring the support of a sustainable development of a society. These needs unite all groups of interests - nationwide, those of the manufacturer as well as the consumer. They have started to be formed long ago enough, however only during recent decades because of formation of the concept of sustainable development and its recognition they began to be formed purposefully. So, needs for wildlife preservations, works on preservation of diversity of flora and fauna and others have started to be shown several centuries ago. But needs for ecological education, products and services, which focus economy on sustainable development began to be formed only at the present stage of social development. And though process of awareness by mankind of its unity with the nature is now gaining strength - without existence of the environment the person as

s/he is now cannot exist - the needs of this group will grow rapidly only in case of creation of corresponding economic, legal and social conditions. That is it will occur only at a certain stage of social and economic development when the needs of the first three groups will have been satisfied on the whole.

The modern condition of environmental and social and economic development is characterized by the growth of environmental needs of the first and second groups, development of the third and the beginning of formation of the fourth.

Examples of products corresponding to each type of environmental needs that have been considered above are presented in table 5.1.

Table 5.1.

The content of products corresponding to types of environmental needs, singled out according to evolution stages (see the fig. 4.1) [44]

Type of environmental needs	Content of the product
1. Means of protective kind	1.1. Means to prevent eco destructive impact (treatment equipment, soil-protective technologies and so on). 1.2. Means to eliminate environmental disturbance consequences (means for deactivation of soils, technology of lands reclamation, etc.). 1.3. Means for protection of the person, technological and natural systems against harmful influence of eco-destructions (water filtration before use, conditioners, protective coverings and so on). 1.4. Means to increase human immunity or to enhance stability of ecosystem against negative influence of eco-destructive factors
2. Products of ecological improvement of technological systems	2.1. Environmentally perfect elements of techological systems 2.2. Works and services promoting ecological improvement of technological systems (research, R&D, consulting services, works on modernization, etc.)
3. Goods increasing efficiency of life cycle of products and services	3.1. Products (including information service), allowing to replace "dirty" products and processes with “clean". 3.2. Products promoting saving of material and energy resources. 3.3. The technologies providing decrease of resource capacity of the goods. 3.4. Means favoring waste recycling
4. Products of style of life greening	4.1. Education and information service (ecological training, consulting and so on). 4.2. Means to support biodiversity and stability of ecosystems. 4.3. Means promoting increase of information contact of the person with natural systems (creation of national parks, green zones, ecoturism, etc.). 4.4. Means favoring spiritual and physical development of the individual

Example

One of the largest segments of the environmental market is the Japanese market (calculations show that it amounts to 11% of global market). Therefore it is useful to know behavior of its customers. The research of components of environmental demand of the Japanese consumers [105] has shown that key rules of environmentally conscious purchases, that consumers follow, are:

• choose less energy-consuming models when buing electrical appliances - 21,6 percent of those asked follow this rule;

• choose products in a reusable packaging - 21.5%;

• refuse excessive packing of the goods - 17,8 %;

• choose products made of recycled materials - 16.5%;

• not to buy drinks in polyethylene packages - 15.8%.

The majority of Japanese people prefer the green goods, instead of cheap environment-unfriendly analogues; buy meat and eggs of hens which have been bred in natural conditions; visit shops which offer services on recycling and sales of cleaner products; do not buy fresh foodstuff packed into foam plastic, and prefer the goods in package suitable for recycling.

Moreover the Japanese behave so that to pollute environment as little as possible. So, 61,4% of those asked do not use paper towels to wipe hands, 57,6% do not flush garbage and oil in sewerage system, 42,6% often switch off the light, 40,4% do not use paper cups and tissues. Besides the Japanese repair broken or idle appliances thus prolonging their durability (19,6%), minimize the use of synthetic cleaners (12,7%), use their own baskets or plastic bags when go shopping (11,9%), do not use bleaches and stain removers (8,8%).

We consider, that it will be useful to borrow experience of Japan in the use of mass media to make consumer preferences environmentally focused (90% of the Japanese customers get knowledge about environmental problems from thematic TV and radio programs, newspaper and magazine articles).

Thus, environmental needs of the present stage are gradually transformed from the needs for production and application of environment protection means toward those for production and consumption of products and services which radically change style of life and promote the support of sustainable development of systems Environmental needs considerably differ by motives of their occurrence and by structure of the green goods which satisfy the caused needs that influences assortment and properties of eco-friendly products appearing in the market. Such trends should be accounted by enterprises focusing on the market of green goods.

Topic 6. Factors of environmental needs development, methods of their discovery

For successful advancement of eco-friendly products to the market it is necessary to investigate and consider influence of factors of development of environmental needs which are classified by the following criteria (fig. 6.1). Let us consider them in detail.

Depending on the level of occurrence and influence factors of development of environmental needs are divided into macroeconomic and microeconomic.

Macroeconomic factors include strengthening of the international and state environmental standards and production specifications, expansion of the list and increase of rates of green taxes etc. Such measures increase the number of economic management subjects that raise ecological compatibility of their products. Thereby increases the quantity of economic subjects and ultimate consumers who are potential customers of green goods.

Microeconomic factors include provision of economic management subjects with information on existence and characteristics of environmental technologies and eco-friendly products. Insufficient efficiency and incomplete coverage of various spheres of economic activities are often peculiar to informational support of economic management subjects.

Depending on the nature of occurrence and influence factors of development of environmental needs are divided into social, economic, political and administrative [44].

Social factors of development of environmental needs are influence of a society, of mass media on a state of affairs in the area of preservation of the environment and protection of health of the population. Mass media report on the facts of harmful influence on environment by subjects of economic activity as well as on taking measures to struggle against it, promote growth of ecology supply.

The group of ***economic factors*** of development of environmental needs include an economic gain from consumption of green goods by both legal and physical persons, in comparison with production which have a similar functional component and lacking similar environmental component of efficiency.

Production and consumption of eco-friendly goods as directly as indirectly promotes increase of economic and financial indicators of activity of the enterprises.

Direct influence is shown in a lower capital intensity of acquisition and use of green products in comparison with environment-unfriendly analogues.

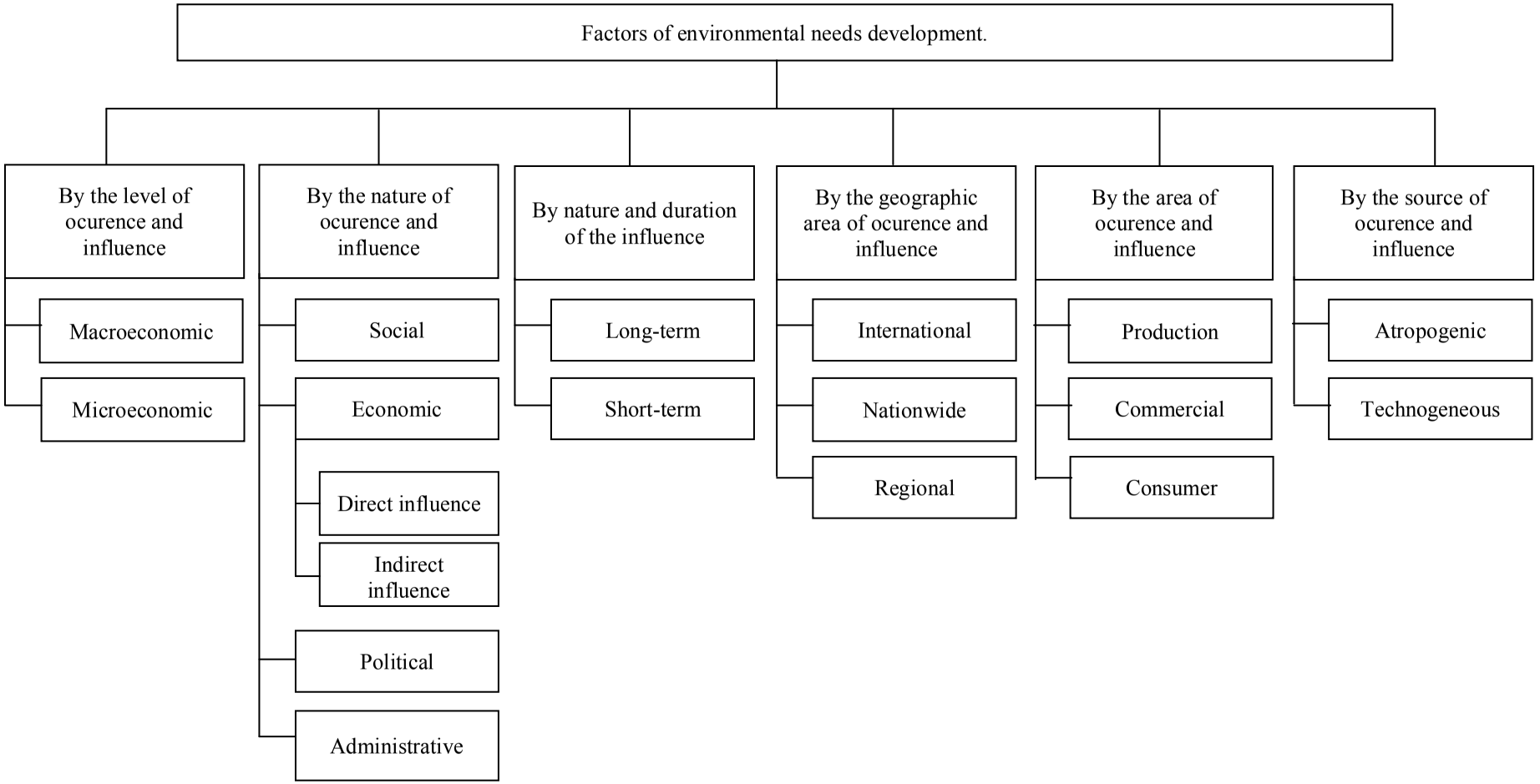


Fig. 6.1. **Classification of factors of environmental needs development.**

Indirect influence of use of green goods to increase economic efficiency of economical activity consists in decrease in expenses on compensation of the harm done to environment, reduction of environmental fees, and penalty financial sanctions as well. The necessity of working out of a technique to turn ecological efficiency into economical one becomes obvious, that will allow creating at the consumer complete idea about advantage of buying of green goods and will show plainly advantages of eco-friendly products.

The group of ***political factors*** of development of environmental includes political orientation of the party in power and having the majority of voices in parliament. Control of the majority of voices, and also work of representatives of the green party on key position in executive bodies should promote greening not only of industrial but also of nonproduction sphere of human activity, namely - of the area of governing a state. The intensity of industrial area greening depends mostly on administrative system greening as the majority of environmental initiatives remain unrealized because officials of all levels are not interested in their realization. The growth of legislative influence of environmentally focused political forces should create favorable macroeconomic conditions for self-development of spheres of manufacture and consumption of green goods. The political factor of efficiency of promotion of green goods to the market is characterized by high potential of nonfinancial assistance to increase demand for eco-friendly products.

The ***administrative factors*** of development of environmental needs are practice of imposing of administrative penalties and bearing of the criminal liability by the heads of enterprises causing harm to environment on condition that the use of green products can lower or completely neutralize eco-destructive influence. That is, if environmental pollution is not the only possible alternative. Practice of laying responsibility on individuals doing harm to environment by making such decisions, - an effective tool to increase demand for green goods since personal interest in search and purchase of such products is obvious.

Depending on the nature and duration of influence the factors of environmental needs development are divided into long-term and short-term [43].

The important ***long-term factor*** of development of environmental needs is inclusion of economy greening in the list of priority directions of country development, registered in government activity programs in long-term prospect. If at the state level the goal to lower pollution up to a certain level and to achieve a certain quality of production in the future has been officially defined then economic subjects have an additional stimulus for greening of their activity under the influence of powerful nationwide economic tools.

The ***short-term factor*** of environmental needs development is considered a successfull conducting of ad campaign. Using the mechanism of advertising as

effective means of stimulation of demand on green goods is a necessary condition of their effective promotion to the market. However the advertising campaign influences only in the short-term period and in a certain time it should be repeated as its positive influence will be neutralized gradually owing to campaigns of other production reducing costs of potential customers.

Depending on a geographic area of occurrence and influence factors of development of environmental needs are divided into international, nationwide and regional.

The world community concern about the threat of global ecological catastrophe has led the problem of greening of production of enterprises at the ***international level***. The international environmental organizations are doing all they can to exert both administrative and economic influence on economic management subjects in all countries of the world in a direction of stimulation of their sustainable development. The innovative component of green products may potentially provide to any country competitive advantage in the international market. Production and consumption of such products in a country opens access to many domestic goods on foreign markets and raise its international prestige.

The ***nationwide factors*** of development of environmental needs are formation and realization of government programs on complex restructing of a national economy of a country for the purpose of its greening.

The group of ***regional factors*** of development of environmental needs includes environmental initiatives of local bodies of executive and legislative power, presence of regional economic and social specificity.

Depending on the level of occurrence and influence factors of development of environmental needs are divided into industrial, commercial and consumer i.e. demand for eco-friendly products can be caused by industrial interests, commercial profit or needs of customers.

Industrial factors of development of environmental needs are defined by industrial interests which structure includes all complex of technical, economic and ecological requirements of the modern production which satisfaction is possible only by using green products.

Commercial factors of environmental needs development are defined by commercial benefit from realization of intermediation and offering of various services on all way of promotion of green goods from the manufacturer to the end user.

Consumer factors of development of environmental needs are defined by the needs of the population the latter include aspiration to preserve one's health and that of relatives, concern about the next generations.

Depending on the source of occurrence and influence factors of development of environmental needs are divided into anthropogenic and technogeneous [44].

Anthropogenic factors of environmental needs development are defined by interests and needs of the person, consequences of his economic activity.

Technogeneous factors of development of environmental needs development include achievements of scientific and technical advance that make green gods more accessible to large-scale production and consumption, and also promote support of economically effective production.

The influence of the aforementioned factors leads to the change of requirements and needs of consumers, and also generates new requirements and requests. Potential possibilities of their occurrence and manifestation should be traced and analyzed all the time.

Owing to the action of multidirectional factors development trends of the green products market in toto and its separate segments are changing. Market research are necessary to reveal them.

For revealing of already existing environmental needs it is possible to use traditional tools of marketing research. To determine potential environmental needs one ought to analyze in addition environmental problems which cause them (a modern condition and tendencies). So, the idea about the need for such green services as recycling and processing of waste, it is possible to get from current statistical data published in annual regional and national reports on the environment condition and other editions where it is possible to get data on a status and tendencies of regional problems with other kinds of pollution.

Some idea about environmental needs gives research of the attitude of the population to environmental problems (see table 9.1) - the higher consumers' concern about environmental problems the higher their potential demand for eco-friendly goods.

Certain specificity is inherent in green innovations that consist in that that working out of green goods (especially those based on latest achievements of science and technology, results of basic research and discoveries) first of all deals with creation of such products analogues of which did not exist before. It is caused by the following reasons [29]:

• needs and customers' requirements, new products meant to satisfy, were met earlier in a different way (the first kind of innovations);

• needs, new products meant to satisfy, did not occur earlier (the second kind of innovations);

One can not use conventional methods of market research for that of green products. One should apply such methods to research the needs for new goods as: forecasting of the future needs of consumers, of changes of motivation of their

behavior (according to market transformation of economy); situational modelling and simulation of consumers' behavior both at the present time and the future (for example, during the analysis of possibilities of conversion use of military technologies); the analysis of tendencies of scientific and technological advance development, of changes of environmental, technological, economic, legal, social, political, cultural and other components of economic management environment [35, 98]. Distinctive feature of these methods is that they operate with probabilistic estimates of future needs and requirements, possible reactions of consumers to new products and new ways of their selling.

One should note that the knowledge of factors of development of environmental needs allows the enterprises to behave more confidently in the market to which constant changes are peculiar.

Topic 7. Types of goods according to ecological compatibility level

In current environmental and social and economic conditions the main tasks of environmental marketing are tasks of formation and development of the market of eco-friendly goods to resolve conflicts between economic development and necessity of rehabilitation and the subsequent preservation of quality of environment.

Recently there have appeared more scientific researches concerning not the estimation of harm done by manufacture of particular goods, but ecological benefits received when cleaner products are consumed (table 7.1).

In most cases they consider the influence of the goods on environment only at separate stages of product life. For example, positive influence of the use of of treatment equipment on environment is analyzed. But in so doing the harm done to environment during its manufacture and recycling is not taken into consideration. However at every stage of product life cycle there is eco-destructive influence of various kinds (fig. 7.1).

Annotation

There are different definitions of "green goods" category. Some economists understand various kinds of natural resources as eco-friendly goods [99, p. 159], others only clean air, water, soils, and also health (one can see details in a monograph by S.M. Ilyashenko, A.V. Prokopenko [30]). In A.L. Kirillov's work green goods are products and services manufacture and consumption of which promotes decrease in integral ecological impact per unit of gross national product [38]. The green goods are understood as all those that can satisfy environmental need, and offered to the market to attract attention, acquisition, use or consumption [1]. They use the concept of green innovations too - such

Table 7.1.

Results of green products use [44]

Results of green products use	Economical content of effect component
1. Decrease of energy intensity	1.1. Decline in maintenance cost for energy consumption 1.2. Reduction of capital expenses for energy complex objects. 1.3. Improvement of monetary balance owing to reduction in energy carriers import. 1.4. Additional economic gains due to improvement of the structure of investment means and to capital turnover acceleration
2. Reduction of material capacity	2.1. Decrease of costs for material resources. 2.2. Reduction of capital expenses for acquisition and processing of material resources. 2.3. Increase in currency receipts of a country owing to improvement of an import-export balance of national economy. 2.4. Additional economic gains due to improvement of the structure of investment means and to capital turnover acceleration
3. Replacement of energy carriers or structure of material resources	3.1. Decline in current expenses due to price difference. 3.2. Reduction of an economic damage owing to application of environmentally more improved materials and fuel kinds. 3.3. Reduction of an economic damage due to the accident rate level
4. Use of waste products	4.1. Reduction of economic losses because of pollution of environment components. 4.2. Decline in expenses due to saving of primary energy/material resources
5. Change of functions, dimensions, properties of products in comparison with analogues	5.1. Reduction of economic losses owing to reduction of inefficient territorial and time spheres of operation of production. 5.2. Reduction of economic losses owing to reduction of inefficient territorial and time spheres of operation of production.
6 Replacement of environmentally dangerous kinds of production by those environmentally focused	6.1. Reduction of an economic damage due to elimination of environmentally dangerous factors. 6.2. Reduction in costs for prevention of negative influence of unsafe environmental factors

changes in social and economic development of economical system which along with positive social and economic effect improves the state of natural environment or considerably reduces negative influence on environment [3]. But, according to the previous experience of regulation of economy greening processes, efficiency of regulating influences considerably depends on substantial quality of "green goods" concept - what this term should mean, that is, what to be regulated and what to be managed. The analysis and generalization of various meaningful concepts became a basis for the further grounding and definition of “green goods” category.

Green goods are the results of human work (economic management activity) presented in a material object form (*tangible products*), in spiritual or information form (*intellectual products*), or in the form of *performed works and services*, production and consumption of which favors the decrease of integral eco-destructive influence per unit of gross national product along with simultaneous increase of cost efficiency in the area of their manufacture and consumption. Thus, eco-friendly goods can satisfy environmental needs and are offered in the market to attract attention, acquisition, use or consumption.

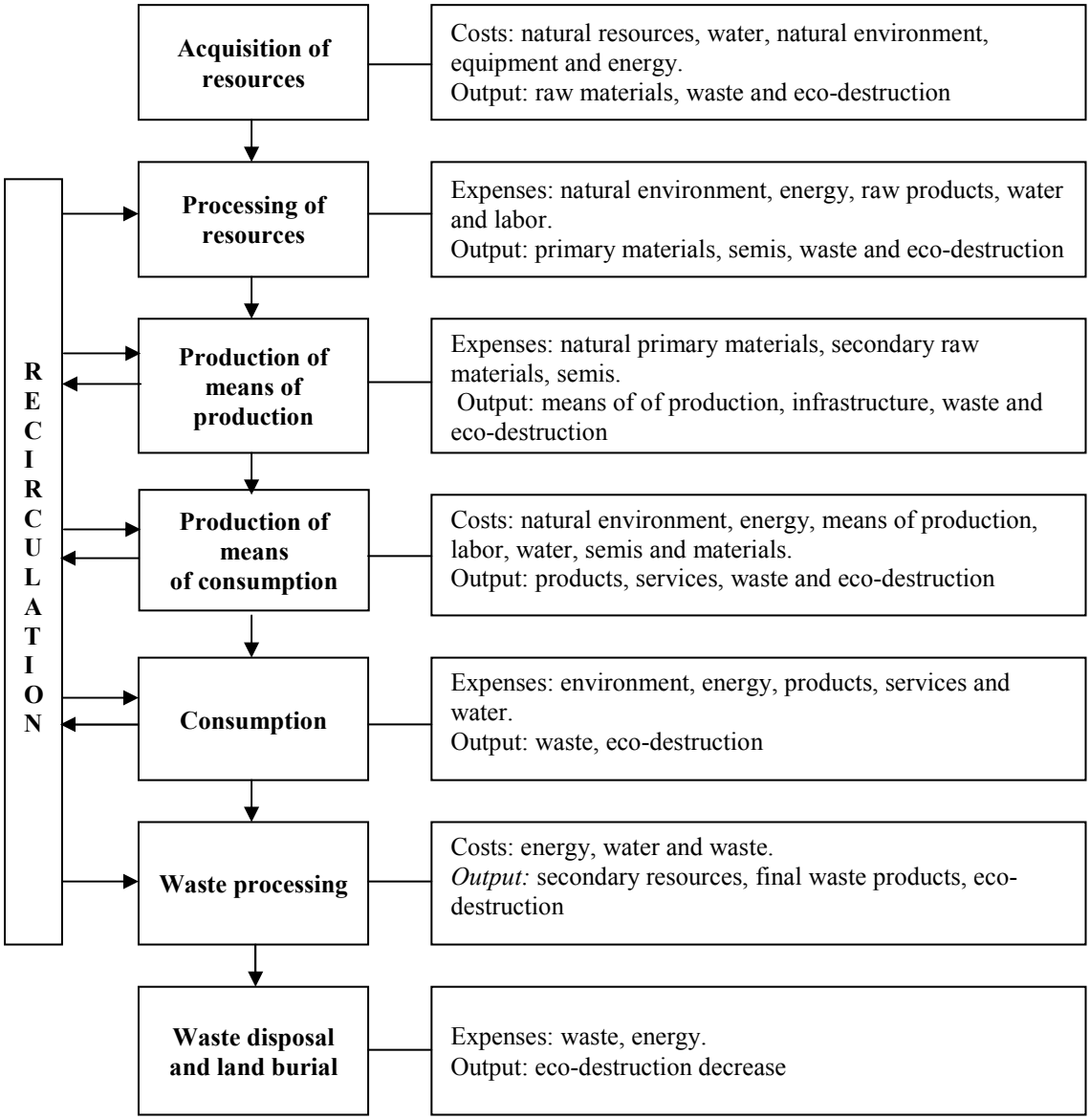


Fig. 7.1. **The basic components of inputs and production output at stages of product life cycle [51]**

According to the degree of eco-destructive influence on environment there are green and non-green products [31].

Non-green products include environmentally unsafe and environmentally appropriate products.

Environmentally unsafe - products which working out, production, consumption and disposal total eco-destructive influence exceeds assimilation abilities of the environment.

Environmentally appropriate products - those that bring eco-destructive changes within assimilation abilities of the environment.

Green goods are those that are cost efficient and environmentally safe during their production, consumtpion and disposal. They are subdivided into environmentally neutral and environmentally focused.

Environmentally neutral - products whose production and consumption do not destroy environment. For example, package that after its use decays in environmentally safe way into harmless mineral and/or organic substances.

Environmentally focused - goods whose production and consumption bring positive changes to environment or prevent negative ones. For example, the equipment and fabrication methods of artificial ultrahard materials, instead of their extraction in mines or opencast mines, that enable not to disrupt natural landscapes, environmental pollution by rock etc.

Today a great number of products made to satisfy various needs of a society, exerts eco-destructive negative influence on environment. This influence is arranged by the following signs:

• *influence kinds*: mechanical; chemical; physical, including thermal, of light, of noise, electromagnetic; radiation; biological, including biotic and microbiological;

• *product life stages* at which there is an influence (vide fig. 7.1): extraction of resources, processing of resources, manufacture of means of production, production of means of consumption, consumption, waste processing, elimination and burial of waste;

• *recipients* influenced by it, the main of them are: population health, housing and communal services, forestry, agriculture, fishery, industry and transport.

At each stage of its life the product can influence environment as negatively as positively. For example, it can increase pollution and accordingly influence recipients as well as counteract pollution or eliminate its consequences.

To put products into one or another group distinguished by its ecological compatibility level, they make an expert evaluation of them. For this purpose a group of experts competent in issues of ecology and environmental economics is selected, and each of these experts gets evaluation tables like table 7.2 to evaluate the influence of a product on each recipient.

Table 7.2.

Evaluation table of product ecological compatibility (simulated example)

Recipient: Agriculture								
Kind of influence	Product life stage							
	Acquisition of resources	Processing of resources	Production of means of production	Production of means of consumption	Con-sumption	Waste processing	Elimination and burial of waste	Total
Mechanical	-3	-1	0	-1	-2	1	1	-5
Chemical	-2	-1	0	-1	0	1	0	-3
Physical	-4	-1	-1	-2	-1	2	2	-5
Radiation	-1	0	-1	0	0	0	1	-1
Biological	-1	-1	-2	0	-1	0	1	-4
Total	-11	-4	-4	-4	-4	4	5	-18

The table is filled by experts who put down the points characterizing a direction and strength of a certain kind of influence during a separate stage of product life. The points vary from "-5" to "+5". The sign in front of a figure indicates an influence direction. Hence, if the goods is eco-destructive, i.e. exert a negative influence (at product life stage being considered it adds to environment a certain kind of pollution which respectively influences the recipient) then «-» sign is put down. If the product positively influences the recipient (i.e. at a separate stage of product life it counteracts a certain kind of pollution, occurrence of its consequences or eliminates this kind of pollution, prevents it or occurrence of its consequences) «+» sign is put down. The figure means the strength of influence (either negative or positive). When there is no influence then «0» is put down. The point scale of product influence on the recipient which should be used to fill in estimation tables is shown on fig. 7.2.

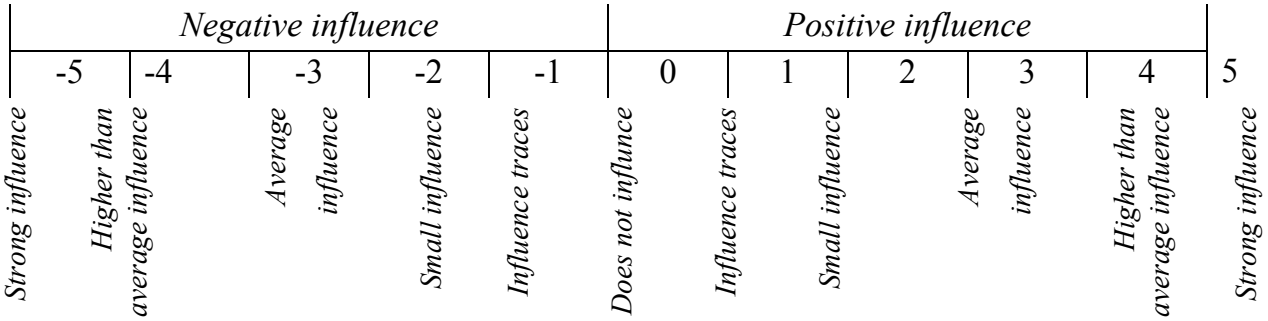


Fig. 7.2. **The scale of points characterizing the strength of influence on the recipient**

Annotation

The experts get advice regarding filling in evaluation tables. Thus, they should be instructed in the content of points dealing with strength of influence used in this technique that helps to increase the accuracy of their appraisal. At a negative influence they can mean

the following: influence traces - the recipient feels weak indirect influences; small influence - more perceptible, but strength (rate) of reconstruction processes of the recipient considerably exceeds that of influence; average influence - strength of reconstruction processes is equal to that of influence; above the average influence - strength of influence exceeds that of reconstruction processes (hardly recovered influence); strong influence - irreplaceable influence on the recipient.

Summation of the points within rows in the table 7.2 allows determining directions of the most sensitive influences (either negative or positive) by their kinds, and their summation within columns allows determining and comparing strength of influence at product life stages.

The sum of all points put down in the estimation table (the right bottom cell of table 7.2), is total point of influence of the goods on the recipient. In theory it is within «-175» and «+175».

The integral point of influence of the goods on environment is defined as arithmetic mean of received total points of the influence of the product on each of the recipients.

Ecological compatibility level (E) is calculated by averaging of integral points given by the experts. Depending on the received level of ecological compatibility the product is put into one of the groups differing by the degree of ecological compatibility (table 7.3).

Table 7.3.

Division of products into groups by their ecological compatibility level

Group of products	Ecological compatibility level
Environmentally focused products	$+35 \leq Э \leq +175$
Environmentally neutral goods	$-35 < Э < +35$
Environmentally appropriate products	$-70 < Э < -35$
Environmentally unsafe products	$-175 < Э < -70$

This technique allows getting a preliminary appraisal of diverse products and in order to get it one does not need considerable costs, accumulation of the statistical data, special devices, availability of standards, of various green goods etc., and can be used under conditions of scarcity of information.

Annotation

For more precise appraisal it is necessary to consider also weightiness of each stage of product life within its total duration, progressive growth of influence of pollution at long-term influence on recipients by certain kinds of pollution, weightiness of recipients in environment from the point of view of necessity of their protection. Such more precise appraisal has been stated in a work [65].

At the opportunity to estimate in terms of quantity a predicted harm or positive changes in environment due to manufacture and consumption of the estimated product, the given technique can be modified to get an estimation of ecological compatibility level of high accuracy. Thus in evaluation tables one should write down quantitative (more often monetary specific, that is per unit of good value) estimations of influence on environment. The estimation of ecological compatibility level got this way is connected with rather high costs. Therefore its application is not always expedient.

The offered technique depending on the tasks of ecological compatibility evaluation of the product can be modified. So, the estimation of product ecological compatibility can be made sequentially not for each of the recipients perceiving the influence, but for each of product life stages or for each of influence kinds.

Calculation of the ecological compatibility level of the product allows determining priority directions of production development from the viewpoint of both environmental influence minimization and getting of the maximum environmental effect.

The tendencies of environmental marketing development have been defined in this part (condition and tendencies of environmental needs development, factors of environmental needs development, methods to reveal them, and also methodical approaches to definition of product ecological compatibility level) allow choosing the most economically expedient and environmentally effective directions of development of domestic enterprises, promoting as full introduction of environmental marketing in economic activity practice as possible. Effective realization of environmental marketing is promoted also by the knowledge presented in the next part about types of consumers at green marketing.

PART 3
TYPES OF ENVIRONMENTAL MARKETING CUSTOMERS

Topic 8. Types of customers according to ecological compatibility of their behavior

The success of market promotion of a certain cleaner products considerably depends on accuracy of the account of personal characteristics of existing and potential consumers, of their attitude towards ecological compatibility of production (either to buy cheap products, not paying attention to their ecological compatibility or to protect oneself against detrimental health effect by choosing green ones).

By the attitude towards ecological compatibility of the goods consumers are divided into such who pay attention to ecological compatibility and those who do not pay (indifferent in this respect). There is also a small category of customers who think that the information on ecological compatibility is an advertising gimmick and therefore do not believe and show a negative attitude towards ecological compatibility data.

Annotation

The important and perspective purchasing power of green goods is children. They essentially influence the decision of parents concerning purchases, and they are the future consumers and intermediaries between manufacturers and parents themselves. In the USA more than 1/3 of parents have changed the consumer behavior because their children convinced them of importance of environmental problems. 26 percent of US college freshmen participate in programs on cleaning and environment preservation. Students are also active supporters of environmental organizations as they, as a rule, are most socially active group of the population. Thus, in 1990 students have sent about 3000 letters to McDonalds's headquaters, where they demanded to stop using foam plastic containers.

In turn people, who pay attention to ecological compatibility of products, are divided into three groups: truly green, moderately green and green-like [55].

Annotation

Domestic researches on discovery of market shares of various consumers with different strength of motive of environmentally focused consumption have not been conducted. For acquaintance there is the segmentation of the North America market in appendix A.

Truly green consumers are customers who take part in many environmentally focused measures, from recirculation till making environmentally focused purchases and are ready to pay higher price for ecological compatibility of products.

The consumers who are ready to pay reasonably advanced price for eco-friendly goods (in American slang they are called "green-back") are *moderately green*.

Green-like are consumers who as for the mental attitude towards environmental problems approximate to the green ones, however do not carry out environmentally focused measures. They are concerned very much with environmental condition, wish to improve it, but do not manifest environmentally focused behavior, including consumer one.

Annotation

There are also other approaches to the similar classification. Thus, being guided by the Roper Organization's research (1992) and by own results of researches, J. Ottman divides all customers into the following groups [13]:

• truly "green" (fans) - 20%;

• potentially "green" (youth) - 5%;

• passive "green" (those who have not decided yet) - 31%;

• dissatisfied - 9%;

• the rest part of the population - 35%.

Besides, J. Ottman's research shows that females are more environmentally informed than males, and the most active consumers of cleaner products are families with children. This is due to the fact that women trust more in environmental appeals more trustfully and have well developed instinct of self- and family preservation. The typical "green" consumer - educated, rich, politically liberal female, at the age of from 30 till 49 with children, wishing to preserve one's own health and that of the family, and the planet for the future generations too. Purchasing power and ability to influence people is a desirable type of environmentally conscious customer.

As a result of other research carried out by the Roper Organization (1992), they have distinguished the following four groups of environmentally conscious consumers:

• 1st group: "green" activists (5-15% of the population) - supporters or members of environmental organizations;

• 2nd group: "green" thinkers (30% of the population with 1st group included) - search for new green goods and services, new ways and possibilities for strengthening of safety of their life and health;

• 3rd group: "green" consumers (45-60%, together with 1st and 2nd groups) - buy and consume production related to eco-friendly one;

• 4th group: prospective customers (90%, including the previous groups) - assert that they are interested in ecological results.

Let us consider the utility received by different types of consumers due to ecological compatibility, and readiness to pay a premium for ecological compatibility of products (cleaner foodstuff as an example).

At the normal premium, types of consumers with different attitude towards ecological compatibility have different utility from each additional unit of ecological compatibility (fig. 8.1).

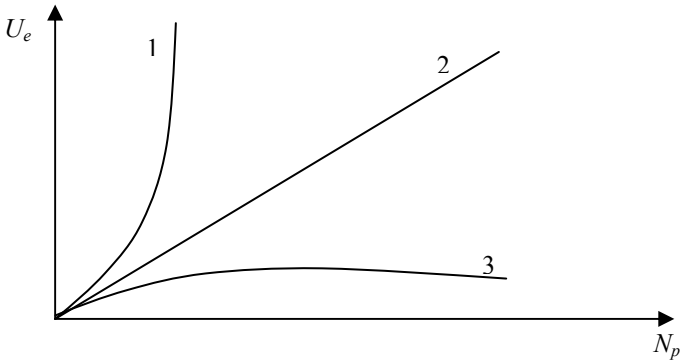


Fig. 8.1. **Utility functions of ecological compatibility (*U_e, $*)** At the normal premium (N_p, $) for different types of customers: 1 - truly green; 2 - moderately green; 3 – green-like

The consumer who is indifferent to ecological compatibility even at the same price for cleaner and doubtful product will choose cheaper product.

For truly green consumer each additional unit of ecological compatibility causes the increasing utility at reasonable price growth (i.e. such which really reflects ecological compatibility increase, for foodstuff it is about 4-6%, on fig. 8.2 - 5%). Even faster the utility increases at low premiums (2-4%, on fig. 8.2 - 3%). Graphically the utility growth at ecological compatibility increase can be represented in the form of a semiparabola abruptly rising upwards. At the high premium (6-10%, on fig. 8.2 - 7%) linear utility growth occurs, at low one - its rapid growth.

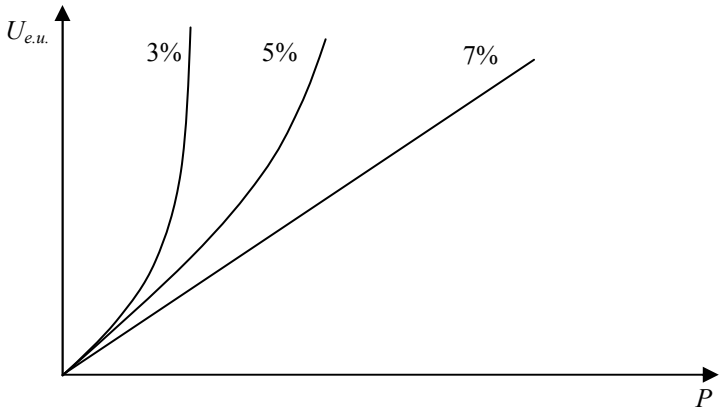


Fig. 8.2. **Functions of specific (per unit of additional ecological compatibility) utility (*$U_{e.u.}$*) of truly green customer at different price premiums (*P*)**

For moderately green consumer the even increase in ecological compatibility at the normal price premium causes linear growth of the utility, and at low - its rapid growth. At the high price premium there is almost no utility growth (fig. 8.3).

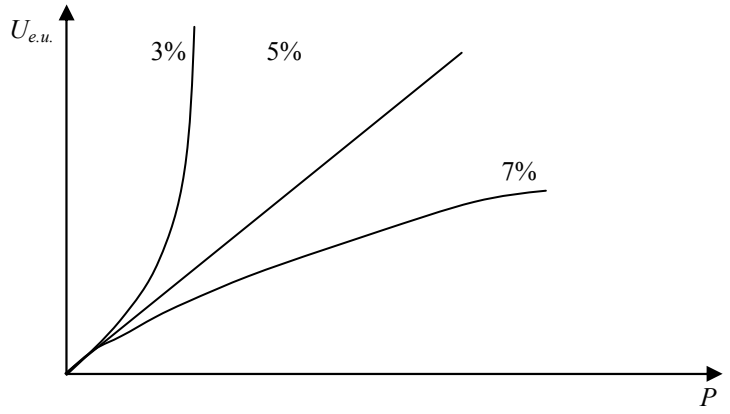


Fig. 8.3. **Functions of specific ecological compatibility utility of moderately green customer at different price premiums**

The green-like consumers feel the utility growth only at ecological compatibility increase that is accompanied by slight increase of prices (fig. 8.4). Along with ecological compatibility growth and accordingly that of prices, the utility gain decreases at each proportional increase in ecological compatibility and accordingly in prices.

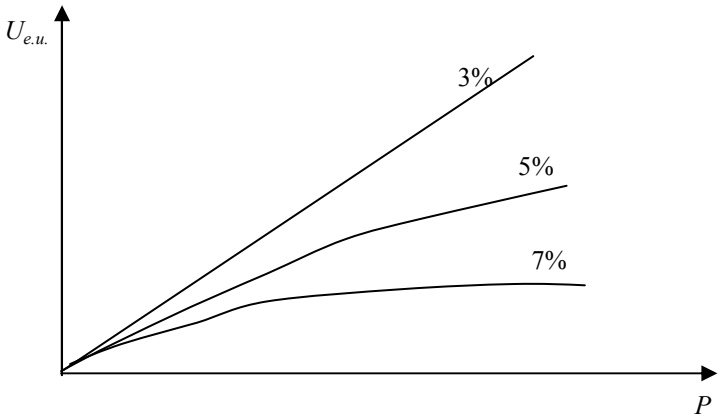


Fig. 8.4. **Functions of specific ecological compatibility utility of the green-like customers at different price premiums**

The attitude of customers towards ecological compatibility is different concerning various green products. They are willing to pay for some kinds of cleaner food a sufficiently high price, but they do not pay attention to ecological compatibility of others.

It is necessary to mention that the premium up to 2% is ultralow one because it is beyond the bounds of consciousness. It can be safely used even in case of consumers indifferent to ecological compatibility.

Making division of consumers into the mentioned groups in modern conditions is extremely important while forming marketing price policy of enterprises-manufacturers and sellers of foodstuff.

Example

During research of the market of cleaner cultured milk foods in Sumy city real consumers of groups 3-4 (fig. 17.1) by readiness to pay for ecological compatibility of production different premiums, it was stated at the survey, all consumers have been divided into the following groups (fig. 8.5).

In the course of research of the market of cleaner cultured milk foods in Sumy city it turned out that those who pay the most attention to ecological compatibility of production were females buying it for children or having high income level. In the group of customers willing to pay for ecological compatibility the premium higher than 10%, there are mostly well-to-do people. In total the considerable part of the population buys cleaner cultured milk foods, but only about 7% because of its ecological compatibility. Middle-income people are guided simultaneously by ecological compatibility and flavouring qualities. When offered to choose from three kinds of products 40 percent have chosen a traditional kefir, 25 percent - biokefir, 35 percent - kefir with lactose. Frequencies of the choice of cultured milk foods of the same level of ecological compatibility of different manufacturers vary.

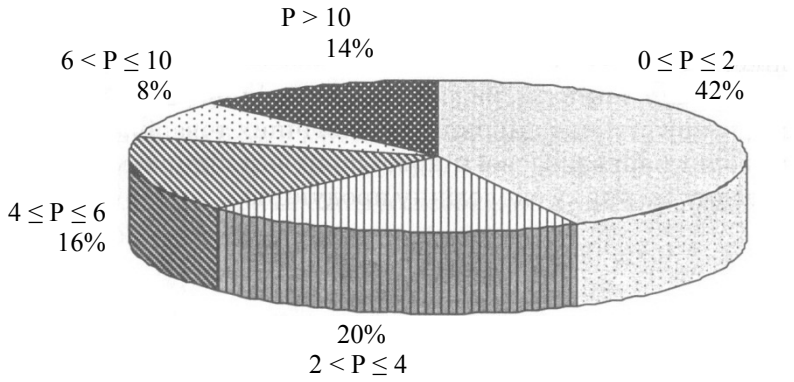


Fig. 8.5. **Groups of actual consumers according to their readiness to pay different price premiums for environmental cleanliness of food**

Many consumers give preference to the definite trade mark. For example, when one needs to purchase cultured milk foods s/he comes to a shop and looks for or asks a shop assistant for the products of Temirtau dairy factory. However if there is none s/he buys products of other marks. The choice among the various goods and trade marks is made when there is a sufficient assortment.

At that consumers can be divided into the following groups:

1) supporters of the certain trade mark;

2) supporters of a certain variety of products (for example, containing bifidus bacteria);

3) those who make choice irregularly and spontaneously.

The bulk of consumers when a new product appears at the market gets at first read carefully foodstuff content, attentively rereads the information given on its package, thus estimating product environmental cleanliness. Hereinafter customers only compare the product price, the idea about environmental cleanliness of production; they have got at their first acquaintance with it, as well as the taste of analyzed products.

To know the types of consumers by ecological compatibility of their behavior is necessary at segmentation of the green products market, and also while forming a marketing price policy of enterprises promoting green production to the market.

Topic 9. Readiness of consumers to pay a premium for ecological compatibility of various types of goods

The solution of environmental problems is undoubtedly connected with promotion of eco-friendly goods to the market. However in market conditions commodity producers promote on the market only that production which will have demand at the price acceptable to the manufacturer. Therefore for manufacturers it is pretty important to determine the consumers' attitude towards green products and to find out their readiness to buy it at the advanced price.

For various reasons (the high cost price of cleaner raw materials necessary for green goods production, the use of high-priced equipment; large volume of research work, etc.) the cost price of eco-friendly products is higher in comparison with that of their analogues. Accordingly the price of the green production in many cases proves to be higher than that of the similar traditional production [28].

To ground the expediency of manufacture of concrete kinds of eco-friendly production diagnostics of readiness of consumers to pay a premium for ecological compatibility is absolutely important. The research of readiness of consumers to purchase eco-friendly production provides the state bodies with the data required for formation of measures to motivate production and consumption of this production.

Example

The researches carried out in the Great Britain in TESCO chain stores, have shown that more than 50 percent of consumers do not mind paying for the goods an additional

mark-on, knowing about their ecological compatibility. While studying the markets of the USA there was a similar situation. In this country such a group of consumers has made up more than 30%. But in practice the situation has dramatically changed. In the USA when the same goods were on sale, percent of those who was ready to pay more, in 1993 was equal to 11, and in 1996 - only to 5. Such negative tendency is observed, unfortunately, not only in the USA [13].

According to the survey done in Sumy city a considerable part of the population concerns with environmental problems. Vertially all of them notice deterioration of ecological situation and are ready to bear certain expenses, including purchasing green goods in order to prevent environmental deterioration (table 9.1). It is proved by potential demand for eco-friendly consumer goods.

Annotation

According to practice, green consumer goods are in demand at representatives of middle class (at least its top stratum) which has started to be formed in the post-Soviet countries. First of all, it is cleaner foodstuff, household appliances, clothing, apartment repair materials and so on.

However it has been established that the percent of those who is ready to pay more for the eco-friendly goods, is decreasing. The misuse of attributes depicting wildlife and other references to the ecological compatibility during advertising campaigns that mislead consumers mostly accounts for that. Environmental demand situation, according to the author, can be changed for the better by application of the grounded eco-marketing communication.

The information on that, how many consumers are ready to pay extra for higher ecological compatibility of production, have been received by the survey of consumers of Sumy city by means of the questionnaire.

The following conclusions are drawn from the survey:

• 90,4 percent of all those asked consider it is necessary to use green production, however only 76,4 percent are using it;

• consumers of eco-friendly production pay main attention to its utility and harm prevention to their health (38,6 percent and 33,4 percent accordingly);

• consumers do not buy green production mainly because of a lack of means (82%), and only 18 percent of respondents - because of personal preferences and tastes;

• the most share of those asked (36%) learns the information about green production from its package, all other sources give practically the same degree of information to customers.

Table 9.1.

The attitude of urban population towards some environmental problems, % from number of those asked

Indicator	Worry	Worry in part	Do not worry	Difficult to say
Air contamination	82,7	14,0	2,0	1,3
	80,7	5,8	2,5	11,0
Water pollution	94,7	3,3	0,0	2,0
	72,6	7,0	5,4	15,0
Radiation situation on the territory	37,3	47,3	4,0	11,3
	70,9	4,7	2,8	21,6
Pollution of settlements	88,7	11,3	0,0	0,0
	70,5	8,1	2,3	19,1
Sanitary condition of resting places	73,3	18,7	4,7	3,3
	67,4	8,6	2,9	21,1
Pollution of the rivers and other reservoirs	80,0	16,0	0,0	4,0
	63,8	8,3	3,0	24,9
Disappearance of animals, birds, mushrooms and berries in woods near by the city	71,3	19,3	0,7	8,7
	60,5	7,7	3,1	28,7
Disappearance of fish in reservoirs	74,7	21,3	0,0	4,0
	60,0	7,3	3,3	29,4
Expansion of territories of dumps and spoil heaps of rocks	74,0	17,3	4,0	4,7
	58,5	8,5	4,1	28,9
Noise at place of residence	63,3	18,7	12,7	5,3
	58,2	9,0	11,3	21,5
Loss of planting spaces and forests near by cities/towns	82,7	10,7	1,3	5,3
	57,5	9,6	3,6	29,3

Annotation. In the numerator - data on Sumy city [30], in the denominator - for comparison that on Russia [46].

Let us consider the results of that part of the questioning which deals with the study of willingness of consumers to overpay for ecological compatibility of production, whose production and disposal do not cause harm to environment, and its use not only does not damage environment, but also helps to preserve health of the person.

To facilitate the perception of results of the research we will represent visually (graphically) answers of respondents. Readiness to pay the price premium for the goods, whose production does not cause harm to environment, is presented on fig. 9.1. As we can see, the greatest share of consumers is absolutely not ready to place their means in purchase of production which favors reduction of eco-destructive influence of production process on environment.

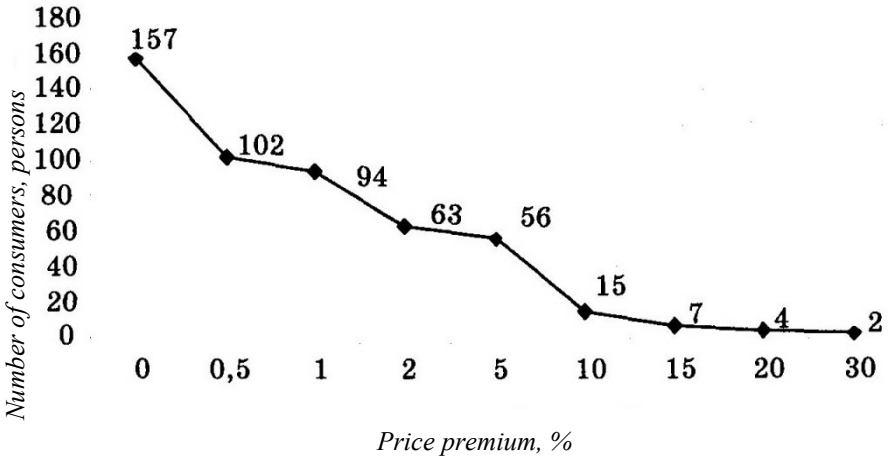


Fig. 9.1. **Readiness to overpay the price premium for the goods, whose production does not cause harm to environment**

The situation is different with the readiness to pay the price premium for the product, whose use does not cause harm to human health. As follows from the fig. 9.2, the most share of consumers ascertains the readiness to pay additional 1% to the price for that that the use (consumption) of production was not injurious to their health or improves thereof. By the results of the research the second-large share of consumers agrees to pay additionally 15%. The smallest part of consumers does not agree to pay for ecological compatibility of production of such a type.

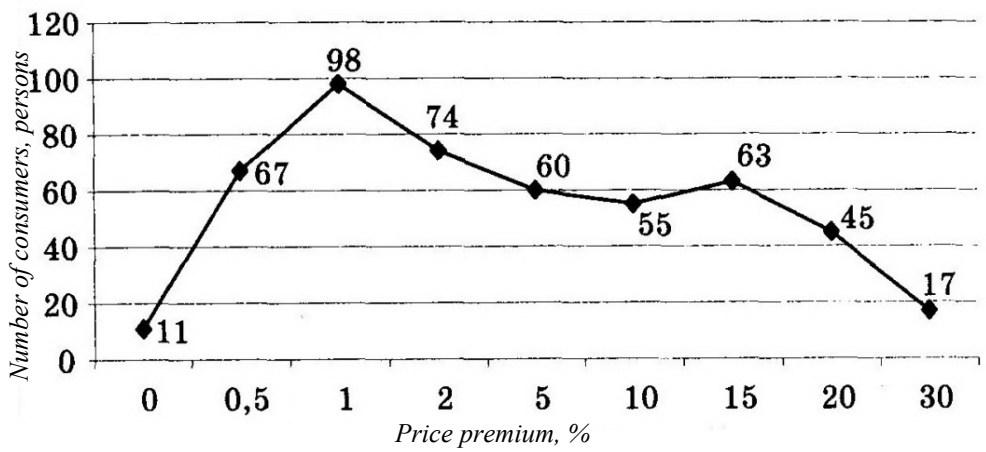


Fig. 9.2. **The readiness to overpay the price premium for the goods, whose use does not cause harm to human health.**

Annotation

It is difficult to explain character of the received curve of the readiness of consumers to payment of the price premium for the product, whose use is not injurious to human health: the middle part of the curve is concave. Probably, subsequent research will allow confirming special features of this type of ecological consumption.

The willingness to pay the price premium for the goods, whose production does not cause harm to environment, is presented on fig. 9.3. As one can see to put means in that that when using production do not damage environment consumers are not sufficiently ready too.

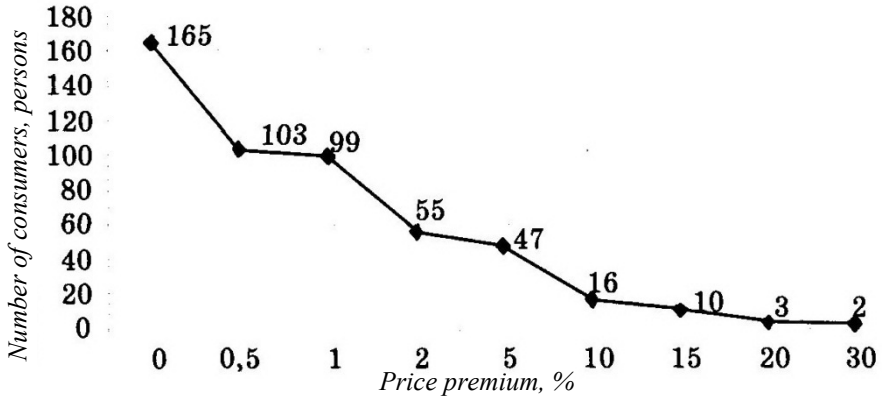


Fig. 9.3. **The readiness to pay the price premium for the product, whose use does not cause harm to the environment.**

The situation is much worse with the willingness to pay the price premium for the product, whose disposal does not cause harm to the environment (fig. 9.4).

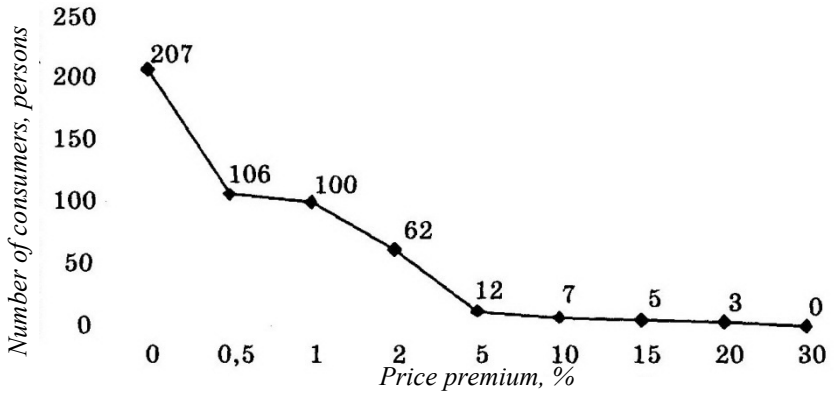


Fig. 9.4. **The readiness to pay the price premium for the product, whose disposal does not cause harm to the environment.**

As is obvious from fig. 9.1-9.4 consumers are ready to pay for ecological compatibility of the product different price premiums that have various advantages. The eco-destructive impact on environment causes influence on a human body only in some period of time. As it was noticed above, people always actively counteract the negative phenomena expected in the near future, and simultaneously show certain indifference to the negative phenomena expected in the distant future. This is also one of the reasons of higher willingness to pay for ecological compatibility of production which directly influences health, in comparison with that which produces indirect long-term effect (by means of environment).

If ecological compatibility of the goods is necessary to meet primary needs then more people are ready to pay for it (as the influence of ecological compatibility on health occurs at once and is more perceptible). If ecological compatibility of the goods is necessary to satisfy secondary needs then less people are ready to pay for it (only those for whom the top level of needs is actual).

The given study has been made where they took green production with a normal price premium for ecological compatibility as an example. Certainly, its results cannot be applied directly for green products promotion to the market if there is a considerable difference in their price and that of their analogues, and those products that are cheaper than environment-unfriendly analogues.

Example

Let us consider the analysis of the prices of two variants of detergents by Procter & Gamble Company, differing by a kind of package (usually - a paper box, eco-friendly - a plastic bag) (table 9.2). At almost equal prices per product unit the consumer has the option of the goods with eco-friendly conveniences and the traditional product with its own benefits [13].

Table 9.2.

Comparison of the detergents price in an ordinary and eco-friendly package respectively

Package	Production	Weight	Price, $.	The price for a unit of weight
Ordinary	Detergent with bleach in a box	67	14,99	0,2237
Eco-friendly	Detergent with bleach in an eco-friendly package	51	11,59	0,2273
Ordinary	Ordinary detergent in a box	85	14,99	0,1764
Eco-friendly	Ordinary detergent in an eco-friendly package	65	11,59	0,1783

In the end of the topic we ought to mention that even if at the beginning the consumer is not willing to pay the price premium for more expensive green product which the enterprise offers, one should not be disappointed. According to the statistical data of Wimm-Bill-Dann, the prefix "bio" ensures the growth of sales volume of yoghurts by 15 percent in comparison with usual analogues [47]. In similar cases the enterprise can considerably increase its profit not due to higher prices, but because of higher sales volume, even at low profit per unit in comparison with less eco-friendly analogues.

To know the data presented in the topic about the readiness of consumers to pay the price premium for ecological compatibility of production of various types is necessary for the enterprises to use it during production and promotion to the market corresponding types of production to reduce the risk connected with overestimation of possibilities to increase green goods prices.

Topic 10. The analysis of motivation of green goods consumption

To implement sustainable development idea in the conditions of market economy is impossible without knowledge of motivation of environmentally focused behavior of the consumer. Such knowledge is necessary at a choice of such green products which will be quickly percepted by the market, and also for creation of possibilities of management of motivation of the consumer to focus it environmentally.

One of the important tasks of the enterprises, focused on the green products manufacture, being diagnostics of motivation of consumption thereof following which they estimate the state of basic components of motivation of environmentally focused consumption and account them in the further development of the production range of the enterprises.

Besides, the study of motivation of environmentally focused consumption at the state level is important. Its results can be used to turn consumption to environmentally appropriate for a society direction.

It is known that the consumer choice strongly influences environment. Such an influence occurs in direct and indirect forms. Direct influence of consumption on environment consists in: increase in emissions at consumption; change of density and warmth of waters, of earth surface and air; immediate placement of waste in environment, in waters which may penetrate into underground waters at watering of gardens, while using some area, aesthetic landscape alteration etc. Indirect influence, in quantitative expression is weightier in comparison with direct one, consists in that that consumption of goods and services is impossible without corresponding

influence on environment during working out, manufacture, storage, sale and other actions with production on a way to the end user.

To make an environmently focused consumer choice the customer must:

1. know about environmental problems.

2. be aware of the importance of a consumer choice for environmental condition.

3. take account of environmental impact of consumption when making a consumer choice.

4. be able to estimate ecological compatibility of the goods and to make an eco attributive choice.

To stop current pernicious alterations of environment the consumer should behave eco attributively (environmentally expediently). It is possible only in case of a sufficient level of environmental motivation and culture.

The motivation is the set of factors which induce activity of the person and determine his activity direction. Needs and interests, stimuli, the situational factors determining human behavior can be motives (fig. 10.1). The motivation of the consumer determines: what exactly and why exactly he consumes this product.

Fig. 10.1. **Components of consumption motivation** [75]

The motivation of green goods consumption is changing all the time In particular, as a result of adoption of more rigid ecological legislation the motivation to purchase the equipment which provides decrease in harmful emissions, and also switch over to environmental technologies use.

The level of motivation to consume cleaner food, everyday life products and other eco-frindly personal consumption products increases too. It occurs not only owing to environmental pollution growth, but also because of people's keen sensitivity to environmental factors, as well as by way of a growing attention to environmental problems, of ecological upbringing, ecological education.

The analysis of the motivation of green goods consumption provides the consideration of each of its components (fig. 10.1).

Motives - rather steady displays, attributes of the person.

Annotation

Motives perform three basic functions: incentive, directing and regulating [86]. Incentive function of motives consists in that that they condition acts of the person, his

behavior and activity. The directing one consists in a choice and implementation of a certain direction of behavior, of activity. The regulating function - in that that the behavior and activity depending on peculiarities of motivation have personal character or directed on realization of interests of collective, of a firm.

For the research of motives of environmental consumption diagnostics of consumers' environmental conscience is important. It allows answering such questions [85]:

1. What place is occupied with ecology in consumer's consciousness?

2. What place six ecopsychologic dispositions take in everyday consciousness and how relate to each other:

– subjugation (subdue the nature);
– submission (obey to its elements);
– spoilage (cause damage, including an unconscious one);
– indifference (detachment position);
– necessitty (consumer position);
– collaborative (position of support and cooperation with the nature)?

3. What qualitative features the concrete environmental conscience of the consumer is remarkable for (characterized by)?

To relate the consciousness of consumers to one or another ecodisposition allows selecting the most effective methods of motivation of environmentally expedient behavior of concrete groups of consumers to reduce expenses for exerting of motivational influence on consumers both at the state level and that of manufacturers of green products and other subjects of the market.

As a whole, evolution the attitude of the global population towards the nature covers the following stages [51]:

• the stage of self-regulation of the nature when the person behaves as a predator, engaged in hunting, fishing, gathering, does a minor felling, constructs housing;

• I stage of disturbance of natural balance in the nature (cattleman-person): destruction of vegetation, fires, migrations of people and animals;

• II stage of disturbance of balance in the nature (farmer-person): burning out and deforestation, an initial stage of soil degradation, disappearance of certain kinds of animals and plants, landscape alteration;

• III stage of disturbance of balance in the nature (discoverer-person): destruction of animals, plants and their living conditions, overexploitation of the seas and oceans;

• IV stage of disturbance of balance in the nature (inventor-person): active exploitation of natural resources, wind and water erosion and soil erosion;

• V stage of disturbance of balance in the nature (person-wasteful): intensification of exploitation of natural resources, exhaustion and destruction of some kinds of natural resources, animals and plants, intensification of pollution of natural resources, desertification, environmental degradation;

• qualitatively new stage in relationships of the person with the nature (creator-person): nature sanctuaries, reserves, preserves, parks, etc., standardization and measurement of environment quality, low-waste and short-life processes, improvements of quality of air and water, of management, planning, stimulation and financing of nature management;

• subsequent stages of relationships with the nature (leader-person according to Berdyaev «Power is a duty instead of rights»).

Among motivation researches done on green goods market the creation of classification of consumers according to the strength of motive of environmentally focused consumption is of great importance [55]. All consumers are divided into truly green, moderately green and green-like by this sign (see the topic 8).

Thereupon the market of eco-friendly goods is at a formation stage, classification of consumers by the strength of motive of new goods consumption is important. According to this sign they are divided into the following groups:

– *innovators* (inclined to buy the new products without waiting when other people will acknowledge them);

– *early adopters* (quickly pass to consumption of new stuff, but preliminary think purchase over);

– *early majority* (act by "I do as well as the majority does" principle);

– *late majority* (slowly perceive new things, more inclined to preservation of existing traditions than to changes);

– *laggards* (active opponents of any novelties, do not consume anything from that that can change their established habits).

Annotation

The majority of scientists share a viewpoint, according to which parity of the consumers of the mentioned above groups is approximately like this: 2,5% - innovators, 13,5% - early adopters, 34% - early majority, 34% - late majority and 16% - laggards. However individual researches show that the attitude of consumers to food novelty products essentially differs. The groups of consumers make up 34,5%, 30%, 18,4%, 14,5% and 2,6% respectively.

The results of research of the Sumy inhabitants' attitude towards individual kinds of new production (table 10.1) induce to assert the distinction of the modern consumers' attitude towards novelties between available theoretical idea about it and about the different consumers' attitude towards various kinds of new products. The consumers' attitude towards other groups of products has not been studied yet, however there are no doubts that

the majority of consumers quickly adapts to new, less detrimental to health computer technics and other green goods.

Table 10.1.

Structure of groups of the consumers singled out by the attitude towards individual groups of new products, %

Novelty	Innovators	Early adopters	Early majority	Conservatives	Late majority
Products of household chemicals	16	13	11	53	7
Foodstuff	37	28	4	25	6
Alcoholic drinks	23	17	12	35	13
Pharmaceutical drugs	4	6	9	62	19
Personal hygiene products	23	26	4	38	9

Besides, motives of consumption are divided into rational, emotional and moral (table 10.2).

Table 10.2.

Types of motives of green goods consumption [31]

Type of motivation	Consumption motives example
Rational motives	Quality
	Effectivity
	Operating parameters
	…
Emotional motives	Unique properties (for example, the highest processing accuracy of a metal-cutting machine)
	Life style (consume only natural products)
	Feeling of fear (for example if not to buy a drinking water filter then kidney stones may be formed)
	Sense of guilt (for example, acquisition of the goods which are made by handicapped people)
	…
Moral motives	Natural environment conservation (product ecological compatibility)
	Feeling of involvement ("buy the domestic")
	…

In domestic conditions it is easier to foreground the rational motives of consumption greening. The rational motives of consumption of cleaner foodstuff, the

use of eco-friendly ware for food preparation, quality filters of potable water clearing consist in assistance to state of health improvement. Accordingly, the expenses for drugs and curative measures decrease. It concerns also eco-friendly materials and the equipment for industry and everyday life (for example, the use of cleaner wallpaper, computer liquid-crystal displays instead of usual ones with a cathode ray tube etc.). Using of cars with fuel injection not only reduces environmental pollution level, but also considerably saves means of its owner. Installation of treatment equipment allows reducing payments and penalties for pollution.

Needs according to Maslow's theory of hierarchy are divided into five groups (table 10.3) which are often shown in the form of a pyramid in which basis primary needs lay (lower), and on its top there are secondary ones (higher) [48].

Table 10.3.

Classification of consumer motives by Maslow according to the hierarchical model

Levels of needs	Groups of needs	The example of needs satisfied by the consumption of cleaner vegetables and fruits
Primary requirements (needs) ↑ Highest requirements (growth requirements)	1. The physiological requirements necessary for survival: food, water, sex and recreation. 2. Requirements for safety and confidence of the future: protection against physical and other dangers (pain, fear, anger and so on) and confidence in that that physiological needs will be satisfied in the future. 3. The social requirements: love, tenderness, belonging to any social structure and identification. 4. Esteem needs: in personal achievements, recognition by people around. 5 Self-actualization requirements (self-expression): growth, realization of the potential possibilities and abilities	1. Nutritional (biological) value. 2. The necessity, which dictated by various diseases, and also guaranteed safety and harmlessness. 3. Environmental protection of kids

Owing to increasing significance of consumption of cleaner products to ensure the health of the nation, and also necessity of revealing of perspective trends of development of the enterprises which produce the given products, the analysis of needs for which satisfaction cleaner foodstuff is consumed becomes particularly urgent.

According to the results of the market researches carried out in Russia [26], 67,3 and 72,1 percent of consumers respectively are interested to purchase cleaner fruit and vegetables. They distinguish among the needs satisfied by the consumption of cleaner vegetables and fruits the following:

- environmental protection of children (31,2 and 26,8% respectively);
- necessity dictated by various diseases (23,1 and 27,5%);
- guaranteed safety and harmlessness (25,4 and 22,6%);
- nutritional (biological) value (4,7 and 3,8%).

In table 10.3 they have correlated the needs which are satisfied with cleaner fruit and vegetables, with Maslow's hierarchy of needs. The 3rd and 4th groups of requirements have not been enabled. However sometimes even they can be enabled during the consumption of cleaner food.

As a whole food is most capable to satisfy the first group of requirements due to a nutritional (biological) value. However as we can see it does not concern cleaner food. Consumption of cleaner vegetables and fruit mainly satisfies requirements of the 2nd group (about 49% of consumers), then of the 3rd group (29%) and barely 4% - the 1st group needs.

The process of non-green products influence on a human body is long enough. It is therefore that the willingness to choose more expensive cleaner food depends on the comprehension of fast action of ecological compatibility of food on health. But the person always actively counteracts the negative phenomena whose occurrence s/he expects in the near future and simultaneously shows certain indifference to those s/he expects in the distant future. The level of needs which the person aspires to satisfy with consumption of cleaner products (table 10.4) depends on speed of influence on the organism too.

Table 10.4.

The basic groups of the requirements satisfied when green goods are consumed, differing by direction and speed of influence on a human body

Speed of influence on a human body	Benefit from ecological compatibility		Harm from ecological non-compatibility	
	significant	insignificant	insignificant	significant
Directly at consumption	5	4	4	5
In the near future	3	2	2	3
In the distant future	2	1	1	2

If ecological compatibility of the goods is necessary for satisfaction of primary requirements then a larger number of people is ready to pay for it (since the influence

of ecological compatibility on health occurs at once and is more perceptible), and a smaller quantity of people pays for satisfaction of the secondary requirements (only those from them at whom high levels of requirements are foregrounded).

Therefore in the course of green goods production it is ought to consider that the low level requirements need to be satisfied immediately and thus they affect the person's behavior earlier than top level needs [48].

Along with change of the attitude towards environmental problems and manufacture development some needs arise, develop, others are weakened and disappear. The person's needs, her preference vary objectively depending on her age, status, economic standing, a season, a week or a day.

At each certain moment of time the person aspires to meet that need which is the most urgent (important or intense) for her. Before the requirement of a following level becomes a defining component of behavior motivation, the requirement of lower level (not necessarily completely) must be satisfied.

The average person satisfies her needs approximately in such a ratio: 85 percent - physiological, 70 percent - safety and protection, 50 percent - love and belonging, 40 percent - self-esteem and 10 percent - self-actualization. The requirements appearing in the hierarchy arise gradually. Besides it is not important how high the person has moved forward in the hierarchy of needs: if requirements of the lower level cease to be satisfied, the person will come back to this level and remain there while these needs will not be met to a certain extent. If the individual does not have enough means for food, s/he will not buy a more expensive cleaner one.

They distinguish the following ***interests and needs*** arising at people as individual persons and members of social groups and associations as a integral element [11], by scale [22]:

1. *Nationwide* ecological interests consist in aspiration of a society to have such an environmental condition which provides normal reproduction and life activity.

2. *Regional* ones are analyzed because dependence of life activity of the population of dirtier regions on environment influence is higher than the population of less polluted territories. Needs of the population of dirtier regions more directed on the solution of nature-conservation problems than in regions with less load on natural systems.

3. *Local* ecological interests arise at the groups of the population living in direct proximity to sources of an increased anthropogenic influence: near large iron and steel plants, uranium mines, nuclear power stations, chemical complexes and so forth.

4. *Personal* ecological interests are shown at members of a society who are more vulnerable to the state of natural environment (for example the sick with diseases of respiratory tract bodies treat more naggingly air quality in areas where they reside).

Commodity producers (for example, of treatment equipment) can be consumers of eco-friendly products as well; the government, in particular by means of the order thereof; foreign enterprises and unions; intermediaries of various types. The interests of each of consumers' groups differ pretty much. So, the characteristics of the goods, which end users are mostly interested in should include health provision, price and maintenance cost decrease and so on. Consumer-manufacturers are also interested in the possibility of acquisition of incomes. The state institutes are interested in green goods ensuring: environmental and economic safety of a country, national economy boom; competitiveness of a country; nation health; replenishments of the state budget reserves. Such consumers as foreign enterprises and unions are interested in slightly different characteristics of eco-friendly products as for example, absence of emissions at operation and disposal, resource-saving. Intermediaries are more interested in the price, profit earning possibility, increase in sale volumes etc.

As a whole environmental needs and interests can be changed and formed purposefully at different levels. However one should distinguish between elastic and inelastic environmentally focused demand.

Stimuli. If while making decision about manufacture and sale of green products an insufficient level of motives of their consumption and of the need in them has been discovered then one should decide whether their production is expedient and also estimate efficiency of formation of measures to stimulate consumption by comparing predicted expenses for their carrying out with desirable results.

The stimuli of green goods consumption are formed at three basic levels: at market level, at level of individual organizational culture and at the state level [11].

The *market* is, first of all, sale sphere. In the market they apply to consumers of eco-friendly production such stimulating measures as discounting and exemption, backing and tax exemption, crediting, leasing, free samples provision etc.

The *organizational culture* assumes the use of created and acknowledged by a society or certain collective of people values, standards of behavior, moral attitudes, rituals, traditions caused by norms and principles of morals, of ethics, of aesthetics, of the right which are recognized by the majority or all members of the given community. Thus, we know plenty of examples when environment-unfriendly production is stopped or is not put into operation because it is not recognized by a society.

The *hierarchy* is a system which is built according to "power - submission" principle. It turns people's actions in socially acceptable direction. The existence of motive of conformity of people's actions to laws, unwillingness to be punished (economically, administratively, criminally) explains the efficiency of action of the power which is exercised by the adoption of laws, the setting of certain restrictions

and sanctions. It is owing to this stimulation level that enterprises purchase treatment equipment.

They also distinguish the following four groups of factors which should be considered while stimulating eco attributive consumption [55].

Price. Green goods prices are usually higher then those of non-green analogues. Often even customers concerned with environmental problems pay reluctantly the price premium for ecological compatibility. Demand falls when price grows especially when excess of the latter makes up more than 50 percent in comparison with ordinary one [26]. (Price premium on the order of two percent are below the threshold of "consciousness" [108]). Higher markups are allowed only in case when the buyer receives additional benefit from goods acquisition (for example, conformity of a product to fashion). However pretty "green" ("loyal") or well-founded consumers are ready to pay high enough markup for ecological compatibility (see Topics 8-9).

Informing about ecological compatibility of products without which s/he cannot distinguish them from non-green analogues should be the precondition for consumer's desire to pay the price premium for ecological compatibility.

Quality. Consumers are less inclined to sacrifice quality than price. The quality assurance is absolutely required and should be brought to the notice of customers. The quality is estimated by such criteria as top operating characteristics, appearance, feeling of comfort, technical advantages and so on.

Convenience. Only insignificant inconveniences are acceptable for consumers of eco-friendly goods. Infrequent actions such as repeated filling of reservoirs with soap or detergents in toilet facilities at public accommodation are accepptable.

Availability of products. The small part of consumers conducts active search for green goods. Their absence in the usual place of purchase for many consumers is the main obstacle to make environmentally focused choice and is the reason to purchase less eco-friendly or environment-unfriendly analogue.

They also distinguish levels of stimulation methods of environmentally focused consumption. Stimulation can be provided at levels of the consumer, the manufacturer as well as at the state level [32].

Consumers can induce eco attributive consumption by forming a positive (popularization) and a negative attitude to certain products.

The *manufacturer* can influence consumers of green production with the help of means being the complex of stimulation: advertising, sale promotion, propaganda or publicity, a personal selling. Informing about environmental properties of the product is of special importance.

State level. Persuasion consumers to switch on to green goods consumption is carried out by means of ecological upbringing, ecological education. Economical stimulation is provided, for example, with the aid of price regulation, backing of the

prices of eco-friendly goods. At this level influence on commodity producers is especially effective, as a result of which (ecological examination, control, preferential crediting, state orders etc.) emerges a principal possibility to make the eco attributive consumer choice.

Situational factors. The situational factors of influence on consumption of green production include in the first place, various events and situations in environment, for example emergencies as a result of which the motivation to environmentally focused consumption increases. So, technogenic situations, environmental cataclysms etc. induce to consumption of such kinds of the eco-friendly goods which are able to improve a situation around the person, to protect it from ecological impacts, to neutralize adverse effect on a human body, a family or a society, to boost immunity or to improve a state of health.

Secondly, they include random and predicted situations of interaction between the consumer and the green production inducing to decrease or increase the volumes of environmentally focused consumption. From this point of view one of the measures to actualize the situational factors of motivation is merchandising which is especially effective in case of convenience goods sale, 70% of purchasing decisions concerning them are made directly in a shop [28].

Knowledge of the basic components of motivation of environmentally focused consumption, presented at this topic, namely motives, requirements, interests, stimuli and the situational factors which induce the consumer to make environmentally focused choice, allows the enterprise firstly to account the state of motivation of consumers in its development and secondly to select effective tools of influence on motivation and accordingly consumers' behavior to direct it environmentally.

Topic 11. Eco attributive customer choice and its types according to motivation

In the consumption psychology each product is considered as a set of various attributes - characteristics, properties, signs which reflect product possibility to perform one or another function to satisfy certain needs of the consumer. In whole functions of the goods are divided into basic and complementary. Base functions correspond to the major attributes from the point of view of the consumer. At that the products can be divided into those in what all consumers see identical basic functions, and also those that are perceived by various consumers as various basic functions. First, the different number of functions can be related to the basic ones (for example, the multifunction device (MFD), consisting of a printer, a scanner and a copier, one consumer perceives only as a basic function of the printer, treating other

functions as complementary, and another consumer operates this MFD in a different way considering that it has three basic functions); secondly, in the same product consumers can generally perceive various functions as basic (so, one consumer considers that the main function of Activia Yoghurt is a medicinal effect and another one perceives it as a suitable product to satisfy a little hunger and does not pay a special attention to medicinal properties).

The consumer's final decision to choose the product can be influenced not only by the attributes of the goods characterizing its basic function but also by other attributes significant for him which there can be a significant amount of (for example prestigiousness, trend, durability, price and so on). Certainly, there are no products that would completely correspond to all components of the person's motivation. The most urgent are those components of motivation which satisfaction is essentially important to the person during the considered period. S/he can agree on either dissatisfaction or change of other components of motivation by way of refusal of the goods that could satisfy them. Besides the fact each individual's motivation structure is unique concerning a set of its components, and similar motives at different people have absolutely different strength, at the separate person components of motivation have different strength (or degree of influence on behavior) at at different times.

For environmental orientation of demand without which it is impossible achievements of sustainable environmentally balanced development of a national economy, it is necessary to consider a place of eco attributes in the general idea of consumers about the goods and in the process of making a consumer choice.

Every product has plenty of attributes among which there may be environmental as well (one or several) (fig. 11.1). Respectively, eco attributive of consumer choice by the totality of eco attributes taken into consideration can be zero (when choosing the consumer does not pay attention to ecological attributes), single (attention is paid to one eco attribute), double and plural.

So, one should understand as the eco attributive such a consumer choice at which the environmental attributes of the product are recognized as important by the consumer.

Eco-friendly products are consumed not necessarily (and in most cases not in the first place) thanks to their ecological component.

Example

Often a decisive motive to purchase cleaner foodstuff can be not so much their environmental cleanliness as gustatory properties, the caloric content, sometimes an attractive appearance, smell, etc. [68].

Moreover, the green goods is seldom bought under the influence of the only motive or need. Environmentally focused consumption as that of other products is the result of the influence of a set of motivation components and variety thereof. It is for this reason that the eco-friendly goods which corresponds mostly to the consumer's motivation is purchased in the first place.

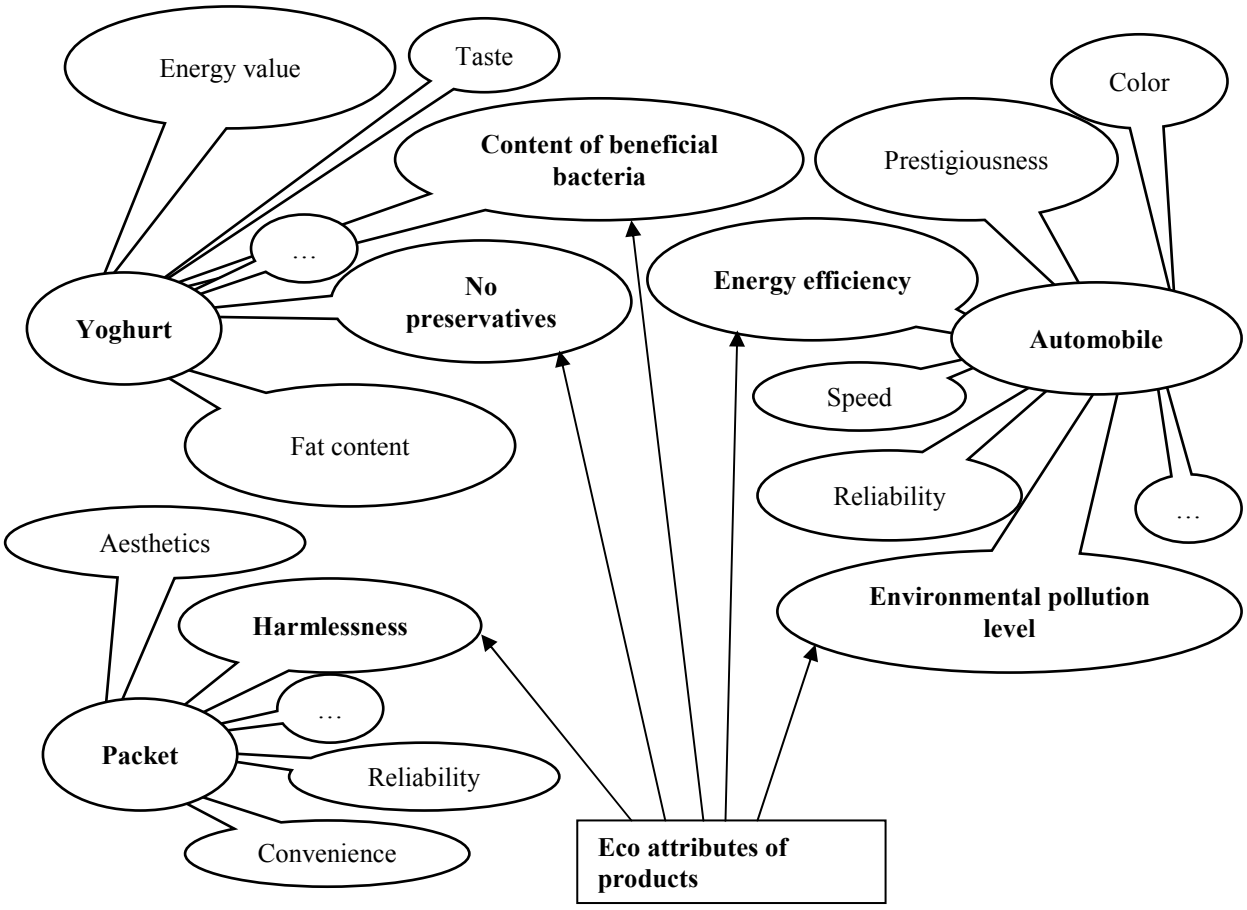


Fig. 11.1. **The basic diagram to distinguish eco attributes of the products**

Motivationally simple are such goods motivation of which cover insignificant quantity of needs and motives, it is easy enough to determine it by both the consumer and the researcher of motivation (for example - an analginum injection when in pain, a hunk of bread when hungry). Motivationally complex products are those whose consumption motivation consists in many components and it is rather difficult to investigate it.

The following factors influence the quantity of eco attributive consumer choices:

– knowledge of environmental problems, awareness of them and as consequence, concern;

– type of the customer particularly his environmental disposition

– presence (availability) of green production;

– economic, environmental and social situation;

– availability of data on degree of ecological compatibility of production and its understanding;

– knowledge of effects from consumption of eco-friendly production;

– purpose of purchase;

– price of green production.

Environmental properties of the goods can meet environmental needs of the consumer (for example, acquisition of rescuing green product in life threatening conditions - occurs satisfaction of primary need, namely that of safety). The consumption directed on meeting the need not concerning ecological compatibility is eco attributive too however, when selecting a product ecological attributes are considered. That is, the choice of the goods to satisfy some need is motivationally guided on selection of exactly eco-friendly goods (fig. 11.2).

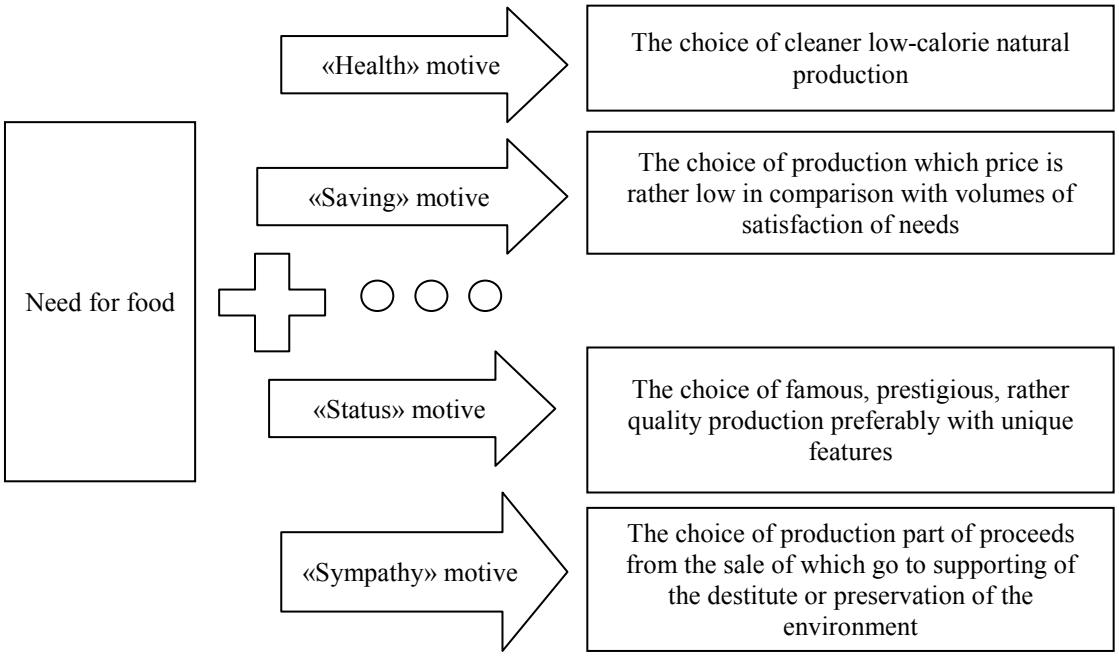


Fig. 11.2. **Dependence of consumer choice on a motivational orientation of needs** (made using the work [96])

In general, the consumer choice by the basic orientation is divided into two types - rational and irrational (the latter is frequently identified with emotional and affective and sometimes with a situational choice as well) (table 11.1).

The rational consumer choice is usually represented formally. Mostly to reveal the best goods from the point of view of the rational consumer they search for the commodity with the highest rate of specific (falling on the unit of operation price) quality of the product [28]

Table 11.1.

Examples of various types of the consumer choice

Kind of the consumer choice	Subkind of the consumer choice	Example of the choice	Motivation
Rational	Careful choice with long search for the best variant	Family automobile selection	Internal
	Habitual choice	The choice of a familiar foodstuff	Internal
	Forced choice	Purchasing of service to repair a carburetor to prevent a fine	Extrinsic
Irrational	Emotional	Purchase of rather expensive products as a keepsake at zoo exit	Internal
	The choice caused by a situation	Acquisition of a garbage bag without which it is forbidden to enter a protected territory	Extrinsic

$$\frac{Q}{P} \rightarrow \max, \qquad (11.1)$$

where Q - indicator of product quality; P - price of product operation.

However O.V. Prokopenko, while investigating the psychology of consumer choice, has come to conclusion about necessity of adjustment of such an approach. For example, if there is a very quality high-accuracy measuring device it is not necessarily the evidence of that that it is such an accuracy that is required for the consumer and corresponds to his needs. Therefore to reveal the best goods in a certain commodity group it is offered to replace the numerator in the formula presented above with the indicator of conformity of set of nonprice attributes of the goods of motivation of the consumer, expressed in the indicator of product utility. The utility indicator grows together with the growth of quality indicator till a certain level what corresponds to requirements of consumers, and later almost does not vary. Such dependence is presented in diagram form on fig. 11.3.

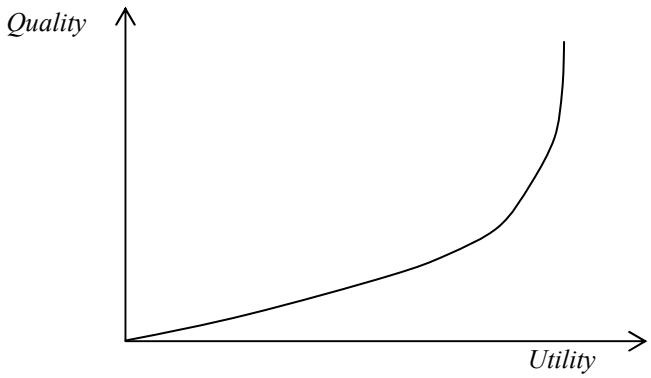


Fig. 11.3. **Dependence of the utility on product quality**

In the denominator we think it is expedient to replace the price of operation for costs of product consumption which are the sum of all expenses beginning from cost of time which the consumer spends for searches, payment, delivery of the product, its operation and service, and ending with the consumer's costs for the product disposal. The goods with the given highest specific utility mostly corresponds to a certain consumer's motivation (usually the indicator presented in the formula (11.1) is easier to apply as it does not require the analysis of consciousness and subconsciousness of the consumer, however the indicator offered below is much more precise):

$$\frac{U}{V} \rightarrow \max, \qquad (11.2)$$

where U - utility of the goods; V - consumption expenses.

Each consumer makes some rational, and some irrational (in most cases emotional, more rarely - affective and situational) choices. The share of a rational choice depends on subjective factors (in particular, propensity to make a rational choice), on type of the goods, influence of a situation, factors of external influence on the consumer etc. In table 11.2 the author shows examples of subjective factors and goods types on which rationality of a consumer choice depends.

Example

It is known that the consumer is willing to pay much more money for tea and pastries in a coffee shop than for the same products to be consumed at home. It is possible to explain that that in a coffee shop the consumer satisfies not only gastronomic, biologically caused needs, but also those in communication, probably intellectual and other needs caused by psychological factors as well as the publicity of consumption.

In the course of the analysis of eco attributive choice motivation the majority of scientists divides consumption motives not into two but into three types (vide table 10.2): rational, emotional and moral [31]. Thus among the motives presented on fig. 11.2, sympathy - one of the types of the moral motivation, economy - rational one,

the status - emotional one. Health takes a special place - it belongs to rational and emotional types of motivation simultaneously.

Table 11.2.

The examples of subjective factors and goods types on which rationality of a consumer choice depends

Influence factor	Emotional choice	Rational choice
Type of product	Public consumption (a suit)	Non-public consumption (a dish wash liquid)
	The low price of the required goods (yoghurt)	The high price of the required goods (yoghurt) (metal entrance door)
Symbiosis of the subjective factor and the product type	The high price of the goods of luxury/proof of status (jewelry)	Rather low price of the goods of luxury/proof of status * (an expensive car)
Subjective factors	Consumer's high income	Consumer's low income
	Filling of psychologically caused needs	Filling of biologically caused needs

*This factor is considered as confirming the person's status of a certain social stratum, wishing to confirm the status by acquisition of the goods which all representatives of the top social stratum possess. However for this person the acquisition of the given goods at a conditionally low price approximates him in other people's eyes to that stratum for which its acquisition is rather unprofitable.

L.G. Melnik and M.K. Shapochka range them by possibilities of eco attributive direction of the consumer choice in the following way: rational, emotional, moral (they point out that the latter two are effective first of all in economically developed countries with a high standard of life quality, that is there where economic problems of a society are mainly solved). In modern conditions it is offered to concentrate on the rational motives not disregarding both the emotional and the moral motives [60].

The moral motives of consumption are sometimes related to the emotional ones. Certainly, it would be possible to name the moral motivation the highest level of emotional motivation manifestation, but from the viewpoint of motivation management it does not have any effect. The psychological mechanism and their substantial essence considerably differ. In particular, for the emotional motivation according to the Freudian triad consumer's "Id" is responsible, for the rational - "Ego", for the moral - "Superego". Therefore processes of making an emotional and a moral eco attributive decision have essentially different schemes and, accordingly, methods of a psychological influence on purely emotional and moral components should be diametrically opposite.

Details

Sometimes they consider that only the emotional motivation induces the person's ecological consumption. So, S.M. Ilyashenko distinguishes the following basic motives of consumption of environmentally safe production (all of them characterize the emotional type of motivation) [32]:

• concern about one's own health status as well as that of the family and friends;

• concern about wellbeing of next generations;

• social responsibility for members of a society who may suffer from environmental pollution;

• so called "environmental" faddishness;

• feeling of one's own worth (by purposefully buying green production, the consumer can influence the volume of pollution).

In fact the choice of green goods is not emotional all the time. Especially it is applied to the industrial consumer frequently choosing eco-friendly goods rationally. As selection of conventional goods (see table 11.2) as that of the green goods may be based on both a rational and emotional motivation.

The analysis of the types of motivation of eco attributive consumption according to the expenses for green product consumption and the kind of eco-friendly advantages (table 11.3) shows that consumption of just one kind of green products is caused exclusively by the moral motivation.

Table 11.3.

The basic types of motivation according to consumption costs and advantages of green products (in decreasing order of their importance)

Consumption costs	Product environmental advantages	
	individual	socially important
Lower than that for analogues conventional products	Rational, emotional	Rational, moral
Higher than that for analogous conventional products	Emotional, rational	Moral

Annotation

Really, certain groups of green goods do not provide a direct satisfaction of customers' needs but only favor maintenance of environment for the future generations or will be of benefit in the future. For stimulation of their consumption they foreground the moral group of motivation, and in case of special importance for a society they resort to a negative material motivation from the outside owing to which conditions of consumption rationalization are created (if to count on the moral motivation only it is difficult to promote on the market such green products as treatment equipment, however by introduction of payments for pollution it finds its consumer).

The moral motives are divided into two basic types: moral obligations and a moral sympathy [25].

The consumer with the moral obligation makes environmentally focused purchases for the sake of moral satisfaction, self-esteem, pride, higher moral self-rating and so forth. Function of the moral obligation - prevention or elimination of distortions of moral aspects of one's own self-concept. Purchasing is a kind of sacrifice (deprive oneself).

The consumer with a moral sympathy makes environmentally favorable purchases under the influence of sympathy. Purchasing is not of a sacrificial nature. However often such people only show concern over ecological situation, sympathize with the next generations etc., but it does not come to environmentally favorable purchases.

15 percent of people have no moral motives. The rest 85 percent make up almost identical two groups: those in whom both types of moral motives are equally strong, and those in whom the strength of one motive surpasses that of another [25].

The considered types of the eco attributive consumer choice - rational, emotional and moral - have motivational directions (internal or at least external). There also occurs a type of a consumer choice which has no motivational direction - situational. It can be caused by various situations (for example, the majority of people who have found themselves on radioactive contaminated territory, acquire protective clothing offered to them without hesitation. The person on the way to an important determining meeting when one's appearance is of great importance, after having got caught in the rain, will buy an umbrella in the nearest store despite its price and quality. Though in another situation an umbrella would be selected by this consumer rationally or emotionally).

Hence, consumer choices can be divided into motivated (rational, emotional, moral) and unmotivated (situational). The last type of the consumer choice is managed only by a certain highest need (without its motivational direction).

At that one ought to remember that to make virtually any consumer choice (extrinsically or intrinsically motivated) "licensing sanctions" of the internal motivation are required, otherwise purchase will not take place. This rule does not apply only to the consumer choice made under the influence of hypnosis (one of the kinds of psychological influence on the consumer).

Cases are known when the enterprise or the state would like to see the consumer aspiring to make an eco attributive choice (stimulation of the eco attributive consumer choice is especially expedient in the context of drive for the sustainable environmentally focused development of economy). In this case a psychological influence is exerted on the consumer which can lead to one more kind of a choice - affective. It, as well as emotional one, is based on the consumer's emotions. However

the basis of the emotional type of the consumer choice is made of emotions which source is the inner world of the person. But the source of emotions at the affective choice - communicative influence. Unlike the rational choice (see formula 11.2) at the affective one the product of utility and communicative influence, i.e. communicated usefulness is maximized [25]:

$$U \cdot K \rightarrow \max, \qquad (11.3)$$

where U - utility; K - communication influence factor.

If the basic influence is exerted on irrelevant components of motivation then the communication influence factor is negative. By multiplying it by a negative utility we receive a positive communicative utility characterizing a perceived positive utility of the goods.

One ought to consider that the absolute value of communication influence factor depends on a time interval from the influence till the moment of the consumer choice that is why it is difficult to estimate it. On fig. 11.4 the general view of dependence of the absolute value of communication influence factor of duration of time is shown - from the moment of perception of communicative influence by the consumer till the moment of making a product choice.

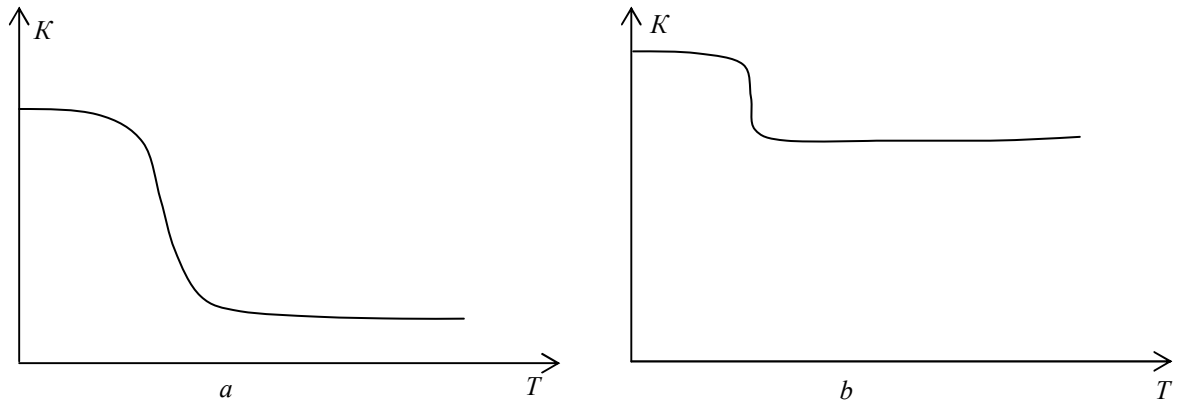


Fig. 11.4. **Change of the communication influence factor in time in adverse, from the point of view of psychology, moment for the person (a) and in psychologically favorable one (b)**

Annotation

In due course there is a decrease in efficiency of single communicative influence. On this account, a successful marketing measure is to give at the entrance booklets dealing with sales events to mall visitors thereafter they make production selection.

The distinguished types of the consumer choice are grouped in classification (fig. 11.5). By the way, all of them may take place when environmentally focused choice is made.

Although in the theory of consumers' behavior they distinguish a purely emotional and a purely rational type of a choice, however in the pure form they seldom occur. More often the rational choice is observed, at which the utility is communicated. At such a type of choice one should use the formula

$$\frac{U \cdot K}{V} \rightarrow max. \qquad (11.4)$$

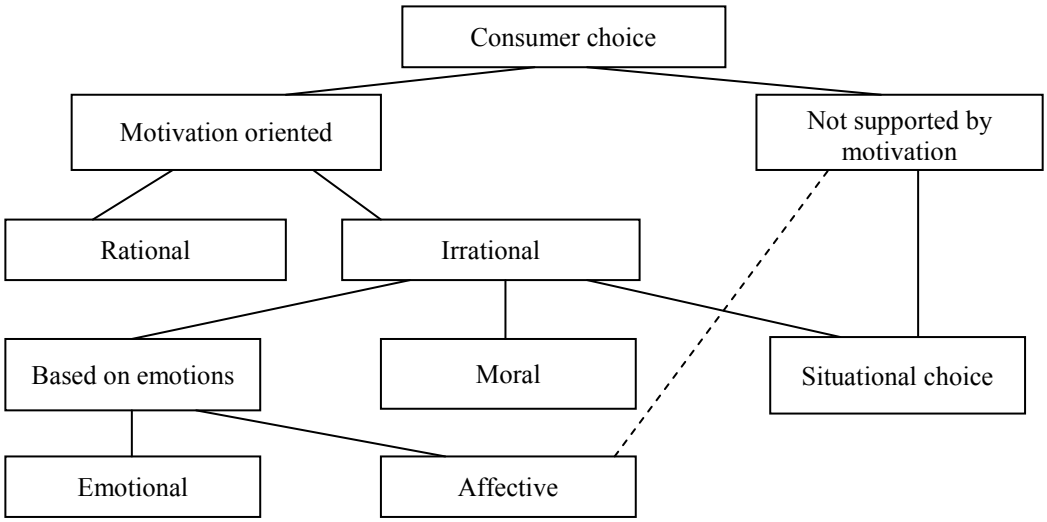


Fig. 11.5. **Classification of consumer choice types by motivational directions**

The application of the latter formula allows taking into account both rational and emotional aspects of decision-making by the consumer.

Mastering the concept of the eco attributive consumer choice, psychological fundamentals of its formation and the types by motivation allows carrying out the management of consumer behavior process more thoroughly in the direction of its greening.

The materials presented in this part, will help to study the types of consumers in environmental marketing, and also to get theoretical knowledge on management of behavior greening based on: typology of consumers; readiness of consumers to pay the price premium for ecological compatibility of various type of products; the components of motivation inducing consumers to make the eco attributive choice; the types of the eco attributive choice by motivation. Such knowledge is required for practical realization of environmental marketing at the enterprises.

PART 4
PECULIARITIES OF GREEN MARKETING USE

Topic 12. Peculiarities of green goods market promotion

Manufacturers of green goods as well as other commodity producers can apply to advance production the marketing mix, in particular advertising, sale promotion, propaganda (or publicity), a personal selling.

The enterprise which is oriented on manufacture and market promotion of green products should form the eco attributive behavior of consumers on the basis of the analysis of motivation of consumers and their awareness on environmental advantages of certain goods in such a sequence (fig. 12.1).

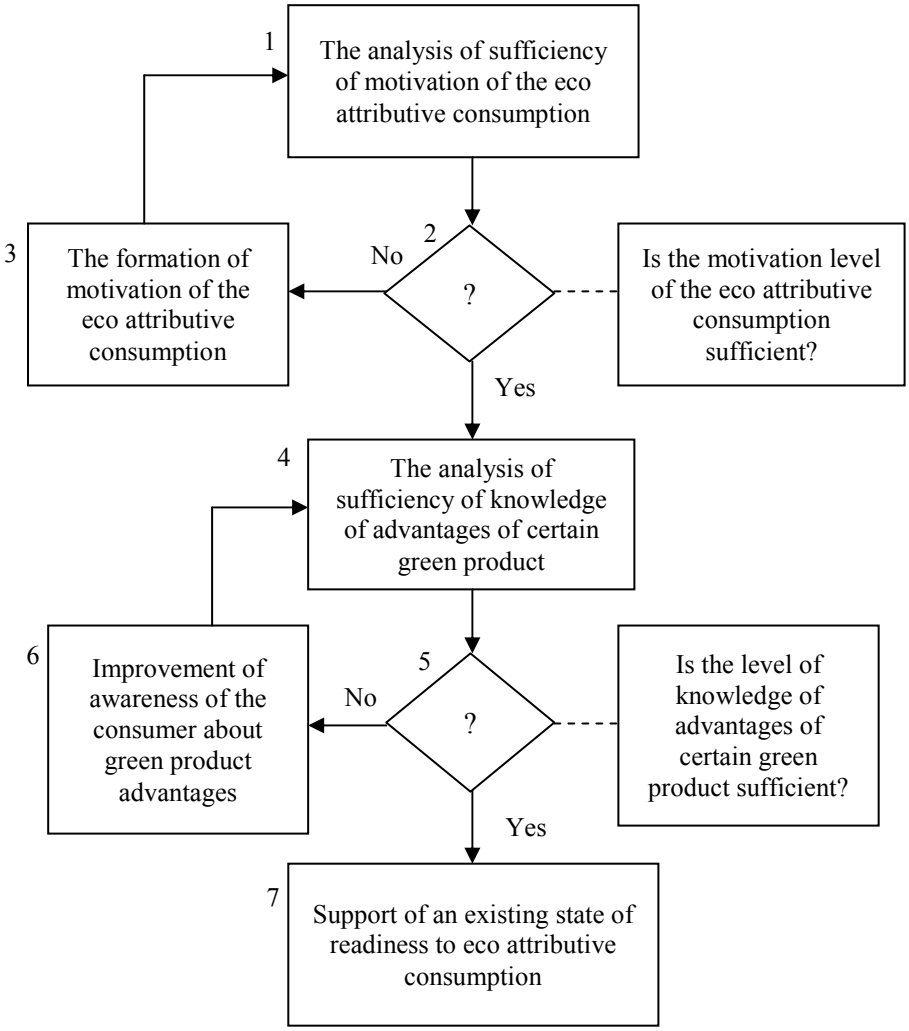


Fig. 12.1. **The flow chart of algorithm of formation of eco attributive consumer behavior**

For successful market promotion of green goods the corresponding motivation level is required. To achieve that perspective buyers make a purchase enterprise needs to form at consumers knowledge of advantages of eco-friendly goods, their uniqueness, to run advertisement for certain green goods, to show parities of quality factors and prices of eco-friendly and traditional goods (to convince buyers of "fairness" of the price) and also to apply other methods of consumption and sale promotion.

In the conditions of poor life quality it is necessary to inform buyers on economic expediency of consumption or operation of green goods. Buyers should realize that ecological compatibility - an important indicator of product quality and purchase of more expensive eco-friendly goods pays, that is to apprehend well-known idea "we are not so rich to buy cheap products". As it was mentioned in the topic 10, the use of cleaner foodstuff, use of eco-friendly cookingware, quality filters for potable water clearing promotes improvement of a state of health. Accordingly expenses for drugs and curative measures decrease. It concerns environmentally friendly materials and equipment for manufacture and life (for example, use of cleaner wallpaper, computer monitors using liquid crystals instead of usual ones with a cathode ray tube). Using of cars with fuel injection not only reduces environmental pollution, but also saves means of its owner. Installation of treatment equipment allows reducing payments and penalties for pollution etc [31].

As is obvious from the flow chart on the fig. 12.1, the enterprise should ensure sufficiency of motivation of eco attributive consumption (vide the topic 10) and sufficiency of knowledge of advantages of a certain green product. The main *advantages of green products* over their analogues are:

1. Green products satisfy different requirements simultaneously (so, cleaner foodstuff not only satiates one’s organism and performs preventive functions too). That is, besides basic function, green goods basically perform complementary functions;

2. The eco-friendly goods can be different in production methods, uniqueness of structure;

3. Quality indicators of eco-friendly products are usually higher than that of their analogues;

4. Green goods produce an effect not only in present time (temporary or single one), but also in prospect, in the future. That, in particular, concerns consumption of cleaner foodstuff (which enable to spend in future less means for drugs and health service), treatment equipment (the enterprises which have made decision to use it, spend less means not only for current payments for environmental pollution, but also for restoration of material resources of the enterprise, health service of its workers in

future; besides, such enterprises do not feel on themselves pressure from public organizations) and other ecological goods;

5. Using green goods promotes improvement of life quality of the present and future generations.

For effective positioning it is necessary to establish real advantages [13]: for example, the superconcentrated laundry detergents not only save energy and expenses for packing, but also take little place, save money and are convenient in use. Possibility to save money attracts the consumer and one should take it into account when offering cleaner production.

Example

Let us consider advertisements of natural cleaner goods in Mother Jones magazine (USA). One advertisement contains images of flowers and the text about earth preservation. The second one offers Citra-Solv - a product from orange peel extract. The latter, unlike the former does not contain any images of flowers and animals, but only precise purposeful message on all problems of pollution which can be resolved by means of use of this product within one's house or a workplace. Certainly, it did not ignore environment problems as a whole, but the main attention was paid to concrete properties and advantages of the product.

One more example is Rayovac Company (USA) which has offered a new model of an alkaline battery. Knowing about ecological properties of its product, the company nevertheless has refused temptation to use for advertisement, nature attributes such as wild flowers or falls. Instead it addressed directly to the consumer, emphasizing a low price of the goods, that is on saving of money at its acquisition.

Recognition of that that compatibility of the goods to ecological requirements really increases its quality and is additional value source, directs the consumer decision in favour of choosing of eco-friendly product.

As it was noted in the topic 7, the goods can influence environment throughout all life, and it should be accounted when determining ecological compatibility. However it is difficult to trace influence at each life stage, and from the viewpoint of product market promotion is not always expedient because the consumer in different cases is agree to pay for ecological compatibility of only certain life stage of a product (the end user basically pays for harmlessness of the goods at consumption, the industrial consumer - for environmental influence reduction by the industrial equipment to decrease environmental fees, and also to provide ecological compatibility of product consumption stage for the purpose of attraction of consumers and creation of a positive image). Therefore products are estimated by standard sets of criteria of ecological compatibility and inform consumers on conformity to these criteria by means of environmental labeling.

Consequence of that is the use of "green product" term. The content of this term has a relative meaning which depends on a concrete situation. Thus, they often consider green production that defined by the following criteria [13]:

• production is made of materials harmless to environment, does not contain substances which negatively influence the person's health;

• in the course of production manufacturing technologies with the minimum negative influence on environment are applied;

• producers and suppliers bear full conformity to safety of production use not only in consumption area but also to environmental influence too;

• packaging materials for production are harmless and can be repeatedly processed, used or safely disposed.

Production which is not a tangible object, i.e. in the form of services, can be also defined as green if it either does not cause harm or is minimally harmful to environment.

Example

On fig. 12.2 curves of cumulative negative environmental impact of two hypothetical products during their full life cycle are presented. Products exert the same total eco-destructive influence. For the A product a uniform impact at all stages of its life is characteristic. The B product exerts more intensive influence on environment during manufacture; however at consumption stage it brings about environmentally positive changes in environment or eliminates negative influence consequences on human environment or the person's health (direction of cumulative influence curve downwards at this stage of product life shows it). However total eco-destructive damage which it makes and accordingly its ecological compatibility level as well, corresponds to the indicators of the A product.

Certainly, if to label those goods which are the best in comparison with analogues only at a certain stage of their life then a substantial improvement of environmental situation should not be expected.

Certainly, market advancement of goods meeting ecological requirements only at a certain stage of their life, is not ideal in a sustainable development context (products which are necessary and safe, for example, when used in household, can be harmful during their manufacture). However there is a transitive stage from environmentally indifferent consumption to environmentally focused one. Naturally, consumers in most cases are guided by ecological compatibility of products at consumption stage, for example, that of cleaner foodstuff.

Getting advantages inherent in green goods, as a rule being accompanied by higher expenses for their production, and respectively their price is higher in comparison with that of analogues.

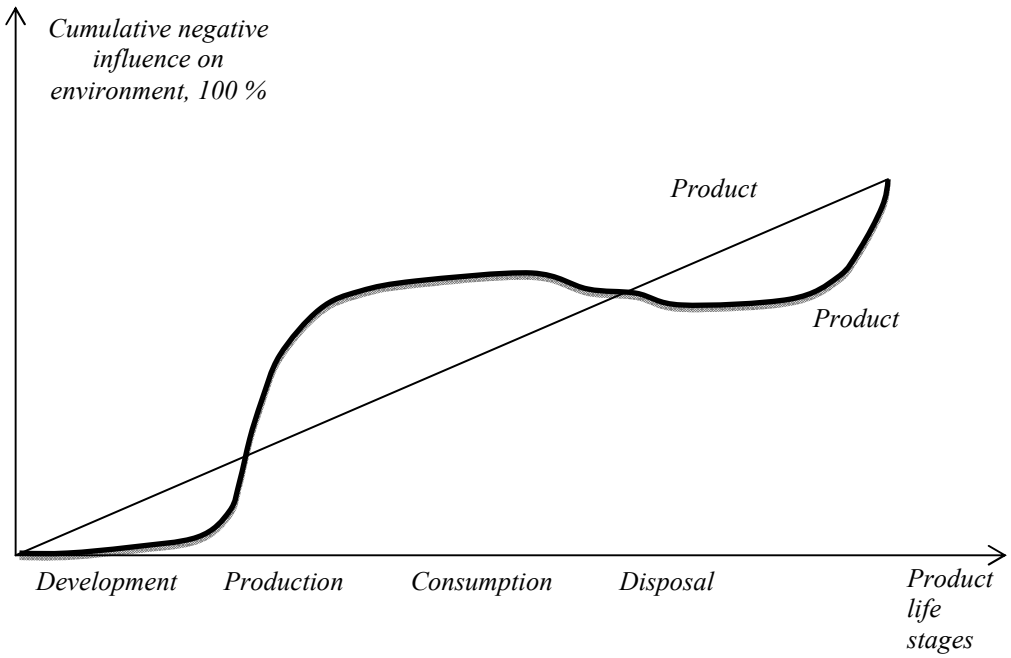


Fig. 12.2. **Examples of eco-destructive influence accumulation by the products of the same ecological compatibility level**

Customers pay higher price for green products due to their unique features. But the consumer is not always ready to pay a premium for ecological compatibility of production. Certainly, it can be connected with the type of environmental advantages of products which customers prefer reluctantly without corresponding stimulation (vide topic 3), or with consumer's type according to ecological compatibility of behavior (vide topic 8). However many cases of non-green products selection deal with low level of knowledge of green products advantages. Often green production and similar non-green one of competitors look the same, it is difficult to distinguish them, that causes considerable green goods marketing difficulties.

Example

So, parents choosing a toy for their child, with lack of the information on ecological compatibility of production will choose from two similar looking toys that which price is lower. However if they know, that during manufacture of an expensive toy materials harmless to health have been used they will more likely prefer more expensive but harmless toy in comparison with cheaper one which ecological compatibility they doubt about [70].

Electromagnetic radiation of some models of radio telephones is rather safe; long use of others can lead even to brain tumor (glioblastoma) [30]. With the lack of data on ecological compatibility errors in a consumer choice may be pretty dangerous.

A ruler, which each schoolboy uses, may be either made of a safe material. Or may - from polyvinylchloride in which lead, zinc, barium, cadmium, tin, organic compounds, amines and both phthalic and phosphoric acids ethers are added for durability. All that - poisonous toxic substances liberating from the material as a result of chemical reaction with

saliva, and under certain conditions can become the reason of severe diseases of a liver, a stomach [30].

Within last decades preferences of the consumer concerning daily consumption products essentially vary. Demand for inexpensive goods of doubtful quality is gradually replaced with demand for more expensive production which is quality and safe in consumption [80].

For effective advancement of green goods their manufacturer (seller) should inform consumers on eco-friendly advantages of them.

Example

It is known that old models of PC monitors negatively influenced an organizm and even led to genetic changes at posterity of their users. Therefore on modern LC monitors they put certificates of quality which inform consumers on harmlessness.

One of the *tools of informing* on product distinctions is *trademark* - marking of the product registered in established order and distinguishing this goods from others and specifying its manufacturer (company) too [13]. It may be a drawing (symbol, sign) a name, a word combination or a certain combination of letters, figures. The trade mark is registered at official bodies and legally protected.

From a marketing position, the trade mark is the special symbol of commodity conformity specifying who posesses the exclusive right to have the product at one's disposal, to gain profit; that bears responsibility for delivery of poor quality goods. The trade mark provides to its owner material benefits, creating high reputation in the market for the latter.

For cleaner production and companies that have testified their environmental orientation, it is especially important not to be lost in the market, and by means of the trademark to enable the consumer to orient in wide range of production.

Distinctions of eco-friendly goods cause the necessity of application of essentially different approaches to their promotion on the market in comparison with that of their analogues. In many cases for this purpose they use original forms, bright colors, and corresponding fonts to attract customers' attention. It is impossible to use such approaches for green products advancement as there are certain restrictions at formation of environmental brands [47]. The environmental subject matter imposes certain restrictions on appearance of the goods - provocative colors, bright fonts and complex design are forbidden. The goods should look attractively, however reservedly. Thus it is easy for pioneers of the market to mark out their goods with reserved design and natural color gamma. In process of saturation of the market with competitors' products it becomes all more difficult.

Example

Consumers noticed at once when juices of Odessa Factory of baby food appeared on sale. A sober design (white packages) and advertising with emphasized environmental cleanliness of the product have allowed creating at consumers, not indifferent to products ecological compatibility, considerable motivation to their purchase. However later competitors entered the market with similar design of the goods, and Odesa juices began to lose former recognition.

Therefore to the foreground at green products promotion comes **green cover story** which allows visualizing and intelligibly proves the statements for ecological compatibility which environmental brand formation is based on. They distinguish the following kinds of green cover stories ([47]):

1. *History (source) of origin*. As basis of such a legend the idea about a clean or unique origin of a product serves - advertising campaign basis is the image of cleaner district, source or region. Further, if a certain "city on a map" is promoted, it can merge completely with the brand name. For example, so that occurred to pharmaceutics by Vichy (region of France), Evian drinking water (the source name in the Alpes), Yesentuki mineral water and others.

In the world "pollution-free regions" have already established, references to which create ecological image to a product. In perfumery area this is the French Provence, in that of cosmetics - the Dead Sea, in that of wine-making - Australia, in that of tourism - South Africa, in that of furniture manufacturing - Scandinavia.

Naturally, there are its own *pollution-free regions*, in environmental cleanliness of production of which they believe more than that of others, in each country. In Kazakhstan - Burabay, in Ukraine - the Carpathians, in Russia - the Altai, Astrakhan, Baikal and Kamchatka. There are also regions, unfavourable from this point of view (Semey, Kara-Kalpak), references to which cause certain mistrust to environmental cleanliness of the goods. Let us assume that the products made near Chernobyl, Semey, cause a negative reaction of the customer, the idea that cows graze near a reactor, eat grass on Chernobyl meadows. The attitude to a region causes trust or mistrust to advertising message about product ecological compatibility.

2. *Green technologies use*. When using this type of legends a brand should not be tied to certain region, and advertising campaign should be based on industrial know-how. The example is refusal to use preservatives, coloring agents and food taste stabilizers. In these legends company's responsibility should be emphasized.

It is this way that "Velkom" meat products and Makfa pasta are positioned.

In this case the trust to a product is closely connected with the manufacturer's reputation and therefore advertising requires PR backing.

3. *Personalization of manufacturer (selfish ecology).* The consumer does not always believe in product ecological compatibility if the manufacturer is a large company with numerous factories, thousands of employees and millions of dollars spent for advertising. When selecting certain products, especially foodstuff, a definite part of customers will believe more easily in product ecological compatibility if they see on it a family photo of farmers who made it.

Annotation

Application of this type of a legend is suitable to the greatest degree to advance green production of the agro-industrial companies.

When the legend is used a product gets "registration" at private household.

Example

Many European companies were turned from a vertical hierarchical structure into horizontal network organizations - some kind of associations of peasant households and private farms, thus actually being under the guidance of the same company.

4. *Combined cover stories.* The mentioned cover stories can be used simultaneously. So, references to history of occurrence and application of green technologies strengthen the consumer's hope to get eco-friendly advantages from a product related to with production naturalness and unique properties thereof. When using simultaneously the last two legends the consumer gets a feeling of that that a product is made according to ecological requirements of consumers at a private household which causes his confidence.

The knowledge of peculiarities of green products market promotion presented in the topic, will allow enterprises using them at formation of marketing mix, to surpass competitors in formation of attitude towards their own eco-friendly production and to get significant advantages dealing with customers' attitude towards their trade mark.

Topic 13. Environmental labeling

Environmental labeling plays a significant role in informing on eco-friendly advantages of production. One of the authors made a survey of those students of the Sumy State University who was not studying green marketing course. During the survey they were given different environmental labeling signs for recognition (appendix B). The survey has shown that in different groups students know on the average from 11 till 34% of environmental labeling signs. At that they misunderstand

more than half of ostensibly identified signs. It is owing to this fact that this topic deals with the study of environmental labeling signs.

To estimate the level of ecological compatibility of the goods and inform consumers on it the manufacturer can do it oneself when it is a question of one or two simple criteria and when the producer does have pretensions to get a registered environmental label. The appraisal and labeling of production by more complex criteria or the groups thereof are made by special organizations (commercial, at possible participation of noncommercial ones and state structures) of national or international level. They render commodity producers services on expert estimation and give permission to use their label. Besides the voluntary there is the obligatory labeling which introduced legislatively and controled by state bodies.

Environmental labeling is a method of certification of production made by the third party according to requirements of international standard ISO 14024.

Many countries state what kind of information should be put down on production. For example, all washing machines and refrigerators, on sale in the European Union since April 1996, must have data on energy use efficiency. In the USA on all bulbs there should be information on their capacity, brightness and sometimes durability [116].

Annotation

According to Whirlpool Company researches, consumers do not always pay attention to the information on efficiency of appliances.

Environmental labeling became one of powerful factors of competitive struggle. The analysis of activity results of bevy of enterprises at Western countries after they received certificates and eco-friendly quality mark was given to production has shown that the sales income increases on the average by 10-15 percent [144].

Ecological compatibility signs appeared in the beginning, basically, on import production. But during recent years the situation has changed. Environmental labeling signs can be found on packages of Kazakhstan products. Only that company which has undergone an examination and proved environmental safety and high quality of its production can get it. The definition of «Cleaner production» term is given in the Ecological Code art. 32:

1. The tasks of environmental labeling are: 1) protection of consumers against acquisition (use) of production which is dangerous to environment; 2) environmental pollution prevention at production, use and elimination (disposal, processing) of all kinds of products; 3) ensurance of environmental safety of the equipment, manufacturing methods, manufactures and production; 4) introduction of environmentally safe manufacturing methods, equipment and productions; 5)

prevention of environmentally dangerous production and technologies import; 6) assistance to export and increase of domestic production competitive ability.

2. The object of environmental labeling is production at which manufacture there is either the least harmful or favorable influence on environment, health of the population and biological resources. The object of environmental labeling includes both the manufacturing process and used technologies.

3. Manufacturers put cleaner production sign on their production voluntarily after conformity confirmation. Environmental labeling of production are made by some noncommercial organization in corresponding branch in an order provided by the legislation of the Republic of Kazakhstan on technical regulation.

4. Standards of cleaner production, form and technical requirements to a cleaner production sign are established by the noncommercial organization accredited according to the Law of the Republic of Kazakhstan "On technical regulation".

In modern use «cleaner production» term, regarding the consumption goods is understood as:

– absence in a ready product of harmful, artificial and other substances negatively influencing a human body,

– safety of withdrawal/use of source of raw materials for the person and environment,

– minimum of negative influence on environment at all production stages of goods,

– harmless disposal or recycling of waste and pack.

Existing now in the world environmental labels can divided into the following main groups - by the information they provide:

– that on ecological compatibility of production as a whole, considering whole life cycle of its production;

– that on ecological compatibility of individual properties of products. This group also includes the signs reflecting absence of substances, causing reduction of an ozone layer round the Earth; signs on the consumer goods reflecting the possibility of their disposal with the least harm to environment, and many others;

– that for identification of natural foodstuff (organic manufacturing).

It is necessary to notice that in practice there are also other kinds of environmental labeling, for example appeals to take good care of the environment in whole and of its separate objects, etc.

The signs furnishing information on environmental safety of a product as a whole appear are the most interesting to the buyer trying to look into a situation as much as possible.

The technical committee (TC) on «Cleaner production» standardization was created by the order #159 from 25.04.2006 by the Committee on technical regulation

and metrology (GOSSTANDART) the Ministry of the industry and trade of the Republic of Kazakhstan and entered in the register at #60. The technical committee on «Cleaner production» standardization functions on the basis of «International Academy of Ecology» (IAE) establishment and is the full member of the International organization on standardization TC/ISO 207 «Environmental Management».

«ЭКО (ECO)» environmental sign (fig. 13.1) shows that at production of such a goods all kinds of harmful influence on environment are controled and minimized as far as possible. Besides, environmental label - guarantee of that that the goods itself underwent the minimum harmful influence. It is especially important for a foodstuff at which production it is necessary to observe both sanitary and environmental norms and requirements to quality of initial raw materials. Differently, environmental labeling helps the buyer to make a choice, based on reasons of ecological compatibility of production.

The offered procedure of giving of this environmental label leads to decrease in harmful environmental impact of a corresponding kind of production or services. «ЭКО» environmental sign is given to that production which has underwent a three-stage examination according to a special procedure, for a certain period with obligatory regular check how conditions set by commission of experts are met.

Fig. 13.1. **The image of "Environmentally clean and safe" environmental label used in Kazakhstan**

Examination procedure:

I stage. By application of the enterprise a preliminary estimation of eco-friendly quality of production (public environmental examination) is made.

II stage. In-depth examination on the basis of expert base of the National centre of standardization and certification.

III stage. Consideration of results of the examination at the Scientific advisory council.

IV stage. Issuance of a certificate of the right to use the environmental label.

Such a system of giving «ЭКО» trade mark excludes both purchasing and falsification of this sign. The «ЭКО» labal has the trade mark certificate #24349 by

the Committee on Intellectual Property Rights of the Ministry of Justice of the Republic of Kazakhstan.

Example

In autumn of 2008 in Astana (Kazakhstan) employees of the International Academy of Ecology conducted street interviews to find out presence of preferences at the consumer to cleaner production and level of citizens' awareness in this area. There were tasks to reveal: a) peculiarities of «cleaner production» term understanding by Astana city residents and b) motivation to its acquisition and also to define c) level of popularity of a principle of the voluntary ecological certification, of various types of environmental labels and d) consumer preferences concerning environmental labels.

The poll has shown that 59 percent of buyers (workers, clerks, pensioners, housewives) know about environmental labeling of production or have heard something about it. It turned out that the most part of those asked connects «cleaner production» concept with safety for the person's health (55%), and only 12 percent know that a basis of environmental cleanliness is minimization of a negative environmental impact.

Example

In Ukraine there was the program of environmental protection of the population "Cleaner product" at "Studio 1+1" TV-radio broadcasting company's support. Within its frameworks an interactive survey of spectators of television channel "1+1" was made in February 2001 It turned out that 9 percent of domestic consumers choose a foreign product in a store, 61 percent - a cheap product, 30 percent - cleaner product [13].

It is possible to assume that the situation will change gradually, as consumers become more informed on a role of environmentally focused consumption in their life.

Annotation

Unfortunately, results of the Program are noticeable only in Kiev (Ukraine). However one can expect the diffusion of results from the capital. The approved positive experience can be applied in other cities of Ukraine. Moreover Kiev receives many visitors who will not do without influence of the marketing communications applied within the limits of the Program.

But the right to use environmental label is not enough, it is necessary to use it effectively in marketing strategy of the enterprise.

Within the limits of the environmental labeling Program of Ukraine manufacturers of certified (by ISO 14024 standard) production, can for advancement of their production on the market participate in carrying out of information and educational measures. Such measures are [123]:

1. Placing of the information on enterprise production in search system of environmentally priority production at the official Internet site «Program of environmental labeling in Ukraine».

2. Informing of consumers on environmentally priority production according to indicators of impact on the person's health and environment.

3. Publication of image business diary covering environmental aspects of development of enterprises and informing on environmental safety of products, its influence at all stages of life on the person's health and environment.

Annotation

The diary circulation is 1000 copies, format A5. The diary is distributed free of charge at Committees of the Verkhovna Rada of Ukraine, the central executive authority bodies, NASU establishments, embassies, the Ukrainian Association of Consumers, the Ukrainian Union of industrialists and businessmen, CCI of Ukraine and other CCIs.

4. Image calendars creation.

5. Placing of the information on experience in sphere of reduction of environmental risks at manufacture by introduction of the system approach to management of environment on reference media pages called "the Best experience of introduction of systems of management of environment in production".

Annotation

The admission fee for placing (updating) of the information from the enterprise - ₴ 3000 ($142). The edition is developed by request of the Ministry of preservation of the environment with assistance of the Kyiv City State Administration. The reference book has a color cover, two-sided printing, format A5, volume about 280 p. with 8 pages of full-color inserts, a circulation of 10000 copies.

The reference book structure includes the following sections:

1. The basic principles of state environmental policy.

2. Environmental policy tools - conditions of responsibility of manufacturing process organization of the enterprise.

3 Management of environment at production. ISO 14000 series standards.

4. Environmental accounting and ecological audit. Forms of ecological audit conducting at production.

5. Preservation of nature environment at all levels of both production and consumption. Environmental marketing.

6. Estimation of efficiency of management of environment systems and production life cycle. The concept of market of green priority products and services.

7. Test tasks for the control of knowledge.

6 Carrying out of trainings for the personnel of organizations and enterprises - participants of the Program of environmental labeling in Ukraine, as well as round tables, conferences.

Annotation

Trainings are given regarding the following subject matter: Environmental labeling. ISO 14020:25 series standards. Working out + estimation criteria of life cycle of production (for the enterprises of corresponding branch) “, Marketing and environmental labeling. How to use environmental label in marketing strategy of the enterprise as effectively as possible. The international experience","Social and economic aspects of development of environmentally priority production".

The enterprises address to environmental labeling services and take part in the Program of environmental labeling because it gives them market advantages regarding a certain group of goods or services, and also let world public (which recently is not indifferent to environmental problems) know the data concerning products ecological compatibility. The international signs of environmental labeling cause much higher trust at the consumer in comparison with own environmental labeling of the enterprise, done without involvement of organizations competent of this area.

Environmental label is put on production, informing about it priority within a corresponding group/category, proceeding from principles of the analysis of all stages of product life (for example, natural, reusable, cleaner, power efficient, made of raw materials of secondary processing of production etc. [59]).

Let us consider existing environmental labeling signs [13, 59, 60, 88, 123, 142] they are divided into three groups.

1. The signs applied to designate ecological compatibility of goods as a whole, of certain stages of their life or of their individual properties.

The same signs may be used to mark objects and devices used for maintenance of environment, materials which do not do harm to the nature, received owing to secondary processing, safe for health and so on.

On many environmental labels of the group elements of the nature or planet as a whole (for example, the globe is the central element of the international sign of ozone-safe producti) are depicted.

Annotation

To perceive environmental labels subconsciously as related to the nature, they are painted in colors of the nature. As there is not always possibility to print more expensive color sign and so they use black-and-white equivalents.

The most known signs in the group are "White swan", the European Union ecolabel and the Japanese Ecomark (fig. 13.2).

	Conformity of production to the international quality standard		National environmental label of Germany
	White swan (the Scandinavian countries)		The international sign of ozone-safe production
	The EU ecolabel (European Union, Denmark)		Energy saving product (USA)
	Ecomark (Japan)		The sign informing that at no stage of product life animals have been used
	Blue angel (Germany)		The mark of conformity to basic requirements of the EU
	Environmental choice (Canada)		Symbol on the pack of aluminium which has been recycled

Fig. 13.2. **Examples of environmental labeling signs of the first group**

2. Signs and inscriptions calling for preservation of the environment, in particular to delivery of materials and waste for secondary processing.

The labels of the group are more often seen on packages of consumer goods, their content is reduced to appeals not to litter, to keep up cleanliness as well as return corresponding objects (tins, cans, paper and others) for reprocessing.

The most known labels in the world of the group are Green point sign introduced by Germany, Sign of secondary processing, registered by the ISO, and “Keep your country clean" sign (Fig. 13.3).

These signs can be seen on domestic production as well, for example, on some packages with dairy products and others [59].

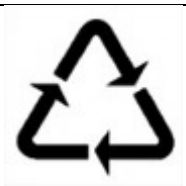
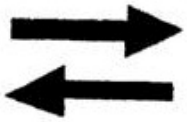
	"The green point" on a package, that after use is subject to restoration by Der Grune Punkt company (Germany)		Reusable material label It is accompanied by a code indicating the type of material (Germany)
	Glass and fork sign informs on suitability of a plastic product for contact to foodstuff.		Example of the label confirming the reuse of material (synthetic materials - in group 1-19)
	The label for the materials that should be recycled		Secondary processing sign. Confirms possibility of material restoration to be reused in packing (it is registered by the ISO)
	The label which confirms possibility of packing to be reused after ought to treatment		Keep up your country clean!

Fig. 13.3. **Examples of environmental labeling signs of the second group**

Example

The Green point disposal label was introduced by the joint-stock company established in Germany in 1990. The company independently organizes gathering and sorting of the used packs. It is financed at the expense of use of an admission fee for Green point label licensing by domestic as well as enterprises importers. Contracts for the label use have been concluded with enterprises of Germany, Austria, England, Belgium, Turkey, Denmark, Ireland, Italy, Spain, Norway, Finland, France, Liechtenstein, Sweden, Luxembourg, Switzerland and of the Netherlands.

Since environmental labeling have been introduced in Germany the quantity of household garbage has decreased by 10-15% [13, 59], and every second bottle is made of the glass that has been gathered.

3. Labels showing danger of objects for the person and the environment.

These environmental labels warn of various kind of danger to the environment. For signs to be clear they are often accompanied by inscriptions characterizing a kind

of danger (it is harmful, irritant, it is inflammable, etc.), and also provide other explanations concerning harmful impact and nuances of application.

Examples of environmental labeling signs of the third group are shown on fig. 13.4.

		
Environmental sign to designate the substances representing danger to marine flora and fauna during their transportation by waterways	Dangerous for environment (European Union)	Environmental label emphasizing the necessity of separate gathering of the used power supplies containing some hazardous substances (mercury, cadmium, lead and others)

Fig. 13.4. **Examples of environmental labeling signs of the third group**

Various kinds of environmental labeling intended to stimulate green products consumption thanks to their information influence, and also to reduce consumption or to teach to treat environmentally harmful products properly.

However efficiency of application of environmental labels depends to a great extent on the consumers' market structure as a result of motivation of environmentally focused behavior. Stimulating influence will not occur, if the majority of consumers prove to be unaware or indifferent to environmental problems as a whole or to their certain kinds, in particular. For example, the consumer can realize expediency of selection of energy efficient household appliances, however s/he does not know about the possibility to increase environmental safety of one's own life by purchase of eco-friendly household goods of other kinds.

Example

Very few people know that pollution of environment indoors is promoted by using non-green home appliances and materials as well. Thus the majority of people has a high probability of contact with potential toxic pollutants in exactly those places which they consider to be unpolluted.

According to American researchers in cities with the developed industrial production the level of 11 volatile organic substances has turned out to be considerably higher in living quarters, than outside [4]. Their basic sources are air refreshing sprays, detergents and construction materials.

Contact with benzene - a chemical compound causing leukemia - in 45 percent of cases is connected with smoking or inhalation of a cigarette smoke, in 36% - with inhalation of vapors of gasoline or other household products, for example that of glue, in 16% - with other household sources, for example with paints and gasoline, preserving in cellars and garages, and only 3 percent of contacts deal with industrial pollution.

The perchloroethylene chemical compound, causing a cancer of laboratory animals, in a significant amount is contained in clothing after dry cleaning, anti-moth products, in toilet disinfectants and deodorants.

Chloroform (the gas causing a cancer at animals) is formed of the chlorine used for processing of drinking water when taking a shower, boiling and heating in washing machines (it seems impossible to give up using tap water, but for contact reduction one can use for food needs cleaner bottled water or quality charcoal filters).

Effective ventilation can increase the contact with carbon monoxide - a product of incomplete combustion which takes oxygen out of blood and can do much harm to people with heart diseases if to inhale it even in that quantity which an ordinary home contains.

Using of an effective vacuum cleaner with a turbo brush and preferably with the dust detector can lower ten-hundred times the content of lead and other toxic substances in carpets. Recent epidemiological researches have shown that high indoor concentration of the small particles formed during smoking, cooking, burning of candles or fire wood, leads to an untimely death. The content of pesticides and other toxic organic compounds favoring occurrence of human cancer, in carpets is much higher, than outside (if pesticides get into the house then throughout years they are preserved in carpets, they are protected from decomposition under the impact of sunrays and bacteria). And little kids as well whose organizm is vulnerable to harmful substances, absorb rather significant amount of dust.

Besides that the enterprise uses a label, it still should prepare an advertising campaign. It is necessary to use an environmental label in advertising campaign of the enterprise as effectively as possible.

Thus, the consumers' knowledge of environmental labeling allows them to make a right environmentally focused choice, and use of environmental labels by enteprises - to get essential advantages on the market of green goods. In turn, reception of environmental label assumes passing of procedure of evaluation of product ecological compatibility that increases basic possibility of appearance of the goods on the market meeting the requirements of ecological compatibility.

The knowledge of the peculiarities of green marketing application presented in the given part by the domestic enterprises helps to form commodity policy in a proper way, and also a complex of advancement of eco-friendly goods on the market. The stated materials allow passing to more detailed consideration of theoretical and

methodical bases of a substantiation of development directions of green products market.

Topic 14. Greenwashing as unscrupulous tool of green marketing

Greenwashing – environmental positioning of a company or a goods/service without sufficient grounds for that.

Greenwashing (similarly to whitewash) is a form of green marketing in which green PR and methods which goal is to deceive the customer as concerns aims of organization or manufacturer in ecological compatibility of production or service, to present them in favorable light. Greenwashing is used to support the image of environmentally focused company, to get political assistance and to increase sales. The term was offered by Jay Westerveld in 1986 concerning hotels. At that time placards began to appear in hotel rooms calling upon guests caring of environment to refuse to change towels and bedclothes while staying. However in most cases the given practice has nothing to do with ecological compatibility, and serves as the tool of costs reduction of hotel [147]. In recent decades a steady growth of the phenomenon is observed: between 2007 and 2009 the use of greenwashing has increased by 79% [130].

Examples of greenwashing are numerous; let us give just some of them.

– A power company declaring that it applies green technologies, but at that these technologies - a drop in the bucket of totally environment-unfriendly business where both oil spils and explosions at processing plants may take place.

– A bank positioning itself as eco-friendly on the basis of that that clients can maintain their accounts by using the Internet.

– A store ready to take plastic bags sold by it back, but has no possibility to recycle them.

– Hour of the Earth action, which essence is to switch the light for 1 hour, in fact is of no high environmental importance. Instead it may create at participants the sensation of "fulfilled duty» which does not require considerable efforts in reduction of consumption or reorganization of their way of life.

– A striking example - sensational water in *eco-bottle* Nestlé Pure Life which we will consider more in detail. A bottle which contains 25% less plastic (in comparison with its 2007 analogue), has immediately received the *eco* prefix. Besides, in print advertisement by Nestle an ambitious statement has sounded: «Bottled water - the most environmentally responsible product in the world». On the one hand this is a step forward. Less raw materials simpler processing... But what if to look at a picture as a whole?

Bottled water pollutes the environment during all its life cycle. To produce bottles for water in the USA for a year they spend so much oil as would suffice for gas for 1 mln. cars. Even more energy is spent for transportation, storage and water cooling. Advertisement showing forest springs and falls (which have nothing to do with Nestle water) does its part - as well as sponsored TV shows about the harm of tap water. The person buys the water, drinks for 10 minutes and throws the bottle into a garbage can. According to Earth911, only 27% of plastic bottles in the USA go into recycling. In total residents of the USA purchase half a billion bottles of drinking water per week - it is possible to encircle with them the globe five times. And all of this in the country where the majority of cities can boast of excellent quality of tap water cleanup. Not without reason it is from urban water supply (after additional processing) that Nestle Pure Life water is bottled. It turns out that Nestle artificially creates demand for rather "dirty" product for environment - and then declares green hero itself only because a new bottle contains 25% less plastic. This is the trade-off indeed.

Greenwashing is usually associated with marketing actions (advertising and PR), based on ecological compatibility demonstration, instead of on actual activity. Manufacturers have faced an urgent need to follow the general trend of *greening* at least as for the look of their products. Formation of a new course on the output of production declaring itself as safe for the nature, has faced the lack of rigid frameworks of rate setting. Usually in such a case the marks specifying those or other eco-friendly benefits of a product are put on the products. In so doing actually, these benefits may be only private, and the total harmful impact - higher than at similar non-green products. Thus there emerged more informal definition of greenwashing - company spends a lot of time and money to show by means of marketing communications, that it is green instead of introducing actual environmental practices to reduce a negative influence of the company on environment.

In a bevy of foreign countries serious researches of greenwashing are conducted. So, TerraChoice Company regularly issues the report concerning greenwashing in the USA [130].

The company distinguishes seven sins of greenwashing:

1. **Sin of the hidden trade off**. A product is positioned as green on the basis of one or several merits but hides important demerits. Paper, for example, can not be eco-friendly just on the basis of that that wood used for its production comes from sustainably managed forestries. Ecological footprint from paper production consisting in water and energy consumption, greenhouse gas emission, air pollution etc. may exert a significant influence on the environment. A juice package, for example, «is made of a tree, renewable natural resource». That is only partly truth. “Tetra Pak” package, like a pie, has a multilayered structure and consists of paper, a plastic

component and foil. Such «alloy» complicates processing of this material therefore it is difficult to call it eco-friendly.

2. Sin of no proof. An environmental positioning is built on the grounds of unprovable or difficult to prove statements and can not be subjected to third-party certification. One of the most commmon examples is producers of textiles who indicate the share of used recycled raw materials without providing evidences. The example given by TerraChoice: bisphenol A, a toxic chemical found in kids' toys and feeding bottles. Manufacturers even more often declare that their production does not contain bisphenol A, but do not publish in the public domain any researches proving it.

3. Sin of vagueness. A claim that is so vague or broadly interpreted that the buyer can not understand its real meaning. Vague statements like «100% green», «Safe for environment», «Not toxic» are especially often used. Eco-friendly positioning is done due to a pretty general claim. A good example is «All natural» wording. Arsenic, uranium, mercury and formaldehydes – substances of natural origin. Natural goods (substance) are not obligatory eco-friendly. In some countries, for example, in Russia there is no legislatively fixed concept of both «cleaner product» and «natural product» so, there are no criteria which determine naturalness and "cleanliness". That's why everyone has *own* ecological compatibility norms…

4. Sin of worshiping false labels. The manufacturer puts the label showing that product ecological compatibility has been approved by the third party, in spite of the fact that there has been no such approval or the third party does not exist. These symbols mean nothing, but make impression of that that the product is approved by some third party. Example: Canadian manufacturer of paper towels has placed on their pack a fine stamp with a modest note: «This product struggles with global warming». At that designers — smart people: they use natural colors — dark blue, green, yellow, brown and try to avoid bright acid shades. We associate such colors with the nature and naturalness of components. It is therefore that it is profitable to «wrap» products into such colors. Thus many think out the natural dies which though are not considered as labeling, but appeal to «subconscious naturalness». If you observe you will notice that on the goods quite often there appear badges in the form of a leaflet, droplets or the sun. Sometimes to the name of a product the manufacturer adds «nature» words like «green», changes design of package a little bit and… increases the price. Products and goods of manufacturers, who commit a sin of greenwashing, are not of poor quality. They just mislead the customer while trying to attract his attention. At that its analogue standing nearby may possess precisely the same (and sometimes even better) properties. It is just lacks cunning green tricks and, most likely, will remain unnoticed. According to the last report issued in 2010, in the USA for a year (from 2009 till 2010) the number of green goods has increased by

73%, at that only 4,5% of the goods positioning themselves as eco-friendly, have none of greenwashing *sins*.

5. Sin of lesser of two evils. For example organic cigarettes or sport fuel-efficient automobile — products which initially have a strong negative impact on an organism (nicotine, sport car), but they try to “dignify" them a little bit with green properties when it is better not to smoke and to use a family fuel-efficient car.

6. Sin of irrelevance. Information due to which a product is positioned as eco-friendly may be truthful and accurate but thus totally useless or untimely. For example, on aerosols — deodorants, shoe care sprays there are often labels «ozone friendly» or «CFC-free». It means that during production and use the product does not discharge substances harmful to the ozone layer. In sprays as far back as several years ago they have forbidden to use any ozone-destroying substances and it means such labels in this case - no more than an advertising gimmick. They like to write on vegetable oil label that it is «cholesterol-free». It is an advertising gimmick: cholesterol in general is never contained in vegetable oils, it is present only in products of an animal origin. Or one more example. This soap has «Green point» label in the form of two closing up arrows. It means that the manufacturer concerns about disposal of waste is constantly remitting monetary funds to a special fund for processing of its garbage. However a catch in that that this sign outside of Germany makes no sense. It turns out that on the cosmetics made in Turkey it is no more than just a drawing.

7. Sin of fibbing. All previous "sins" represent more exactly deceptions than false statements. But it is necessary to remember, that rather often companies just deceive. One of manufacturers of cosmetics, for example, declares that the shampoo is green, does not contain a bevy of chemical components among which there is laurilsulfate, if to read the content attentively then it is possible to notice that there one can find a substance that by its properties is very similar to laurilsulfate. It possesses practical the same properties, and, hence, similar by-effects - causes dryness of the scalp skin. Or here is one more example from a mall: on a pack of crab meat it is written that it contains no artificial coloring agents as well as GMOs. However it is virtually impossible to read its content: components «are scattered» across all perimeter of the pack. Most likely, it was meant to be this way: nobody will look closely and search for any “Es” there. Example: the producer declares that is selling a certificated organic-product, but there was no certification. The farm declares itself as «eco», but its owners even do not know the meaning of organic farming [122, 127].

Greenwashing has a bevy of negative consequences. First, production washed in a green light is not green at all, so environment is damaged during its manufacture. Second, people are disappointed in green brands and actual eco-friendly goods face

more difficulties to get on the market. Nobody likes to feel deceived, especially when it is a question of a waste of money. In Russia greenwashing is just gaining in strength. America and Europe has already passed it in the 90s of the last century.

Possible ways of struggle against greenwashing:

- international regulation;
- independent certification;
- transparency;
- increace of the consumer's awareness;
- sensation around greenwashing;
- education of manufacturers and experts in marketing.

The latter point is especially important. It is obvious, that modern environmental marketing requires qualified copywriters and experts in marketing, who are acquainted rather well with peculiarity of green products advancement to prevent greenwashing and other blunders. Such experts are capable to help green brands to achieve success and compete in the market with usual manufacturers [121].

The majority of Americans considers that eco-friendly advertising is no more than a marketing trick. The U.S. Federal Trade Commission distinguishes factors which should be trustworthy in green advertisement as well as in that of other types.

- The concrete information on the goods/service should be given. In particular, what is being affirmed (for example, decrease in energy consumption during production process), by how much (for example, by 12%), in comparison with what (for example, in comparison with the previous version of a product). On the contrary, statements like «it is friendly to environment» or «green» without specific facts seem doubtful.
- Clarity and availability of the information to be understood by customers.
- No overstatements. One should give actual facts and true possibilities too. If, for example, a package can be processed, however there are virtually no places for such processing, then that can not be called an advantage.
- Possibility of comparison with other products and sufficiency of the information for consumers to be able to complain [139].

Opposition to greenwashing:

Legislative

There are legislative prohibitions on the use of greenwashing. For example in Australia according to Trade Practices Act any company that will be found guilty of misleading customers by means of false claims about ecological compatibility faces up $1.1 million in fines. Moreover, it will be obliged to spread reliable data about their product environmental impact at its own expense.

Public

Public organizations spread information about the companies found guilty of greenwashing, the University of Oregon has created Greenwashing Index, a database where public uploads their daily examples. Greenpeace keeps a special blog Stopgreenwash.org. In 2011 *Greenwashers* documentary was released.

Professional (production certification)

Counterbalance to greenwashing is independent certifications of production by the international standards, so-called ecolabeling, for example standards of ISO 14020 - 14025 series regulate various variants of environmental labels. For certification of food production there are marks like organic, it means, that the product was grown by natural methods in stead of extensive farming, without pesticides, only natural fertilizers were used. The strong point of such an approach - independence and impartiality of production estimation in a counterbalance to greenwashing - unsubstantiated statements of the manufacturer.

How to distinguish «green product»?

Frequently it is rather difficult to separate from plenty of eco-friendly initiatives greenwashing cases. Most American consumers say green advertising is nothing more than just a marketing tactic [129].

The report of Terra Choice has revealed that the most popular cases of greenwashing are too general claims and unsubstantiated statements (fig 14.1).

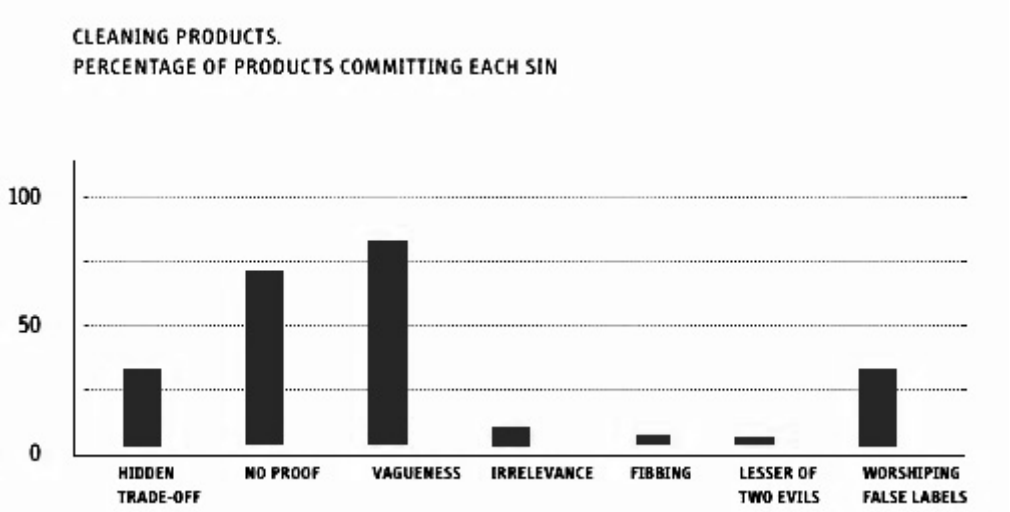


Fig. 14.1. **Share of greenwashing products among household chemicals by way of example**

According to the same report, products sold in malls (big box) correspond to their claims most of all. And in specialty stores and boutiques percentage of greenwashing is significantly higher (fig. 14.2).

The university of Oregon has created a site (http://www.greenwashingindex.com) where users index greenwashing cases which they meet in a daily life.

The big problem are false environmental labels creating semblance of product ecological compatibility (fig. 14.3).

In the report of Terra Choice the certificated labels are presented owing to which presence one can consider a product being a green with enough confidence. [131].

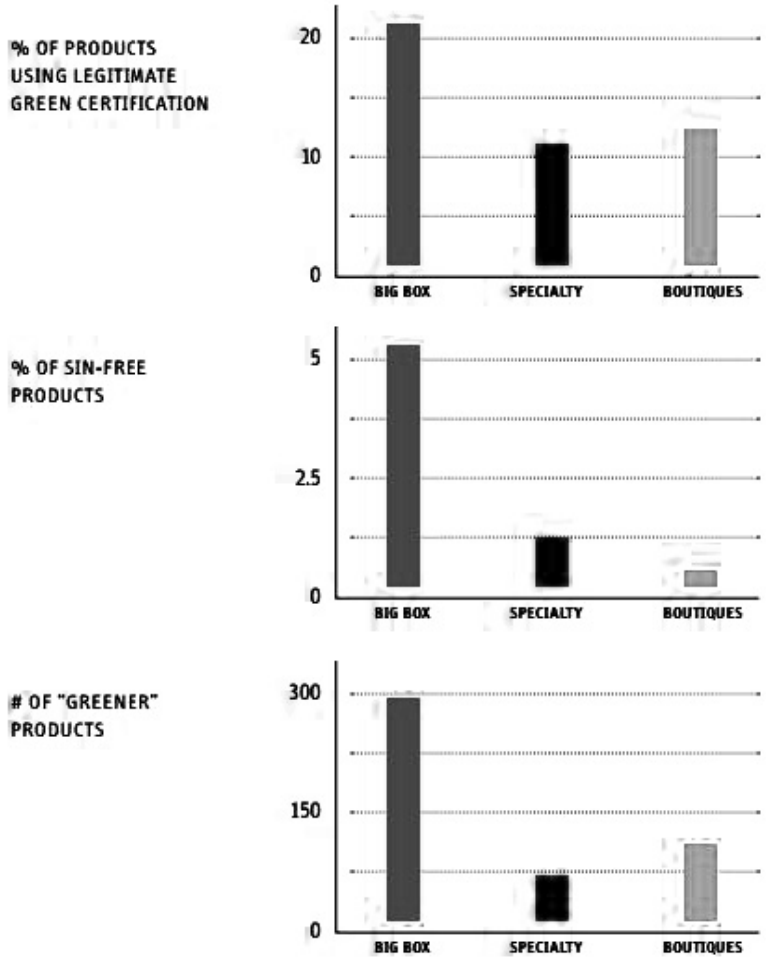


Fig. 14.2. **Share of sin-free products in various types of stores**

Fig. 14.3. **Example of a false environmental label**

PART 5
GROUNDS FOR DIRECTIONS OF GREEN GOODS MARKET DEVELOPMENT

Topic 15. Evaluation of green product compatibility to multidirectional interests of market subjects and matching that of the latter

The important role in green marketing development is played by concrete economic management subjects. It is on efficiency of their management of green products market formation that successfulness of green products spreading to achieve sustainable development depends. Economic management subjects make decisions on development variants selection, including on the basis of eco-friendly goods, estimate prospects of each of these variants and choose the best (expedient) one. Correctness, optimality of the ways of development chosen by them from the point of view of both economic expediency and environmental appropriateness is the guarantor of green marketing development in a country.

Procedure of substantiation of the choice from alternative variants of market promotion of products the optimal should include, at least, the stages shown on fig. 15.1.

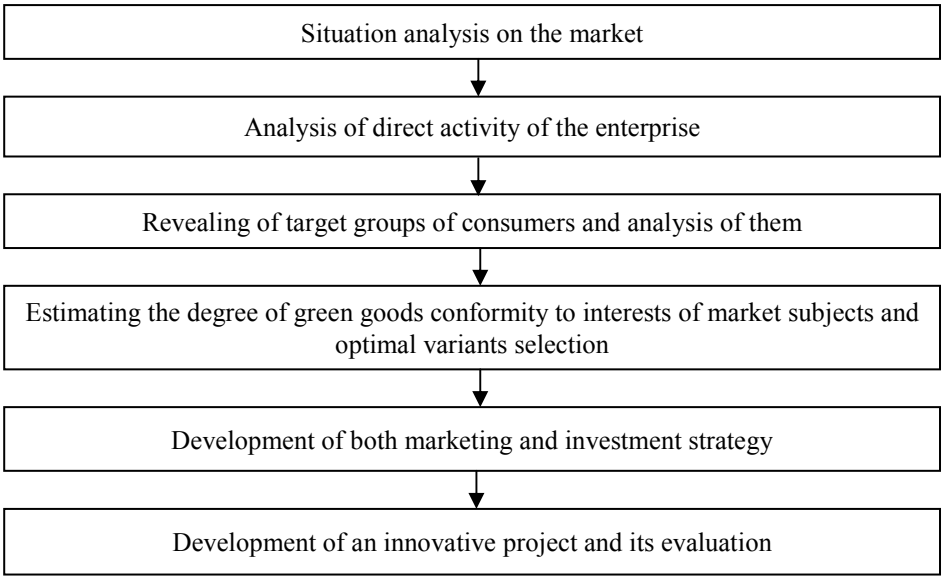


Fig. 15.1. **Stages of substantiation of the choice of optimal variant of formation of green goods market**

The scheme of grounding of variants of formation of green products market in general does not differ from the well-known scheme of making decisions on target markets formation. But criterion and information bases have some peculiarities.

To make the right choice regarding environmentally focused direction of development of market possibilities the enterprise should before a traditional working out of product sale project to carry out preliminary evaluation stages of expediency of green goods market formation (fig. 15.2) [71].

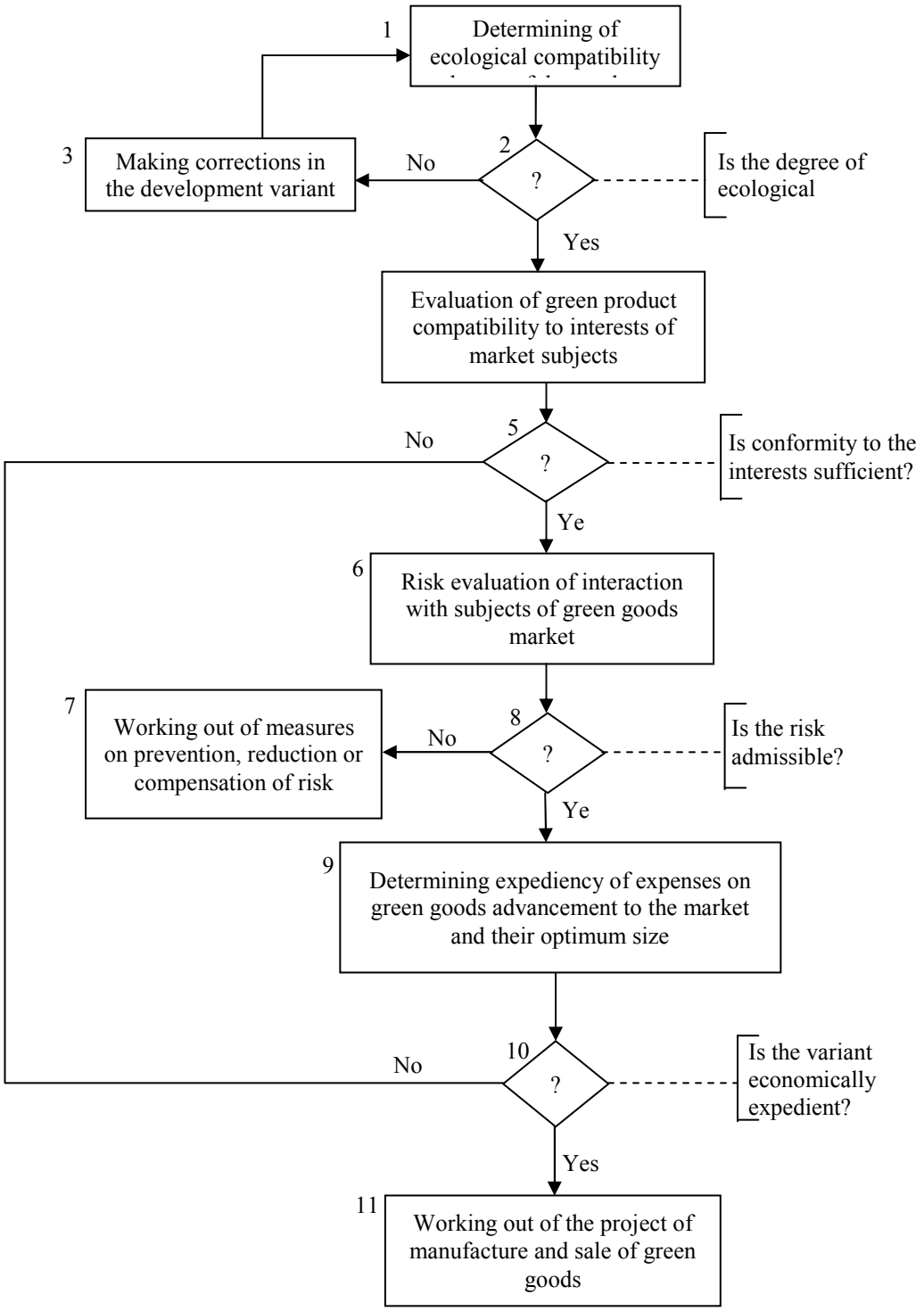


Fig. 15.2. **The flow chart of the algorithm of substantiation of the choice of optimal variant of green goods market formation**

The essence of blocks 1, 3, presented on fig. 15.2, has been considered in the topic 7 (part 2), essence of the block 11 is well-known and therefore does not need explanation. In this topic we will consider the essence of blocks 4, 5 of the algorithm, and in the following two topics - that of blocks 6, 8 and 9, 10.

Formation of the market of the eco-friendly goods is a complex process providing the coordination of interests of all its subjects, first of all: manufacturers, consumers, a society (nationwide interests). Its results substantially depend on proper research of the market which it is planned to promote green goods to.

Green products advancement to the market happens under the influence of set of market subjects' interests - customers, manufacturers, public and state institutes.

However specific goods in most cases only partially satisfy interests of the mentioned subjects who actively interact on the market (eco-friendly goods can suit totally some of them and be unacceptable for others). On fig. 15.3 it is shown, that green goods can meet interests of subjects of the market in different degree.

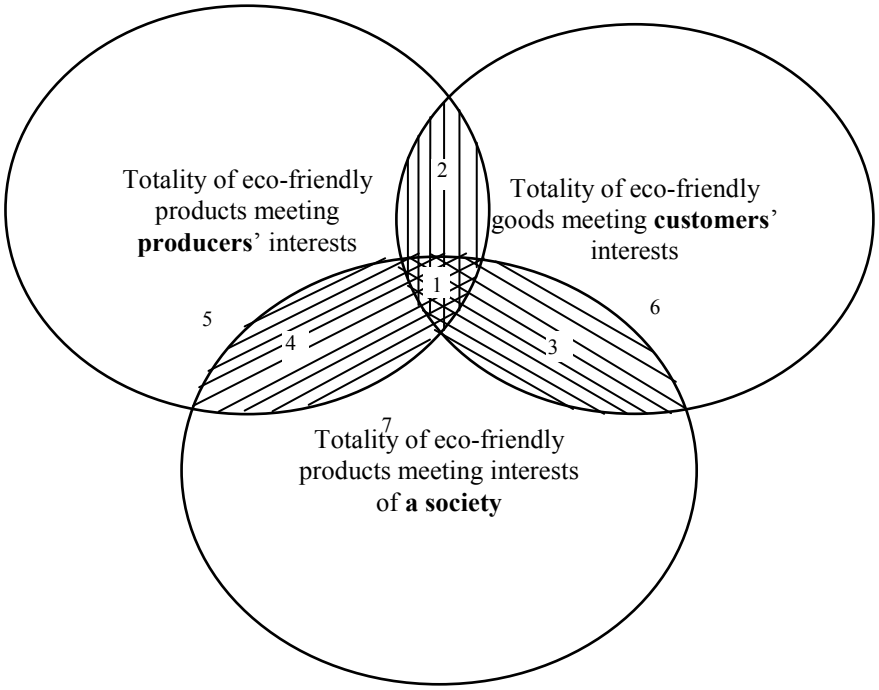


Fig. 15.3. **Green products of various degree of conformity to interests of market subjects**

The market of green products corresponding to the 1st area will be formed in the first place. The goods, fiting into this area, meets interests of all mentioned market subjects: manufacturers are interested in production of such goods, customers are interested in their purchase and consumption, state is interested in support of production and consumption.

Example

Raduga (Rainbow) fertilizer made of deposits of sewage meets interests of all subjects of the market [31]. The consumer at low prices receives the fertilizer, allowing cultivating quality plants – herbage, flowers and trees. A society gets the general improvement of ecological situation, planting of deserts and semideserts, alluvial sand; the state institutes - flow of funds to the budget; both manufacturers and consumers - profits (since the cost price of Raduga fertilizer making is low enough).

Eco-friendly goods of "profitable ecology" direction correspond to the 1st area.

The goods corresponding to interests of area 2, theoretically, may appear on the market. Manufacturers are interested in their production that is form the supply. Consumers form the demand. But production of such goods is beyond the interests of state and public institutes. Therefore they can stop their production if, manufacturers and/or consumers will not make certain payments of funds to the state budget and/or interests of the state and public institutes will be accounted in some other way.

In this case incomes of consumers and their costs connected with the account of the state and public institutes, I_c and E_c respectively and that of manufacturers I_m and E_m should correlate in the following way:

$$\begin{cases} I_c > E_c, \\ I_m > E_m. \end{cases} \qquad (15.1)$$

Producers are not interested in manufacturing of eco-friendly goods corresponding to area 3. Such green durable goods can quickly fill the market that is not profitable to the manufacturer. Or due to the definite reasons (for example, low solvency of consumers) manufacturers cannot hope for significant incomes, or their gain is connected with a high risk level etc. In this case, consumers and/or public and state institutes should encourage manufacturers. And they will do it only provided the following ratio of expenses and achievements:

$$\begin{cases} I_c > E_c, \\ I_s > E_s. \end{cases} \qquad (15.2)$$

where I_s, E_s - incomes and costs of state and public institutes, respectively.

Customers are not interested in production of green goods corresponding to area 4. Therefore to form the market of this group products stimulation of consumers is required which will occur under the following conditions:

$$\begin{cases} I_m > E_m, \\ I_s > E_s. \end{cases} \quad (15.3)$$

The products meeting interests of just one market subject are practically unacceptable as they face active counteraction of the rest subjects. But sometimes the market is able to influence those other subjects.

Thus, the optimal choice of eco-friendly goods is that which meets interests of all subjects involved in market formation to the largest extent. It will allow doing along without additional expenses, and also to hope for long duration of life cycle of such a green goods.

The estimation of degree of green products conformity to interests of each of the market subjects ought to be made based on the analysis of conformity of certain characteristics (functions) of the products to these interests.

To get reliable results it is ought to involve consumers directly (to estimate products conformity to customers' interests), representatives of enterprises (to estimate the conformity to manufacturers' interests), as well as representatives of state and public institutes (to estimate the conformity to interests of the state and a society as a whole). That is it is necessary to form three groups. To get reliable results it is necessary to avoid similarity groups.

Let us consider the example of estimation of product conformity to the interests of three mentioned market subjects.

Example

For various representatives of the enterprise interests, and accordingly selected ratable characteristics, their weight are different: members of board of directors first of all pay attention to profitability and quality; the head of manufacturing department – to reduction of an idle time of the equipment during refilling, decrease in expenses for its maintenance; the researcher and the designer – to compatibility with other elements, efficiency; supply department – to the price, discounts, quality and delivery conditions etc.

The evaluation of green products conformity to interests of each of the market subjects is made by the selected groups of experts in such an order [31]:

1. Each expert determines characteristics of products by which the estimation of the goods group will be made. In so doing, not only the characteristics inherent in green goods and distinguishing them from others, but also the characteristic that common for all products are taken into account. Sometimes it is common characteristics that have prevailing value. So, for example, cleaner food which completely corresponds to consumer characteristics as for health preservation, may

not be in demand because customers do not appreciate its taste much or because of its high price.

2. Initiators of evaluation or panel of experts analyze the characteristics selected by each expert. The list of characteristics by which estimation is given is defined. To counteract the influence of quantity of the characteristics meeting the interests of market subjects of one group, such characteristics should be combined.

3. On the basis of the chosen characteristics initiators of evaluation create estimation tables individually to determine conformity to interests of each of the market subjects: consumers, manufacturers, both state and public institutes. Such tables can be of two types. The first type evaluation table is used for pairwise comparison of characteristics groups. The general view of such estimation comparison is given in table 15.1. The second type estimation table is used to evaluate the conformity of characteristics groups of the analyzed products to the interests of the concrete market subject. Its general view is given in table 15.2. The list of recommendations, that regarding how to fill in estimation tables is worked out as well.

Table 15.1.

The table of pairwise comparison of groups of green products characteristics (example is simulated)

Groups of products characteristics	X_1	X_2	X_3	X_4	X_5	X_6	Total	Weight
1. Saving of resources (means) during consumption / use / operation and disposal		1	0	1	1	1	4	0,26
2. Ensuring of performance of several functions by one product	0		0	1	1	1	3	0,20
3. Approval by others (prestige)	1	1		0	0	1	3	0,20
4. Safety of consumption / operation	0	0	1		0	0	1	0,07
5. Reliability of operation, low costs for repair and maintenance	0	0	1	1		1	3	0,20
6. Convenience, simplicity, comfort of usage / operation / consumption	0	0	0	1	0		1	0,07

In the first type tables it is necessary to make pairwise comparison of groups of characteristics that is required to evaluate their weight. Advantages of this approach are especially noticeable at a considerable quantity of the characteristics taken into consideration, when they cannot be distributed intuitively by ranks and furthermore to determine their weight. The experts estimate each of criteria on the following scale: "0" - the characteristic in this column is more important than the one in this line, "1" - the characteristic in this line is more important than that in this column.

Numbers are summarized by the lines. Higher characteristic rank corresponds to larger sum.

In all groups of characteristics individual ones can be distinguished. But that should be done to get more accurate estimation and it is not always expedient.

Thus, the set of three (if to estimate compliance with interests of only three mentioned market subjects (vide fig. 15.3) tables like the table 15.1 and of three ones like the 15.2 to evaluate each of the alternative products is created.

4. The initiators of estimation carry out processing of the received expert data by each market subject individually.

Table 15.2.

Estimation of green product conformity with interests of the concrete subject (manufacturer, customer and others) of market activity (example is simulated)

Groups of products characteristics	Compliance with interests of *s* market subject				
	complies completely (4)	complies sufficiently enough (3)	complies partially (2)	virtually does not meet (1)	does not comply at all (0)
X_1	1				
…					
X_i			1		
…					
X_n		1			

4.1. The importance of each of groups of estimated characteristics V_{s_i} to evaluate conformity with interests of *s* market subject according to the data of the table 15.1 is determined by using the formula

$$V_{S_i} = \frac{1}{k} \cdot \sum_{j=1}^{k} \frac{R_{S_{ij}}}{\sum_{i=1}^{n} R_{S_{ij}}}, \quad (15.4)$$

where $R_{s_{ij}}$ - number of designations "1" in a line of the table 15.2, which correspond to *i* group of characteristics to estimate the conformity to interests of s market subject, put down by j expert; i - consecutive number of characteristics group; n - quantity of groups of characteristics by which estimation is made; j - consecutive number of the expert who made the evaluation; k - number of experts who were estimating.

4.2. They estimate product conformity with interests of s market subject that has been evaluated by j expert in the table 15.2, O_{s_j} by using the formula

$$O_{S_j} = \frac{1}{k} \cdot \sum_{i=1}^{n} O_{S_{ji}}, \quad (15.5)$$

where $O_{s_{ij}}$ - quantitative estimation of conformity of *i* group of goods characteristics with interests of s subject of eco-friendlt products market, made by *j* expert.

4.3. The aggregate estimate of product conformity with interests of *s* market subject O_s is accepted as an arithmetic average of the estimations made by each of the experts, according the formula

$$O_s = \frac{1}{k} \cdot \sum_{i=1}^{k} O_s. \quad (15.6)$$

The evaluations of green product conformity with interests of s market subject made by individual experts are different from the aggregate estimate in most cases. Such a difference means that the market, to which it is supposed to promote eco-friendly goods, is somewhat heterogeneous. Therefore the green product under estimation will meet interests of subjects of separate market segments to a different extent. That is the more estimations differ from each other, the smaller quantity of market subjects which support it is possible to rely on at orientation to production of specific green product. The deviation of estimations may also indicate the possibility of that that interests have been misderstood a little, the one to change interests while implementing the project towards interests of minority of market subjects whose estimation has differed from the agregate estimate. As the result of that there may be reduction of sales volumes, outlet loss, deficiency of profits, insufficiency of the planned volumes of both material and financial resources for project implementation, discontinuance of activity owing to resistance of the state and public institutes, etc.

Taking that into consideration one ought also to consider the degree of reliability of estimations of product conformity to interests of subjects of green products market. It is possible to measure degree of reliability of estimations by means of the standard deviation (σ) by using the formula

$$\sigma = \sqrt{\sum_{j=1}^{k} (O_s - O_{S_j})^2 \cdot \frac{1}{k}}. \quad (15.7)$$

Thus, a reliable estimate of product conformity with interests of s market subject i.e. $O_{sд}$ is determined using the formula

$$O_{sд} = O_s \pm \sigma_s. \quad (15.8)$$

4.4. The evaluation of each product out of bevy of alternative ones is made in the same way. In theory estimations can assume values from 0 up to 4.

The next step is to find an integral estimate of eco-friendly goods compatibility to interests of all market subjects by using the formula

$$O = \frac{1}{m} \cdot \sum_{i=1}^{m} O_s, \quad (15.9)$$

where m - number of market subjects, correspondence to whose interests is under evaluation.

To be more precise an integral estimate should be defined as weighted average of O_s estimates.

When using the offered methods an integral estimate may vary from 0 up to 4.

Annotation

If the set of alternatives of commodity market development is evaluated then to reduce volume of calculations at the further consideration one can exclude green products for which at least one estimate of conformity to interests of the market subject by at least one of the groups of characteristics is below a specific value (for example, lower than 2). When using the offered methods an integral estimate will theoretically vary from this limiting level (let us assume 2) up to 4.

The maximal integral estimate (i.e. 4) corresponds to maximally possible probability (i.e. 1) of successful market promotion (fig. 15.4). The goods, which integral estimate of conformity with interests of market subjects is equal to zero, will definitely not be perceived by the market since they face counteractions of all subjects of the market. At the estimate 3,2 we have identical probabilities (0,5) of perception and counteraction by the market subjects to goods advancement.

Depending on the received estimate the area of risk is defined and the corresponding decision is made on acceptability of manufacture of green production under consideration (table 15.3).

The initiator of evaluation, the essence and sequence of which has been described, can be a manufacturer which will define it to select an optimum direction of development as well as investors, state and public institutes which will define it to choose an optimum direction of investments.

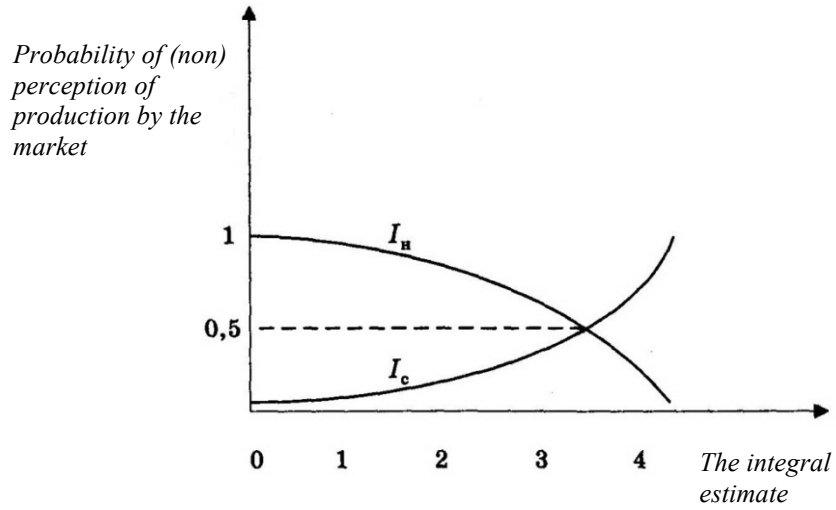


Fig. 15.4. **Dependence of probability of perception and counteraction of the goods by the market on the integral estimate**

I_c - probability of product perception by the market; I_H - probability of (non) perception of a product by the market

On fig. 15.5 where on the axes estimates of conformity of development trends to interests of the market subjects are laid O_s - customers, manufacturers and a society as a whole which vary from 0 up to 4, the set of such conditionally acceptable directions of formation of green products market (with cumulative estimates of conformity with interests of each market subject being more than 2), is shown as a tinted cube.

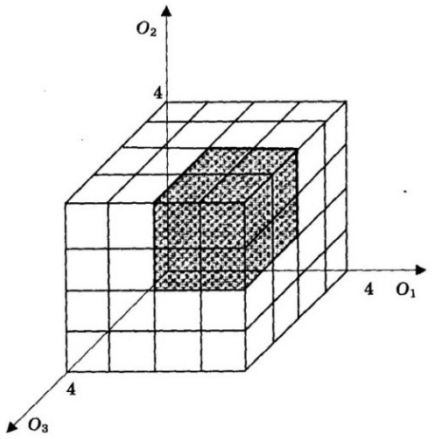


Fig. 15.5. **The scheme of definition of innovative development directions acceptable by their conformity to interests of the market subjects**

To account interests of all the market subjects is not always a goal. In practice there frequently occurs the necessity to evaluate product conformity with interests of just one market subject. Such estimation can be made by an individual market subject (for example, an intermediary) to reveal the product which satisfies its interests as fully as possible.

Table 15.3.

The decision-making table on selection of acceptable variants of the enterprise development

The estimate	Conformity with interests of the market subjects	Probability of product perception by the market	Probability of product nonperception by the market	The level of expected aggregate expenditures	The level of expected total achievements	The risk level	Decision
E = 4	Full (area 1 fig. 14.3)	$I_c = 1$	$I_н = 1$	Low	High	Zero	To accept the variant
3,8 ≤ E <4	Almost full	0,75 ≤ I_c < 1	0 ≤ $I_н$ < 0,25			Minimal	
3,2 ≤ E < 3,8	Sufficient	0,5 ≤ I_c < 0,75	0,25 ≤ $I_н$ < 0,5	Moderate	Moderate	Increased	To make a specifying analysis of the variant
2,6 ≤ E < 3,2	Rather sufficient	0,25 ≤ I_c < 0,5	0,5 ≤ $I_н$ < 0,75	High	Low	Critical	To conduct subsequent in-depth studies
2 ≤ E < 2,6	Partial	0,15 ≤ I_c < 0,25	0,75 ≤ $I_н$ < 0,85			Inadmissible	
0 ≤ E < 2	Unsatisfactory	0 ≤ I_c < 0,15	0,85 ≤ $I_н$ < 1				Unacceptable variant

Results of the analysis of product conformity with interests of each of market subjects are presented graphically as a cyclogram. Cyclograms can be of two types. The first type cyclograms illustrate correspondence of production (namely its specific features) to interests of the concrete market subject. Those of the second type illustrate conformity of production (by characteristics as a whole) to interests of each of market subjects taken into consideration.

When constructing the first type cyclograms they calculate angles σ_i, corresponding to weight of products features using the formula

$$\alpha = 360° \cdot V_i. \quad (15.10)$$

In a case when the same goods estimated by identical characteristics are analyzed, the size of angles is determined according to experts' group data once for all products under evaluation. For each of the goods the length of r_i position vectors is calculated by using the formula

$$r_i = \frac{O_{S_i}}{4} \cdot r, \quad (15.11)$$

where r - unit position vector;

O_{s_i} - estimate of *i* characteristic compliance with interests of *s* market subject is found by using the formula

$$O_{s_j} = \frac{1}{k} \sum_{j=1}^{k} O_{s_j}. \quad (15.12)$$

Example of constructing of such a cyclogram for two products (A and B) is given on fig. 15.6. A figure greater in its area on the cyclogram corresponds to higher estimate of goods conformity with interests of market subject. In this case this is the figure constructed for the A product (set off in heavy line). The drawing gives a pictorial presentation about that by what features (taking into account their weight) the goods have advantages, and by what - disadvantages.

When constructing the second type cyclograms angles illustrate the significance (weight) of market subjects (in a simplified form they are identical to all subjects)

$$\alpha_s = 360° \cdot V_s, \quad (15.13)$$

where V_s - market subject weight, conformity degree of green goods to interests of market subject.

The length of position vectors illustrates collective estimates of conformity of production to interests of each of the market subjects and is found by using the formula

$$r_S = \frac{O_S - 2}{2} \cdot r. \qquad (15.14)$$

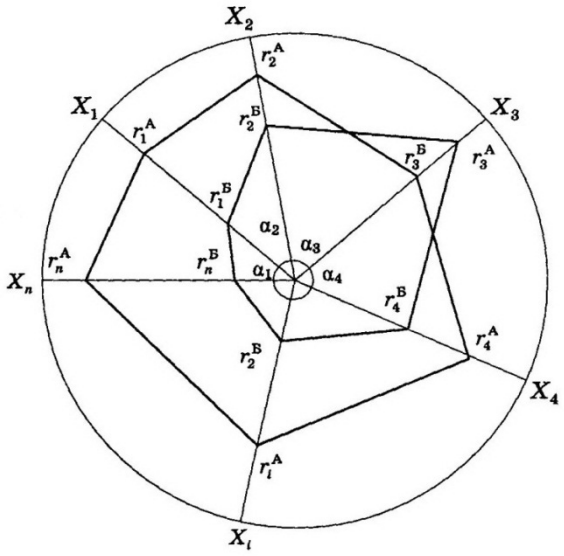


Fig. 15.6. **The cyclogram of comparison of conformity degree of products with interests of market subject.**

Annotation

Number 2 in numerator of the formula (15.14) - a limit level of conformity of the goods to interests of subjects of the market. It is applied not in all variants of the method.

Larger area of of an obtained figure indicates fuller conformity of the goods to interests of the market.

As a result, we will note that estimating green goods conformity with interests of market subjects will allow enterprises to evaluate prospects of advancement of production to the market, and the formulas given in the beginning of the topic – to estimate expediency of measures concerning the coordination of multidirectional interests of market subjects.

Topic 16. Risk evaluation of interaction with subjects of green goods market

The topic deals with consideration of essence of blocks 6, 8 of the algorithm represented on fig. 15.2 (topic 15).

New products advancement on the market is always connected with risk. 40 percent of new consumer products of their total quantity meet with failure during promotion, 20 percent of new manufactured products and 18 percent of new services. According to other data no more than 3-5 % (a pessimistic estimation) or 10-20 % (an optimistic estimation) of new goods succeeds on the market [31].

To get into few percents of success for the sake of which the enterprises develop, launch and sell new products, it is necessary to carefully select the goods for risk to be minimal.

All risk factors of innovative activity as well as some specific ones of green market formation inherent in the activity dealing with green goods market formation.

Not only production of eco-friendly goods is risky but also activity of all subjects of the market that develop, invest in green goods production, sell as well as consume them. Therefore there is a necessity to estimate risk from positions of each subject of green products market which in its turn decides whether it is expedient to operate on it.

Details

Both errors and inaccuracies can be made even during formation and selection of green product idea. Not every idea is perceived by the customer. Even if an ideal idea, product conception, i.e. the description of ideas in terms of consumers has been selected, that can be insufficient for exact and perfect reflection of this idea. Therefore they make the market analysis during which they find out to what extent consumers are inclined to buy new eco-friendly goods. But, first, the market analysis can be made inaccurately and wrong conclusions can be drawn as a result of it. Secondly, and it especially concerns new green goods, consumers during market research may not feel yet the need in the offered products, but in fact the market of these goods can be promising hereafter. And on the contrary, during market analysis it is possible to receive encouraging results which for any reasons will come to naught in due course (for example competitors will manufacture a product meeting existing needs in a better way or the one of competitors will be cheaper or needs of consumers will change). There may be not enough resources to produce a developed product; the latter may become outdated already at a working out or production stage and so on.

The detailed analysis of risk methods shows (table 16.1), that a universal method to evaluare risk caused by actions of various market subjects does not exist.

In connection with this one ought to make an estimation of possible favorable or adverse influence of subjects of the market from the point of view of reliability of their interaction with the manufacturer of eco-friendly products. Thus reliability of interaction is considered as a value opposite to risk. The higher reliability of interaction the less the risk and vice versa.

Table 16.1.

Recommendations about application of methods of the quantitative analysis of those risks of green products manufacturer that may be caused by actions of other market subjects

Method of risk analysis	Subject of the process of green goods market formation					
	Consumer	Investor	Intermidiary	Supplier	Developer	Public and state institutes
Mathematical-statistical	±	+	-	+	+	-
Analytical	-	+	±	±	±	-
Financial stability evaluation	-	+	±	+	±	-
Decision tree use	±	±	±	±	±	±
Scenario method	±	±	±	±	±	±
Expert	+	+	±	±	±	+
Normative	-	±	-	±	±	+
Sensitivity analysis	±	±	±	±	±	-
Analogy	±	+	±	+	±	+
Simulation modeling	+	±	±	+	-	±

Annotation. «+» - the method is quite applicable to estimate the risk caused by actions of the subject of the market;

«±» - applicable in part;

«-» useless to estimate the risk caused by this market subject;

The estimation of reliability of interaction with each of market subjects should be made by means of tables like the one 16.2. It can be defined as arithmetical mean value of estimates of market subject by separate criteria. To get more accurate estimate experts should define the weight of evaluation criteria to find the weighted average value.

The estimation criteria similar to those given in table 16.2, it is expedient to apply to evaluate the reliability of intermediaries, suppliers, developers and investors. It is reasonable to apply the following criteria to estimate customers: degree of interest in the product, degree of necessity of the one, solvency and degree of stability of requests. To estimate both public and state institutes - degree of interest in the goods and possible results of its production and consumption; the attitude of various socio-political groupings towards the product and its manufacturers; constancy of interests of socio-political groupings, and the state institutes as well; degree of stability of the state institutes etc.

Table 16.2.

Evaluation of subject reliability degree of the process of green goods market formation (data is simulated)

Estimate	Ordinal scale	Evaluation criterion				
		Activity experience	Image	Financial condition	Personnel potential	Productive potential
4	Perfectly reliable	1				
3	Sufficiently reliable		1			1
2	Indefinite			1		
1	Sufficiently unreliable				1	
0	Totally unreliable					

The estimates, given in table 16.2 by the ordinal scale, are converted into relative ones using the formula

$$H_{s_{ji}} = \frac{P_{s_{ji}}}{P_{s_{max}}}, \quad (16.1)$$

Where $P_{s_{ji}}$ – estimate of reliability of s market subject, received by j expert by i criterion; $P_{s_{max}}$– maximally possible estimate of reliability of s market subject (in this case it is 4).

Example

Using the data from table 16.2

$H_{s_{j1}}$= 4 : 4 = 1; $H_{s_{j2}}$= 3 : 4 = 0,75; $H_{s_{j3}}$= 2 : 4 = 0,5;

$H_{s_{j4}}$= 1 : 4 = 0,25; $H_{s_{j5}}$ = 3: 4 = 0,75.

Agregate estimate of s market subject reliability by j expert's data H_{s_j} is calculated as weight-average one of relatives estimates by each of the criteria using the formula

$$H_{s_j} = \sum_{i=1}^{n} H_{s_{ji}} \cdot B_{s_{ji}}, \quad (16.2)$$

where $B_{s_{ji}}$- weight of i estimation criterion of s market subject reliability defined by j expert; n - quantity of criteria used to evaluate s market subject reliability.

Example

For the data from table 16.2 the agregate estimate amounts to

H_{s_j} = 1· 0,18+ 0,75 · 0,19 + 0,5 · 0,24 + 0,25 · 0,19 + 0,75 · 0,2 = 0,64.

The integral estimate of *s* market subject reliability should be defined as the arithmetical mean value of their agregate estimates by using the formula

$$H_s = \frac{\sum_{j=1}^{k} H_{s_j}}{k}, \tag{16.3}$$

where k - number of experts involved in evaluation.

A sufficiently reliable market as it follows from table 16.2, can be considered such which integral estimate is close at least to 0,75.

The agregate estimate of interaction reliability with all the subjects involved in green products market formation (integrated assessment), should be defined as the arithmetical mean value of their integral estimations

$$H = \frac{\sum_{s=1}^{n} H_s}{n}, \tag{16.4}$$

where n - quantity of subjects the influence of whose actions is taken into account.

Hovewer in a bevy of cases it is required to consider the importance (significance) of subject of the process of green goods market formation. In such a case they define the weighted average value of their integral estimates.

Example

When producing eco-friendly goods to fill the state order the significance of consumers reliability degree decreases, however the one of interaction reliability of the manufacturer with the state and public institutes increases.

For a pictorial presentation of results of interaction reliability evaluation with green products market subjects it is necessary to construct a cyclogram angles of which correspond to the market subjects significance (calculated using the formula (15.10)), interacting with an eco-friendly goods manufacturer (in a simplified variant they are identical).

The length of position vectors corresponds to integral estimates of interaction reliability with each of green goods market subjects and is found by using the formula

$$r_s = H_s \cdot r. \tag{16.5}$$

It is possible to present intermediate results of estimation of reliability of each of the green products market subjects as cyclograms too. It will allow revealing both advantages and disadvantages of each of them. In such cyclograms angles correspond to weight of criteria by which subjects of the market are evaluated, and are calculated by using the formula

$$\alpha_i = 360° \cdot B_{s_i}, \tag{16.6}$$

where B_{s_i} - weight of i estimation criterion of s market subject, that is calculated using the formula

$$B_{s_i} = \frac{\sum_{i=1}^{n} B_{s_{ji}}}{n}. \tag{16.7}$$

The length of position vectors corresponds to estimates of interaction reliability by each of the criteria and is calculated by using the formula

$$r_s = H_{s_i} \cdot r, \tag{16.8}$$

where H_{s_i} - reliability estimate of s market subject by i criterion:

$$H_{s_i} = \sum_{j=1}^{n} H_{s_{ji}}. \tag{16.9}$$

According to the stated above (reliability opposite to the risk) one can offer such a scheme of risk evaluation of interaction with subjects of green products market being formed (fig. 16.3).

Example

The integrated assessment within the range 0,75-1,0 shows that realization of a specific direction of green products market formation is connected with the minimum risk.

One can make estimation of risk of realization of other alternatives in a similar way.

When making the analysis of degree of risk to select one of the alternative directions, one should choose a direction connected with a lower risk. But if the analysis indicates that the risk of the analyzed alternatives is in the same risk area then it is better not to make a definite choice in that case it is necessary to use other ways of decision-making.

Risk area				*No risk area*
0,00 ≤ H < 0,25 **Inadmissible risk**	0,25 ≤ H < 0,50 **Critical risk**	0,50 ≤ H < 0,75 **Increased risk**	0,75 ≤ H < 1,00 **Minimal risk**	H = 1,00 **No risk**

Fig. 16.3. **The identification scheme of risk area of producer interaction with green goods market subjects**

The initiator of manufacturer risk estimation caused by actions of other green products market subjects can be as a producer itself (i.e. leading experts and heads of divisions) as other subjects of the market.

Example

Investors can estimate the producer risk for definition of expediency of investment in corresponding production; intermediaries - to evaluate expediency of cooperation with the certain manufacturer; consumers - to select a definite variant while estimating actuality of regular purchase of eco-friendly goods of the manufacturer etc.

The offered methodical approach to the risk estimation can be modified to be applied by each of the green products market subjects to estimate own risk or the one of other subjects with which it cooperates.

Thus, the risk estimation of interaction with subjects of the market of eco-friendly products according to the offered methodology allows estimating the risk of advancement of alternative green goods on the market, identifying the risk area, which realization of each of possible development directions is connected with and as a result to choose for realization the best of alternative directions.

Topic 17. Optimization of costs on green goods promotion of various level of consumption motivation

In this topic we will consider the essence of blocks 6, 8 of the algorithm of substantiation of the choice of optimal variant of green goods market formation shown on fig. 15.2 (vide topic 15).

Both production and promotion of eco-friendly products entail considerable expenses. For optimum use of financial resources it is necessary to choose correctly

a variant of formation of the green products market. There is no variant which ideal for all enterprises, so each enterprise is unique: it has own possibilities which should be used as much as possible, as well as weaknesses making some variants unattractive or even unacceptable for the enterprise.

One of the main problems when selecting the variant of green goods market formation is to define the quantity of prospective buyers. There are two methodological approaches to the quantitative assessment of the market of prospective buyers. The first one, based on the method of extrapolation, allows estimating quantity of potential buyers on the basis of the previous values of this indicator. This approach can be used only for some eco-friendly goods, mainly foodstuff and its application for the whole green products market is problematic.

The second approach is based on revealing of all prospective consumers and evaluation of their ability to consumption of a definite volume of products for a time unit. There are its two variants. The one is based on revealing of the maximum possible quantity of objects where the products of this group can be used, and the most possible consumption of products per a time unit. The main area of this method application - products of industrial use.

The basis of the other variant is "buying power index", i.e. revealing of that maximum part from the population income (or means of the enterprises or other consumers) which can be spent for eco-friendly products acquisition. It can be applied as to industrial use products as to consumer ones.

The next stage of market evaluation is to determine the actual demand for the product, if this demand is less than the potential one. There are the following groups of customers according to their attitude to green products [31]:

1. Customers do not want and are not going to buy them. For example, vegetarians unlike consumers of meat products, or those who do not use alcohol, unlike consumers of alcoholic beverages;

2. Consumers who cannot make use of them. For example, people whose state of health prevents them from consuming green products with certain ingredients (so, the person with diabetes mellitus will not purchase yoghurt with high sugar content), or the size of apartment does not allow using plus-size furniture; the enterprises the sizes thereof do not allow using a specific treatment equipment;

3. Customers who have not defined their position on an eco-friendly product;

4. Consumers willing to purchase a green product of certain descriptions (with definite features) on specific conditions (in particular, at a definite price (see topics 8-9)).

Annotation

Parity of the consumers of the groups mentioned above for various kinds of eco-friendly products is different. For example, on the market of cleaner cultured milk foods on sale in Sumy (fig. 17.1). The first group includes the customers who do not like cleaner cultured milk foods. The second - the customers for whom cultured milk foods are contra-indicated. The third group - the buyers consuming cultured milk foods, but guided mainly by the price; they do not pay attention to the ecological compatibility. The 4 th group includes the customers who buy the given products due to environmental cleanliness or are ready to make a purchase under certain conditions.

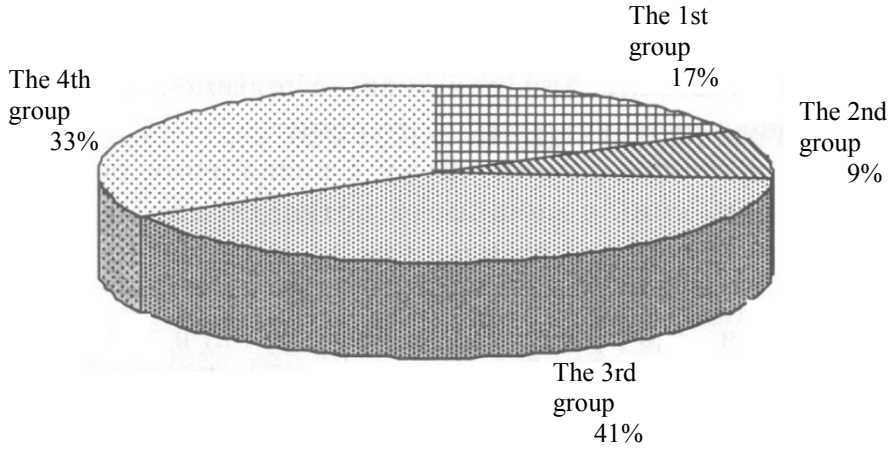


Fig. 17.1. **The attitude of customers towards cleaner cultured milk foods (on the market of Sumy city)**

Real consumers are those of the 4th group and a part of consumers of the 3rd group which the enterprise will convince of necessity to buy a proposed eco-friendly product i.e. will transfer them to the 4th group. Creation of consumer motivation has for an object to move consumers from the 3rd group to the 4th one. Expenses for respective measuresΔ_1, Δ_2 are presented on fig. 17.2. Costs on stimulation of the 4th group customers are designated as Δ_3-Δ_6.

The enterprise can sell cleaner production only to consumers of groups 3-4. Though looking into and analysis of causes by which the 1st group consumers do not want and those of the 2nd one cannot buy an offered product, is important too, since the account of results of such analysis is useful in respect of attraction of additional quantity of consumers in prospect. Besides, looking into causes of refusal to purchase production will help to transform an eco-friendly product in a right direction, to change its advertising and so forth.

The division of green products consumers shown above is not enough to clarify the motivation of consumption of cleaner food and to study willingness of customers to pay a price premium for ecological compatibility.

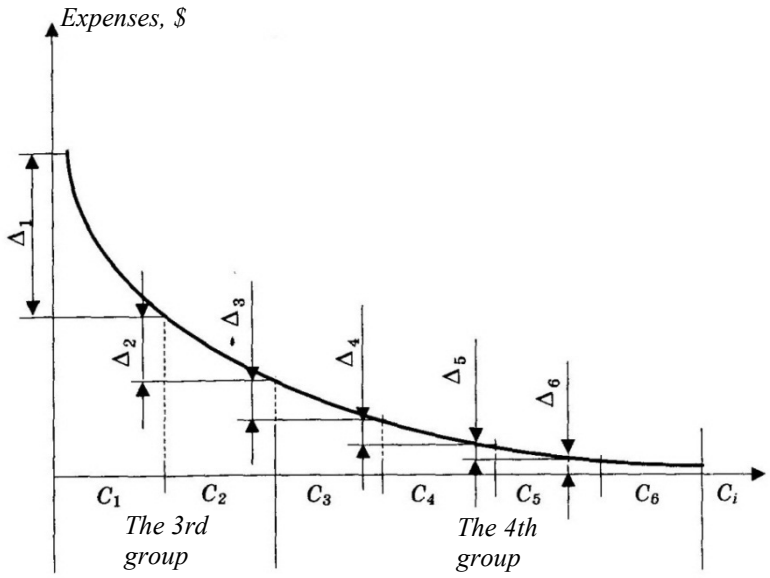


Fig. 17.2. **The influence of consumer readiness C_i on costs to attract as many customers as possible**

Δ_i - reduction in expenses for attraction of consumers at which carrying out a maximal quantity of consumers will buy a green product, depending on a condition of their purchasing readiness.

They distinguish 6 states of purchasing readiness [31] (let us disignate them as C_i, i = 1-6 - number of purchasing readiness states). The consumers of the 3rd group of the four mentioned above can be divided into two conventionally singled out states of consumer readiness: being informed (C_1), knowledge (C_2). We will divide the 4th group customers into states: attachment (C_3), preference (C_4), assurance (C_5), purchasing (C_6). On fig. 17.2 dependence of the costs directed on attraction of a maximum quantity of consumers, on a condition of purchasing readiness is schematically represented.

The expenses to bring customers to a state of making a purchase for each of the groups are different. To move consumers into each of subsequent states of consumer readiness will require separate expenses. Bringing customers familiar with eco-friendly production to state of making a purchase requires considerable costs for their gradual transfer from one state of purchasing readiness to another - to achieve the state of making a purchase. Working with them differs from that with consumers who are convinced of necessity to make a purchase, but never made it for the certain reasons (for example, they require the additional information, plan to make a purchase later and so on). High costs on attraction of additional quantity of buyers can be not overlapped by the received additional income.

When considering alternative variants of green products advancement on the market, it is necessary to define among other things the structure of purchasing

readiness of prospective buyers and the costs required for attraction of consumers of each of the groups. That makes comparison of costs (some of which i.e. costs on measures for attraction of consumers, being the function of consumer readiness structure) with possible results (increase of incomes owing to sales volumes growth).

If the income size depends only on the price and sales volumes of products and does not depend on the structure of consumer readiness the curvature of a line of expenses on transfer of consumers of the 3rd group to group 4 depends on it. Defining the structure of customers by the readiness to make a purchase will aid to determine the expediency of costs on attraction of consumers.

The structure of consumer readiness and the size of costs on attraction of consumers by groups of consumer readiness for the various eco-friendly products are different. So, if an eco-friendly product is traditional product modification that was earlier on sale for a long time and there were constant consumers of it then the significant amount of customers will be in a state to make a purchase. Besides, expenses to attract them will be insignificant. In general costs volume on attraction of consumers by groups can be defined by the method of test marketing, the size of earnings from attraction of definite quantity of consumers - by forecasting, and the structure of consumer readiness - by survey of consumers.

Using simulated examples let us consider alternative variants of launching to the market of two similar green products, whose expenses connected with production and sales (with no account taken of costs to attract customers), are identical. But the structure of potential consumers by the state of purchasing readiness is different. The product A (fig. 17.3) is the modification of a traditional one known to consumers. The product B (fig. 17.4) is fundamentally new green goods. Owing to a larger popularity of the product A its potential consumers are more ready to purchase what is clear from the structure of purchasing readiness of consumers. But the product A promises a smaller income, than the fundamentally new product B (the line of the income for the product A is located lower, than that for the product B). The expenses for measures to attract customers of the identical groups, defined according to the state of consumer readiness, are different for the products A and B. The reduction of such costs is influenced by similarity of the green goods to the existing traditional one.

To create possibilities to compare income and costs on fig. 17.3 17.4 respectively the share of customers behind C_i begins in contrast to fig. 16.2, not from C_1, but from C_6. The curve of costs on fig. 16.2 illustrates dependence of expenses on the state of purchasing readiness changing from C_1 till C_6. And the curves of costs on fig. 17.3-17.4 take mirror position with respect to the curve on fig. 16.2 because they illustrate dependence of costs on quantity of customers under the influence.

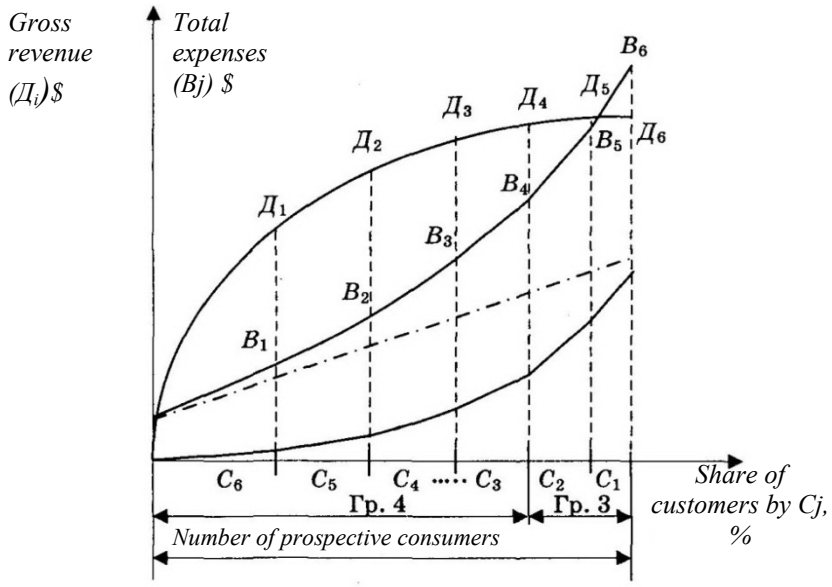


Fig. **17.3. Correlation between expenses for stimulation of potential consumers and an expected income when attracting consumers with a different state of purchasing readiness** (the product is a modification of a traditional goods known to consumers):

j = 1-6 - quantity of customers groups, distinguished by purchasing readiness state C_j; $Д_j$ - gross revenue, yielded thanks to addition of j groups of consumers; B_j - total expenses, caused by getting $Д_j$; -·- - costs, connected with production and sales with no account taken of expenses to attract customers; - -costs on the measures directed on attraction of consumers.

The measures to attract consumers with low purchasing readiness influence effectively those with a higher one as well since the measures to attract each of the groups are of step nature. For example, attraction of consumers with «confidence» purchasing readiness state consists of two stages: moving of them into «purchase» state and influence on the general group of consumers (containing those with «purchase» consumer readiness as well as customers who were earlier in «confidence» state).

Selection criterion of the most acceptable of alternative variants of green products advancement on the market is maximally net produce defined as ($Д_j$–B_j). In the considered example it is expedient to focus on the product B which promises to bring higher net produce. The measures to attract consumers should be directed on the 4th group singled out by its attitude towards the product.

The expenses on attraction of customers and output of products it is expedient until the inequality holds

$$\frac{\Delta B}{Д} < 1. \qquad (17.1)$$

Depending on the character of the curves of costs and incomes respectively there can be several such critical points. In that case one should determine the net produce in each of them and choose a point with the maximally one defined by the condition

$$(Д - Б) \rightarrow \max. \qquad (17.2)$$

The legend on fig. 17.4 coincides with that on fig. 17.3.

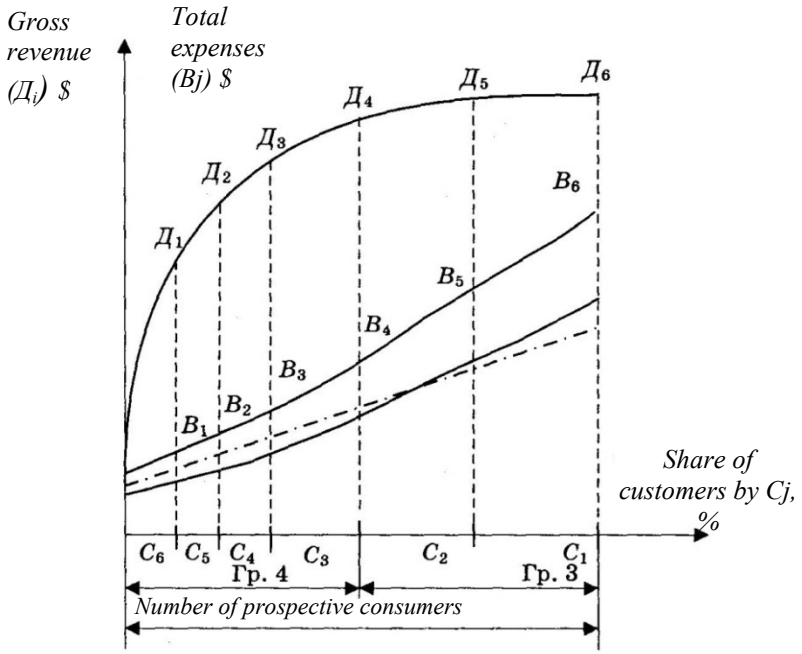


Fig. 17.4. **Correlation between expenses for stimulation of potential consumers and an expected income when attracting consumers with a different state of purchasing readiness** (the product is a new on the market of)

Thus in the topic theory of optimization of costs on green goods promotion of various level of consumption motivation has been proposed.

As a whole the methodological-theoretic and methodical approaches stated in part 6 and concerning estimation of green goods conformity with multidirectional interests of market subjects and their coordination, risk estimation of eco-friendly products manufacturer's interaction with other subjects of the market and optimization of costs on green products advancement for groups of consumers with various level of consumption motivation, make a reliable methodical-theoretic foundation to ground directions of green products market development by the enterprise. The success of formation of green products assortment to achieve sustainable development of domestic economy depends on the specified directions of market development.

PART 6
THE ROLE OF GOVERNMENT IN GREEN MARKETING DEVELOPMENT

Topic 18. Theory of economic regulation of environmental activity of enterprises

The previous five parts have been devoted to the issues of practical implementation of green marketing by economic management subjects. Thus the important role in creation of basic possibility of formation of green products market by the enterprises is played by the state possessing a considerable arsenal of tools and methods of environment formation of activity of the enterprises. Therefore the state can direct (accelerate and hamper or even rule out) their development in the described direction including create external conditions for green marketing development.

Example

Staging of the International Exhibition EXPO-2017 in Astana - one of key national projects of Kazakhstan. The initiative to organize such a grand event in the capital of our country belongs to the President of the RK Mr. Nazarbaev.

The idea of the project of the EXPO 2017 «Future Energy» consists in drawing attention of the public to solutions and ways providing steady energy sources management.

These ways are directed on:

– struggle against climate change and reduction in carbon dioxide emissions;

– stimulation of alternative energy sources usage - in particular, renewable energy ones and introduction of programs;

– provision of power supply reliability;

– struggle against climate change and reduction in carbon dioxide emissions;

– stimulation of alternative energy sources usage - in particular, renewable energy ones and introduction of programs;

– provision of power supply reliability;

– control over manufacture, preservation and use of energy;

– provision of an overall access to steady energy sources

These decisions are reflected in the Expo subtitle:

«Solutions for Tackling Humankind's Greatest Challenge». They impact social, economic and environmental development and provide ways of addressing this greatest of all challenges [124].

Country sustainable development is possible at corresponding actions of the market subjects for greening and innovation development of commodity production. The corresponding motivational mechanism which basic components tools of

motivation of innovation development of the domestic enterprises and motivation tools of social production greening is necessary to initiate these actions.

One should note that to ensure sustainable development the simultaneous involvement of innovative development tools of the enterprises and those of its greening are required. Otherwise at insufficient development of the first of the mentioned components (motivation of innovation development) it is inevitable to remain systematically behind the developed countries and gradually lead to the further degradation of environment of the country owing to ageing of technologies and equipment etc. At insufficient development of the second component (motivation of manufacture and products consumption greening) there can be a temporary economical upturn with a simultaneous growth of eco-destructive load which will lead the destruction of environment (fig. 18.1).

		The level of motivated state of enterprise innovation development	
		Low	High
The motivated state level of production greening	High	Temporary greening of commodity production with the following economic decline	Environmentally balanced sustainable economy development
	Low	Environmental and economic crisis	Temporary economical upturn with the growth of eco-destructive impact on the environment

Fig. 18.1. **Matrix of economy development possibilities**

Without social development regulations all economic management subjects will aspire only to increase in economic efficiency of own activity and will not pay enough attention to ecological compatibility of the chosen directions of development. Therefore creation of the mechanism of motivation of social development greening will direct it to a sought for course. For this purpose the state institutes and individual economic management subjects have a considerable arsenal of methods and tools (Appendix C). Thus an economic motivation at the state level is the most efficient.

Application of uneconomic methods is problematic as eco-destructive impact process is long-term one. As it was noted in topic 10, person always actively counteracts the negative phenomena expected in the near future and shows indifference to the negative phenomena expected in the distant future. The majority

of people, including heads of enterprises, realize that their ecologically destructive behavior will do harm not to them but to the future generations and therefore they psychologically keep away from the necessity of the behavior greening concerning their professional activity, daily life and maiking of a consumer choice.

Besides, every individual and enterprise often consider that their negative influence on environment is so insignificant, that on society scale their activity greening will not bring a noticeable result. And consequently, even when realizing the necessity of social development greening, do not wish to take steps connected with additional costs in this direction. As a result everyone makes own contribution to environmental pollution, takes huge scales.

That proves the necessity to use economic methods of manufacture greening motivation. Although, certainly, they will not solve all greening problems.

Example

When estimating ecological compatibility of social development directions they often commit errors which result in motivation of those which actually do not lead to increase of ecological compatibility of both manufacture and consumption. So, recently they think badly about the CFCs as ozone layer destroyers though subsequently such an attitude has turned out false. Another example is the positive attitude towards artesian waters as the cleanest ones. But it turned out that they contain a considerable quantity of the radon compounds influencing negatively on the health of Ukraine people more than the radiation of Chernobyl.

The control system of eco-destructive influence of economic management subjects on environment is defective too that complicates application of economic methods of motivation is imperfect.

Example

Measurement of discharge into atmosphere is taken at PA Chemprom in Sumy city three times a day. And in the beginning of night, between the evening and morning measurements, the city receives the next portion of chemical emissions.

It is necessary to note that the growth of green products market promotes environmental safety level increase. In Ukraine the volume of eco-friendly products market makes up just about 2,7 percent of GNP that is close to catastrophic environmental safety level (point A on fig. 4.3). For the further distribution of green goods it is necessary to involve corresponding motivational mechanisms of such products market development.

Compulsory economic methods of motivation of manufacture greening are realized by such tools, as payments and fees for environment pollution and use of resources, penalty provisions, sale of the rights to dumping of pollutants, price

regulation. They create possibility of attraction of additional means of manufacturers of environmentally dangerous products for replenishment of environmental funds the use whereof is required to neutralize a destructive impact on environment, as well as to create the motivation of environmentally appropriate production.

The group of compulsory economic tools is developed enough. The environmental legislation is being consistently improved during the years of the Post-Soviet countries formation. The considerable part of its regulations is directed on the prevention of environmental risk manifestations and danger from the spontaneous phenomena, negative technogenic influence, on provision of rational and complex use of natural resources, on protection of legal and physical persons, whose health and property has suffered as a result of a negative environmental impact [4]. However compulsory tools need to be improved very much.

Details

A variety of environmental fees as well as their rate as well as fines for infringement of the environmental legislation are growing. It is supposed, that consequences of working out and manufacture of environmentally dangerous production will cost so much to the manufacturer, that one will have no chances to win in a competitive struggle. While the size of payments for pollution is established at rather low level from fear to impose an excessive financial burden on the enterprises. In most cases it is more profitable to commodity producers to make various fiscal environmental payments than to spend for nature-conservation measures the means exceeding compulsory payments pretty much.

Besides, there is a possibility of financial evasion from the established payment. The environmental fees included in the cost price of production and, accordingly in price thereof come back to the enterprise from production consumers. The local authorities have the right to remit in full or in part the regional enterprises from payments.

The sums of fines for nature-conservation infringements are much lower than the costs for elimination of their consequences. The measures taken against separate infringers of the nature-conservation legislation are incomparable to the damage made by them. So, the sums of payments for water pollution make up 0, 01 % of actual damages, payments for air pollution are pretty low. Damages from such specific kinds of pollution as noise, electromagnetic, ground water, radiation and some others are not estimated at all. The legislative base is frequently constructed so, that it does not allow filing a criminal case over large emergency conditions. The “polluter pays" principle is virtually not involved [20].

Incentive economic methods of motivation of production greening can be realized by such tools as the government order; programming and financing of environmental projects and programs; tax privileges; preferential crediting; backing of green products prices. They are directed on creation of a material incentive to environmentally appropriate and environmentally focused manufacture. This group of

methods is insufficiently developed. Preferential taxation of environmentally focused manufacturers, backing of eco-friendly products prices remains uninvolved incentive tools.

In domestic conditions when improving existing system development of motivation economic tools of manufacture greening special attention should be paid to development of incentive group of economic tools. In so doing the competition for reception of subventions and various privileges, credits etc. is obligatory.

The action of economic tools of motivation of manufacture greening can be presented in diagram form as redistribution of means among manufacturers of products of various ecological compatibility degree, as shown on fig. 18.2.

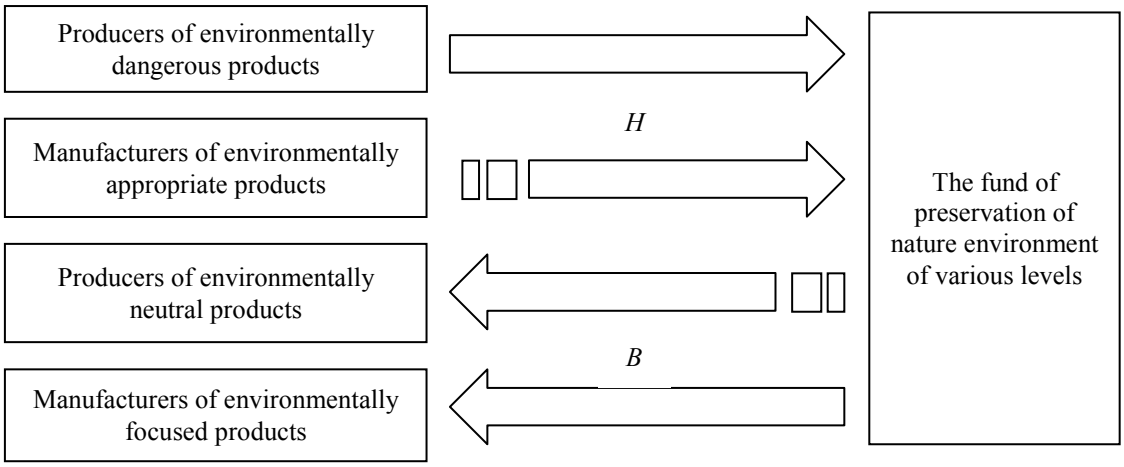


Fig. 18.2. **The diagram of redistribution of means for benefit of manufacturers of eco-friendly products:**
H - receipt of funds owing to the application of compulsory motivation tools; *B* - costs on application of incentive tools of motivation

The main source of receipt of means from manufacturers of non-green goods are payments for special use of natural resources and environment pollution fees which are included into the list of taxes [24].

The major elements of institutional mechanism of regulation of nature management and nature-conservation activity in the Post-Soviet countries are [62]:

• environment pollution fee;

• fee for natural resources (mineral, water, land, forest and biological) use;

• mechanism of payment of damages caused owing to infringement of the preservation of the environment legislation;

• system of state (budgetary) as well as off-budget financing of nature-conservation measures (through state and local environmental funds) (fig. 18.3).

That is the funds, received from the aforementioned sources, are accumulated in a special fund of the state budget and environment preservation funds at local (city and regional) levels, and then are spent for nature-conservation measures the list whereof is affirmed by the decree of the corresponding department supervising preservation of the environment.

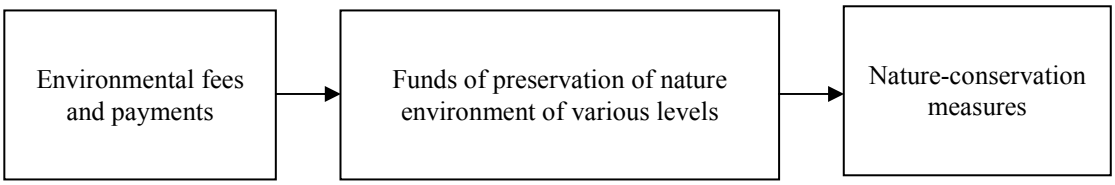


Fig. 18.3. **The diagram of redistribution of the fees and payments collected from nature environment polluters and users of resources** [76]

In his message «New decade - New economical upturn - New possibilities of Kazakhstan» to the people of Kazakhstan the President of the Republic of Kazakhstan Mr. Nazarbaev has set clear tasks of carrying out the Strategic Plan of the Republic development, improvement of quality of people life, the further development of domestic and foreign policy. Thereupon the Ministry of environmental protection of the RK is doing the work directed on reduction of environmental pollution level, on provision of preservation of the environment and environmental safety according to the international standards, stabilization of quality of environment, creation of bases of transition to society sustainable development.

The package of measures directed on prevention of real and potential threats of the further deterioration of an ecological situation has been carried out. They have toughened the requirements to the setting of emission limits when given licences, the ecological manufacturing monitoring role has been strengthened and nature consumers' responsibility for conducting of such monitoring has been increased [120].

One of the factors defining quality of environment is the amount of funds used for preservation of the environment. According to T.P. Galushkina to overcome negative consequences of environmental trends and gradual transition to sustainable development model, it is enough to allocate 2-3% of GDP for preservation and regeneration of environment [15]. The majority of economists consider that such costs should make up 6% of GDP [92]. It is noted that at such sizes of environmental costs it is possible to compensate the current anthropogenous load on environment, at excess of this value - even to neutralize the damage which has been made to environment during the previous periods. According to the same data, already at 8-10% a considerable improvement of environment quality is expected. Certain calculations indicate that about the half of world military expenses is enough to

ensure neutralization of anthropogenous influence on environment [81, 89, 92]. However, in fact, these expenses are considerably lower than required ones.

Kazakhstan allocated on ecology protection 1 percent of GDP in 2013. Expenses of some developed countries on preservation of the environment make up from 1,9 till 1,1% of GNP (in the order of GNP share reduction: Denmark, Germany, the USA, Sweden, Switzerland, the Great Britain, Japan, the Netherlands, Austria, France).

Application of compulsory economic tools aims at recovering funds from the enterprises carrying out non-green manufacture and also producing both environmentally dangerous and appropriate products.

In turn application of incentive economic tools is directed on reception from these enterprises the means for the benefit of the enterprises carrying out environmentally appropriate and environmentally focused manufacture for the purpose of motivation thereof.

To get a noticeable increase of motivation level of social production greening it is necessary promptly to strengthen the action of the mechanism of redistribution of means from the enterprises (fig. 18.2), carrying out non-green manufacture, in favour of environmentally appropriate and environmentally focused one. The increase in rates of green taxes and assessment basis is important. But the main goal of green taxation should be not to increase the receipts to corresponding funds but production greening [78].

Certainly, economic results of activity of the enterprises depend on rates of environmental payments and fees. The higher the rates of environmental payments and fees as well as volumes of pollutants introduced into the environment by enterprises the higher the risk of that that production released by the enterprise will turn out unprofitable. Therefore at the considerable environmentally focused tax pressure a bevy of enterprises are compelled to abandon environment-unfriendly manufacture.

Too high level of tax pressure will constrain desire to run a business risk which a new activity is usually connected with. According to the authors for an economical upturn to occur first of all thanks to development of environmentally appropriate and environmentally focused manufacture, reduction of tax pressure as a whole is required, that will promote innovation development, simultaneously it is necessary to change structure of taxes in favour of increase in the share of the green ones.

So that entrepreneurial activity subjects invest means into environmentally appropriate and environmentally focused manufacture, it is required that cost efficiency in this area of production was higher than in eco-destructive spheres.

On fig. 18.4 the choice by entrepreneurial activity subjects of a direction of investment is shown in a diagram form. All funds of entrepreneurial activity subject are presented as the segment M_1M_2. On axes - productive efficiency of various

ecological compatibility degree. Lines *e, n* represent investment efficiency into eco-destructive (E_d) and environmentally appropriate (E_a) production respectively.

Frequently cost-effectiveness of eco-destructive manufacture is higher than that of environmentally appropriate. At the cost efficiency of investments represented on fig. 18.4 by the lines e, п, an overwhelming part of means in the amount of M_1M_2 will be invested into eco-destructive production, the other part (MM_2) - into environmentally appropriate one.

At application of economic tools of greening motivation, in particular at increase in the green taxes share in taxation system, efficiency of investment into ecologically destructive and environmentally appropriate manufacture will change.

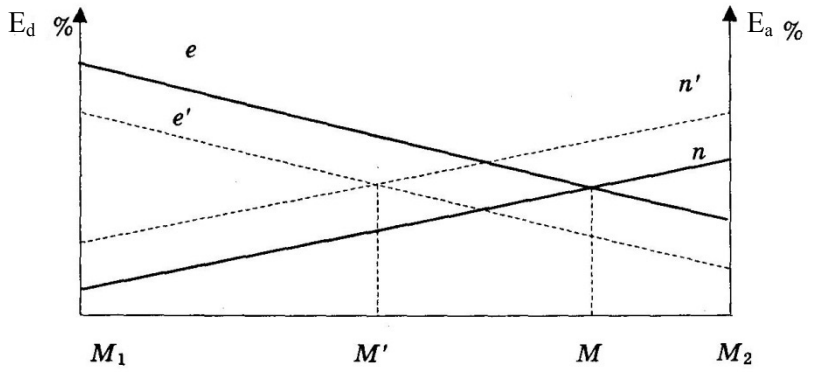


Fig. 18.4. **The diagram of investing by entrepreneurial activity subjects into various types of manufactures depending on their efficiency**

As a result of the use of compulsory economic tools of manufacture greening motivation the efficiency of investments into eco-destructive production will decrease and from the position *e* will move, let us assume, to the position *e′*.

Simultaneously thanks to application of incentive economic tools of production greening motivation the efficiency of investments into environmentally appropriate manufacture will increase and will move from position *n* to position *n′*.

At that the part of funds which will have been invested into eco-destructive production will decrease from the size M_1M till the one M_1M'. And the part of means invested into environmentally appropriate manufacture will increase from the size MM_2 till the one $M'M_2$.

Let us consider the economic aspect of orientation of both manufacture and sales to eco-friendly products. All eco-friendly goods can be divided for convenience into two groups: those that increase profits of green products market subjects (group 1), and those that reduce them (group 2) (see table 2.1). The diagrammatic representation of the curves of country production capabilities is presented on fig. 18.5.

Green products even with the similar name can belong to the different groups.

Example

In one case an eco-friendly food is considered as such, production whereof connected with a lower productivity (for example, harvest of agricultural products per unit of area), in another - with its growth (for example, thanks to raw materials recycling).

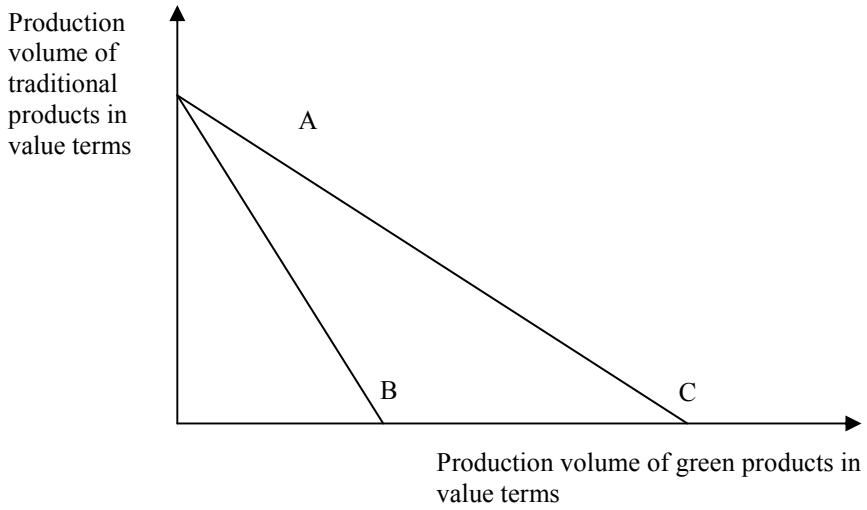


Fig. 18.5. **Country production capabilities at various volumes of green goods production**

The lines of country production capabilities are shown on fig. 18.5: AB - at orientation to green goods of the first group, AC - at focus on green products manufacture of the second one. Certainly, under modern difficult economic conditions it would be not right to select the way of production capabilities reduction. Though at this stage of economic development it is impossible to reject green products of the first group. Nevertheless it is necessary to focus on eco-friendly goods, manufacture and consumption whereof is connected with profit growth.

At the interstate level green goods market formation is regulated as well. Nowadays such a regulation is enacted by a great deal of the intergovernmental and nongovernmental organizations engaged in protection of nature. The majority of them develops programs on urgent issues of sustainable development, requirements for nature protection to be used at various levels, spread the information concerning nature protection issues, provides consultations, financial and technical assistance.

Details

Among main kinds of activity of United Nations Conference on Trade and Development - expansion of use and sale of environmentally safe production, dissemination of the information for heads in the form information report, training courses and seminars, doing research on management of natural resources, etc.

In the Republic of Kazakhstan the wide range of state bodies vested with a different competence and functioning at various levels are in charge of ecology

issues. They can be divided into four groups: bodies of a general competence, those of a special competence, of interbranch one, functional bodies. The peculiarity of management of environmental uses and preservation of the environment by bodies of a general competence consists in that they carry out this activity along with solution of other problems attributed to their competence, - economy development, management of development of social sphere (public health, education, etc.), of culture, defense etc.

The bodies of a general competence carrying out state regulation and management of use and protection of natural resources include: Parliament of the RK; local representative bodies; President of the RK; Government of the RK; local executive powers [41].

The theory of economic regulation of environmental activity of enterprises give an idea of possibilities of regulation of this activity by the state on the grounds of the economic methods being formed on redistribution of funds from manufacturers of non-green products to those of green ones. The next topic deals with definition of expediency of their application.

Topic 19. Determination of expediency of application of motivation methods for greening of activity of enterprises

In different conditions the efficiency of application of economic tools of production greening motivation considerably varies. It depends on presence of basic possibility of greening, on the costs necessary for implementation thereof, on availability of alternative technologies of various ecological compatibility and cost efficiency, on possibility of green taxes evasion and so forth.

The increase in green taxes share in their whole amount, first, leads to growth of receipts and gives possibility to introduce incentive tools more actively. Secondly, it motivates expansion of environmentally appropriate manufacture, increasing its efficiency in comparison with the ecologically destructive one. On fig. 19.1 ecological compatibility changes of manufacture at different level of environmentally focused tax pressure.

The economic results of activity of the enterprises depend on rates of environmental payments and fees. The higher the rates of environmental payments and fees as well as volumes of pollutants brought into the environment by enterprises the higher the risk of that that a released production will turn out unprofitable. Therefore at more environmentally focused tax pressure enterprises will be compelled to reject non-green products.

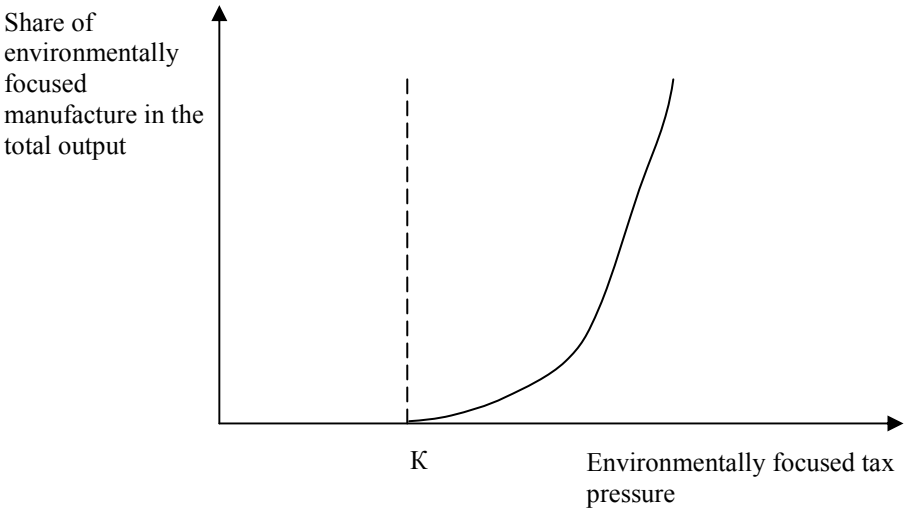


Fig. 19.1. **Reorientation of production to eco-friendly goods one at increase in the share of environmentally focused taxes**

The green taxes should be increased with discretion: only for those economic management subjects who use environmentally defective technologies when there are more improved green ones. Otherwise one can expect only the decrease in efficiency and amount of products, instead of its greening.

The point K designates critical tax pressure at which the enterprise abandons an ecologically destructive manufacture for an environmentally appropriate one. This point is different both for the concrete enterprises and for each type of manufacture with various level of achievements of the STA which the possibility to reorientate to the environmentally appropriate one depends on.

At the point K the costs connected with payment of green taxes are equal to those which the enterprise has to carry out to reduce an eco-destructive influence. There can be two situations:

1) if $P > C$, then an eco-destructive influence is reduced; (19.1)

2) if $P < C$, then fees, payments and fines are paid, (19.2)

where P - environmental fees, payments and fines; C - expenses of the enterprise to reduce an eco-destructive influence.

These formal calculations prove are confirmed by a foreign experience [36].

Example

In Sweden the carbon tax has been established higher, than there are expenses on pollution reduction. The effect - pollution has been reduced by 6 percent. In France water pollution fees are lower, than costs on pollution reduction. The outcome is moderate.

The formulas (19.1-19.2) in certain situations can be supplemented with other components.

Example

If there is an eco-destructive influence reduction with a simultaneous use waste products connected with additional profit on their processing (sale) E, then these formulas will be therefore:

1) if P > C - E, then an eco-destructive influence is reduced; (19.3)

2) if P < C - E, then fees, payments and fines are paid. (19.4)

Changes of revenues from environmental fees and payments at increase in environmentally focused tax pressure (standards of payments and fees, tax base) shown on fig. 19.2.

From fig. 19.2 we see that there is an optimum level of environmentally focused tax pressure at which the maximum receipts from payers of green taxes and accordingly the maximum possibilities for encouragement of environmentally appropriate and environmentally focused manufacture are expected.

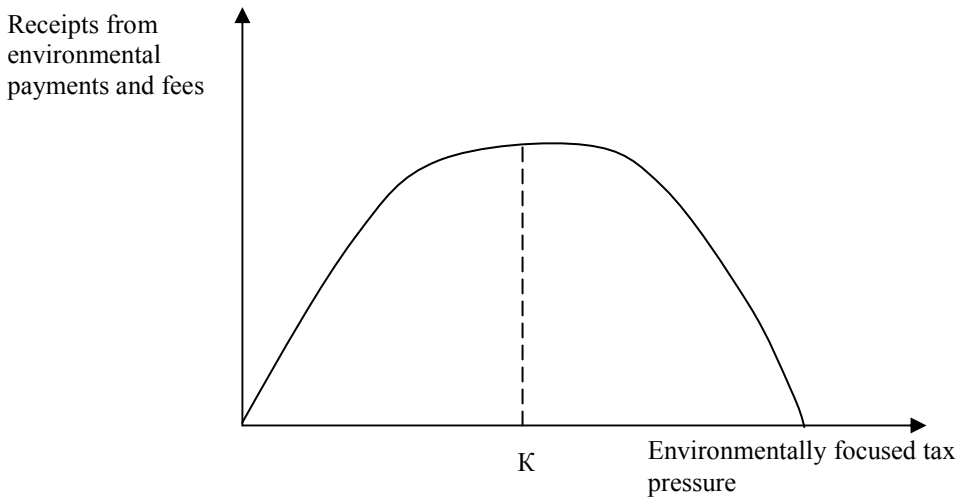


Fig. 19.2. **Changes of revenues from environmental fees and payments at increase in environmentally focused tax pressure**

When using economic tools of manufacture greening motivation one ought to aspire to the maximum increase of aggregate productive efficiency in the country. Achievement of this purpose depends on a parity of alteration of the efficiency of eco-destructive and environmentally appropriate manufacture.

On fig. 19.3 possible variants of change of production efficiency at application of economic tools of motivation of its greening are presented. The shaded area is the result of application of these tools and represents aggregate production efficiency. At a successful selection of motivation tools when the efficiency of environmentally appropriate production grows considerably in comparison with that of eco-destructive

manufacture reduction, increase of aggregate production efficiency (fig. 19.3, a) is possible. At wrong selection when eco-destructive manufacture efficiency reduction considerably exceeds the efficiency of environmentally appropriate manufacture growth, - there can be its lowering (fig. 19.3, b), what is inadmissible [67].

In the first case, more expedient from the point of view of cost-effectiveness of manufacture, one observes also a lower volume of investments into eco-destructive manufacture in comparison with the second one (vide fig. 19.3, b) of the considered cases.

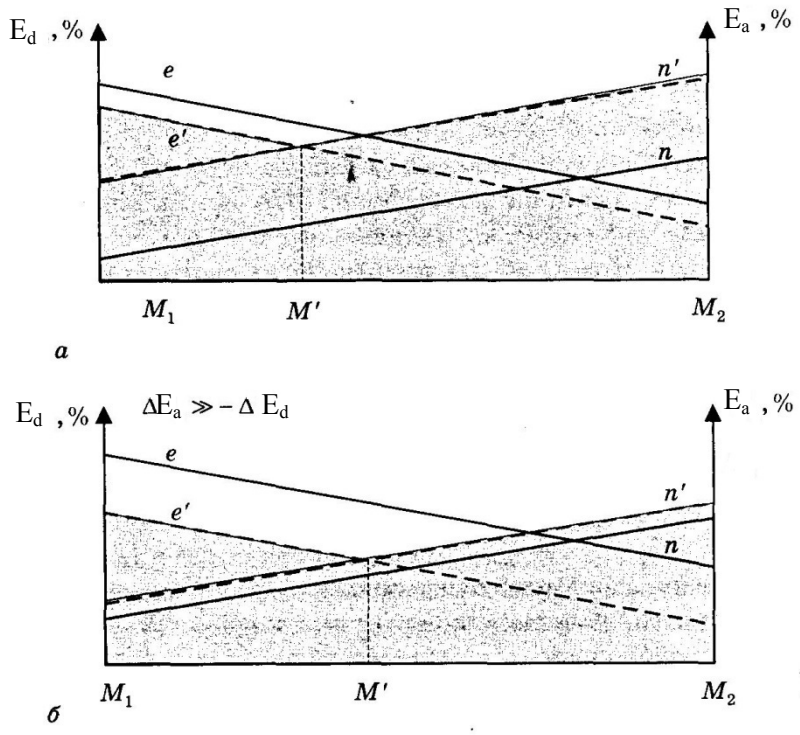


Fig. 19.3. **Possible variants of change of aggregate production efficiency at application of economic tools of greening**

• at the state level - expenses for change of legislative base, standards and norms, infrastructure replacement, introduction of environmentally focused taxation; formation of ecological thinking and education;

• at enterprise level - costs on renewal of products, replacement of production facilities, delivery of the goods from the manufacturer to the consumer etc.

Let us formally present approaches to the account of operating costs when defining the expediency of orientation of manufacture to the release of eco-friendly goods.

The goal of management of green products market formation (see fig. 18.2) should be not accumulation of funds but getting of an economic effect from greening. Therefore one should not regard the effect from regulation of formation of green products market as definable by the surplus of funds collected by the state thanks to

the mentioned regulation, i.e. H - (C + TC). It is possible even to spend for encouragement the sum larger than earnings minus transaction costs. The condition of expediency of the specified state regulation - excess of the economic effect got by a society exactly from greening of activity of the enterprises, over total costs C + OB minus receipts H, i.e. the condition

$$E \geq И + TC - H \text{ should be satisfied} \quad (19.5)$$

where E - the effect received by the state from reorientation of the enterprise to eco-friendly products manufacture; TC - transaction costs of the state.

This condition can be represented as:

$$H + E \geq C + TC \quad (19.6)$$

At the level of enterprise the economic effect got from reorientation to manufacture of green goods, is not reduced only to decrease in green taxes. It also takes into account:

• reduction in number of payments of certificates of incapacity to work to employees of the enterprise;

• reduction of costs on repair of the equipment and enterprise premises;

• growth of production sales volume

Such effect should be larger than total incremental costs $C_{st} + TC_e$ minus the sum by which green taxes are reduced

$$E_e \geq C_{st} + TC_e - \Delta P, \quad (19.7)$$

where ΔP - reduction in payments, fees and fines connected with less (in comparison with manufacture of non-green products) use of resources, environment pollution etc.; E_e - economic effect, received by the enterprise (without account of ΔP); B_{st} -charges for stimulation of customers; OB_e - transaction costs of the enterprise.

This condition can be represented as follows:

$$\Delta P + E_e \geq C_{st} + TC_e. \quad (19.8)$$

At the level of consumers it is possible to define conditions of expediency of purchasing of green goods, but there will be some difficulties. Though it is possible to connect a choice of the person with the theory of utility or rationality, however the

former does not always depend on the price, efficiency and other business factors as the choice is not always expedient.

Whithin short-term period when state mechanisms of management of formation of the green products market remain the same, indicators according to which transition from one level of environmental safety to another one is grounded can be presented graphically (fig. 19.4, 19.5). On fig. 19.4 separate components of expenses and incomes when production and consumption are focused on eco-friendly goods are presented. On fig. 19.5 - total costs and incomes.

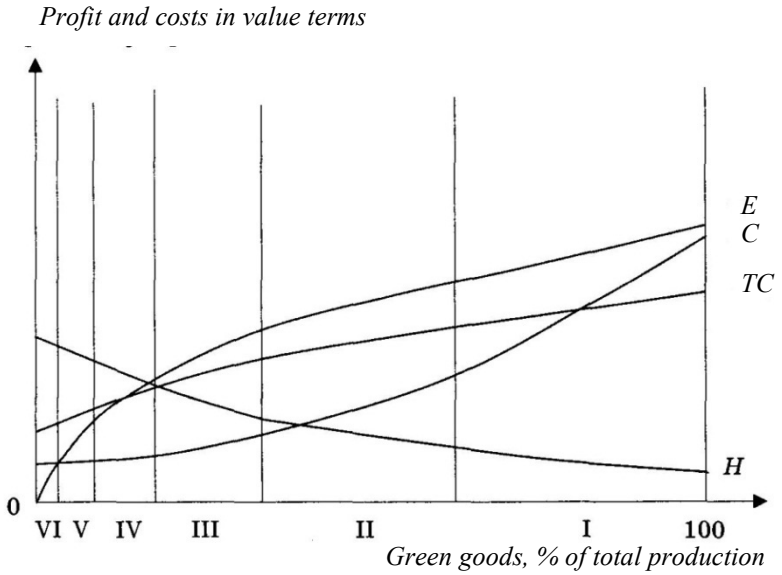


Fig. 19.4. **The indicators characterizing results and costs connected with transitions between levels of environmental safety during a short-term period**

The shaded area on fig. 19.5 - area of revenues excess (H + E) over expenses (C + TC), i.e. the condition (19.5) is satisfied. The costs connected with transition from one environmental safety level to another one are expedient up to intersection of curves of expenses and gains. That is the transition to level II of environmental safety is expedient. Whereas the costs connected with transition to level I, exceed corresponding income.

As mentioned above the increase of green taxes share, first, will lead to growth of receipts from ecologically destructive enterprises and will promote more active introduction of the incentive mechanism. Secondly, that will stimulate reorientation to environmentally appropriate manufacture.

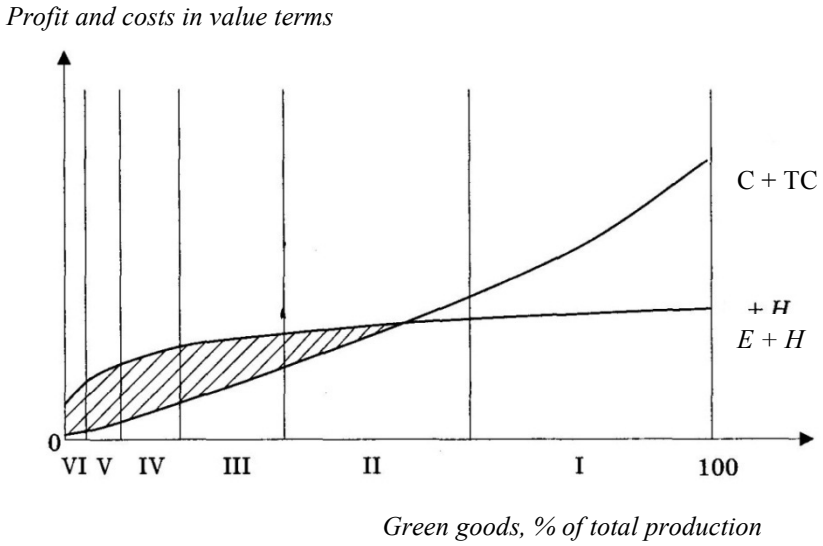


Fig. 19.5. **Income and costs connected with transitions between levels of environmental safety**

But more strict green taxation is always followed by the growth of cases of green taxes evasion. Therefore simultaneous improvement of the monitoring system is required. That entails incremental costs.

The increase in green taxes promotes that in a share of green products in total production volume (vide fig. 19.1), and as a result - raises environmental safety level of the country [76] (see fig. 4.2). But that is possible only under certain conditions. The green taxes should be increased with discretion. That can be applied only to those subjects who use environmentally defective technologies when there are more improved green alternatives. Otherwise one can count only on the decrease in amount of products, instead of production greening.

The precondition of the solution of domestic environmental and economic issues is to reduce tax pressure on entrepreneurial activity subjects with a simultaneous increase in green taxes share.

The theoretical and methodological basics of definition of expediency of application of methods of enterprise activity greening motivation proposed in the topic allow forming tools of the given activity, will promote increase in eco-friendly products share in total amount of products in the country, thus having raised an environmental safety level of the country with the same total volume of production, that will raise well-being of a society in general.

In the following topic theory will be considered using specific examples and practical recommendations will be presented for optimization of methods of economic motivation of manufacture greening.

Topic 20. Optimization of economic motivation tools of production greening

As it is noted above, the most effective is the motivation of formation of green products market at the state level with predominant application of incentive economic methods. Therefore optimization of methods of economic motivation will be considered using an example of such tools, as granting to their developers, manufacturers, sellers and consumers tax concessions, namely VAT exempt on eco-friendly products and backing of them, which encourage consumption (and as a result - manufacture as well) of eco-friendly goods.

In each concrete case of formation of green products market one ought to choose effective economic tools of motivation by certain optimization criteria.

Maximization of the ratio of the sum of the prevented damage made by environmental pollution and other benefits from development of green goods market in economic terms to that of transaction costs on carrying out of motivational measures and other losses from their application should be a selection criterion of economic tool of motivation of green products market development.

Thus, having investigated possible results of VAT exemption of eco-friendly goods, one ought to stop on that part of the VAT by which at product exemption the ratio presented in the formula will be maximal

$$\frac{B_в+E}{B_{VAT}+0} \rightarrow max, \qquad (20.1)$$

where $B_в$ - the prevented damage made by environmental pollution thanks to green products market development; E - other economic effects due to green products market development; B_{VAT} - VAT losses owing to financial tool application; O – transaction costs to implement it.

This selection criterion should be applied only at positive value of the ratio. Otherwise market formation will be purposeless. Though, sometimes, the development of particular eco-friendly innovations is so important for the state that orientation not on economic expediency of motivational measures but on the highest possible growth of eco-friendly market is required. Under such circumstances the maximum market growth per unit of costs should be a selection criterion. If the equation of predictable demand for eco-friendly innovations and their supply is known then it is necessary to calculate how VAT should change in order to shift a cross point of supply and demand on eco-friendly innovations to the right as much as possible. One can make an accurate prediction of the mentioned equations not for all but only for those green products that have their analogues on the market. Thus in

most cases the maximum growth of the market will occur in case of complete VAT exemption. The goods with perfectly inelastic demand are an exception.

The point of equilibrium volume of the market when eco-friendly product is taxed and when it is VAT exempted is different. On fig. 20.1 it is shown that during sales of goods whose price includes VAT, the buyer pays for the goods the price P_1, and the seller having got P_1, pays VAT to the state, i.e the former virtually gets from the customer just P_2. The shaded rectangle makes up the amount of VAT has been paid by sellers to the budget. Q_1 - equilibrium volume of the market when eco-friendly product is VAT taxed.

If green product is VAT exempted, its sales volumes will be increased up to Q_2. But thus the state will receive less VAT than its due its exact amount is presented on fig. 20.1 by a shaded rectangle. Therefore when exempting an eco-friendly product from VAT one needs to compare volumes of non-received VAT with environmental and economic result which is expected due to sales growth of a certain green product.

Another efficient tool of regulation of processes of green products markets formation is their backing.

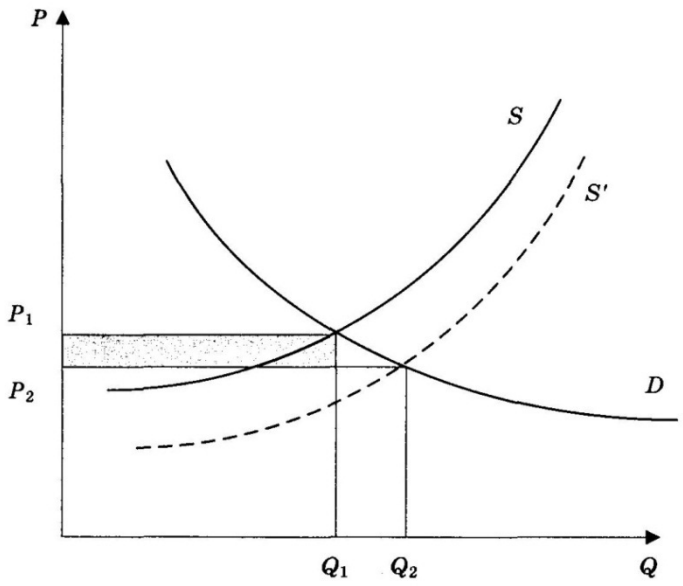


Fig. 20.1. **Change of equilibrium volume of eco-friendly goods market when this product is VAT exempted**

P - product price; Q - volumes of product sales.

Example

In the USA by means of backing mechanisms the market of energy-efficient household appliances is being purposefully created [8].

This process is carried out stage by stage.

So, in the 70s both electric and gas companies subsidized consumers by awarding them for purchase of definite kinds of household appliances whose power consumption met certain limits.

In the 80-90s subventions were of "generalized nature" - bonus for the saved energy, instead of for purchase of certain goods (so that enable consumers to invent ways of saving companies, probably, even do not suspect of). Some companies offered discounts to everybody who took part in sale and installation of the corresponding eco-friendly products.

In this day about a quarter of the American municipal programs with discounts encourage “commercial allies", instead of just retail consumers of the equipment. Sometimes bonus is not monetary, but is paid in kind - for example, as training or rendering of market promotion services.

The purpose of eco-friendly products backing, as well as in case of VAT exemption of such products, is expansion of their market volumes owing to decrease in their prices. On fig. 20.2 it is shown, how the equilibrium volume of green products market varies when their prices are subsidized. Let us suppose, equilibrium volume of eco-friendly products makes up Q_1 units at the price of P_1 (price without VAT). When backing is used product price - P_2 for the seller and P_2' for the customer. At that equilibrium sales volume of green products is changed till Q_2. The size of granted subventions is shown by a shaded rectangle.

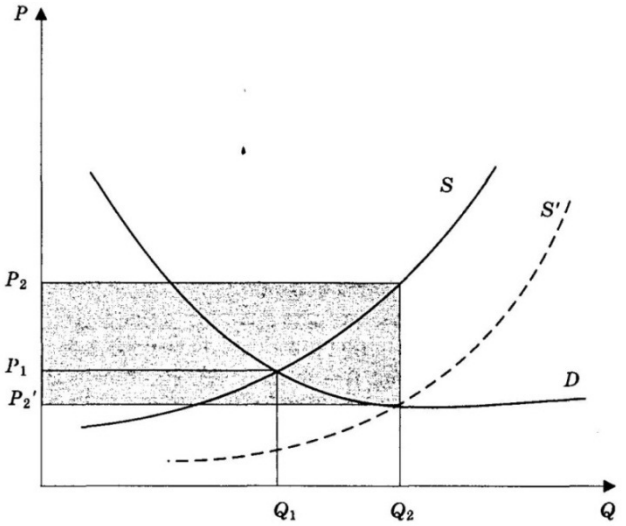


Fig. 20.2. **Change of the equilibrium volume of green products market when their prices are subsidized.**

Backing of products prices - is rather high-cost measure of stimulation of green products market formation and therefore it can be introduced only for the certain goods. One ought to subsidize eco-friendly goods important for a society, for environmental safety etc. The growth of volumes of eco-friendly products market,

instead of earnings of manufacturers should be an ultimate goal, therefore in many cases it is expedient to grant subventions only under a condition that the sale price will be within determined limits. Manufacture of particular kinds of the eco-friendly goods costs too much and therefore chances are such goods will not find its consumer at all if there is no backing.

There is an essential distinction between backing of green products at different stages of their advancement on the market. When the retail dealer is subsidized (the company or the state in fact pays in stead of the consumer a part of green product cost), it becomes profitable favourable to the dealer to sell such goods and to reject conventional ones because the former start to be in more demand. Expending of funds to subsidize the manufacturer is in effect the same but however it is more efficient.

The outcomes of backing of green products manufacturers are the following [8]:

1. Backing of eco-friendly goods reduces a retail price thereof therefore consumers receive additional possibility to make a purchase.

2. Both retail and wholesale dealers receive higher profits due to sales volumes growth.

3. The growth of green products consumption increases serial production of them, leads to process costs reduction and, finally, - to the ending of subventions. Besides the producer decides what product model to release that is why the former can be encouraged, for improvement of the goods, by means of giving progressive subventions (for each unit of product power intensity reduction - an additional bonus).

Let us consider the retail price alteration when eco-frindly product is subsidized by way of example of its advancement through a two-level sales channel that is with wholesale and retail chains involved.

When the *retail dealer* is backed (that is also called consumer backing as for him the consumption price decreases for the subvention size - rather inaccurate name) the retail price varies by the value:

$$\Delta P = P_s - P = (P - C) - P = -C, \qquad (20.2)$$

where ΔP - alteration of a subsidized retail price; P_s - subsidized retail price without VAT; P - unsubsidized retail price without VAT; C - subsidy size.

When the wholesale dealer is backed the retail price change is:

$$\Delta P = P_s - P = (P_o - C) \cdot I_p - P_o \cdot I_p = -C \cdot I_p , \qquad (20.3)$$

where P_0 - wholesale dealer's sale price without VAT; I_p - indicator price growth due to mark-on.

When the manufacturer is subsidized the retail price varies as follows:

$$\Delta P = P_s - P = (P_п - C) \cdot I_o \cdot I_p – P_e I_o \cdot I_p = - C \cdot I_p I_o \cdot I_p, \quad (20.4)$$

where P_e - sale price of the enterprise without VAT; I_o - indicator of price growth due to wholesale markup.

Thus, it has been shown why it is more effective to back the manufacturer, than the customer - at the same costs when the former is subsidized the price is reduced much more.

However the formulas (20.2-20.4) hold only when those green products are backed, which are consumed by manufacturers, that is provided that eco-friendly goods are purchased for own needs (production or others, dealing with enterprise activity), and also when VAT exampted green products are subsidized.

If the end user buys green products whose price includes VAT then the formulas will be different because the price is increased by VAT size.

So, when the *retail dealer* is subsidized the retail price is changed as follows:

$$\Delta P_{vat} = P_s \cdot 1,2 – P \cdot 1,2 = (P - C) \cdot 1,2 - P \cdot 1,2 = -C \cdot 1,2, \quad (20.5)$$

where ΔP_{vat} - change of retail price with VAT.

When the *wholesale dealer* is backed the retail price change is:

$$\Delta P_{vat} = P_c \cdot 1,2 – P \cdot 1,2 = (P_o - C) \cdot I_p \cdot 1,2 - P_o \cdot I_p \cdot 1,2 = -C \cdot I_p \cdot 1,2. \quad (20.6)$$

When the *manufacturer* is subsidized the retail price varies as follows:

$$\Delta P_{vat} = P_s \cdot 1,2 – P \cdot 1,2 = (P_п - C) \cdot I_o \cdot I_p \cdot 1,2 – \\ - P_e \cdot I_o \cdot I_p \cdot 1,2 = -C \cdot I_o \cdot I_p \cdot 1,2. \quad (20.7)$$

Backing of green products whose price includes VAT entails the reduction of receipts from VAT to the state budget. State costs connected with receiving less VAT are different when green products are subsidized at different stages of their advancement on the market.

So, when the *retail dealer* is subsidized the amount of non-received VAT makes up:

$$\Delta VAT = C \cdot 0,2, \quad (20.8)$$

when the *wholesale dealer* is backed

$$\Delta VAT = C \cdot I_p \cdot 0{,}2, \qquad (20.9)$$

when the *producer* is subsidized

$$\Delta VAT = C \cdot I_o \cdot I_p \cdot 0{,}2. \qquad (20.10)$$

Example

Using a simulated example we will consider the results of backing by different variants. Let us assume, before backing the sale price of the enterprise was $1580, that of the wholesale dealer - 1580 · 1, 20 = $1896, the retail price - 1896 · 1,25 = $2370.The subvention size - $500. In table 20.1 there are results of application of backing according to different variants.

Table 20.1.

The comparative analysis of outcomes of green products backing

Recipient of subsidy	VAT exempted product		VAT taxable product			
	retail price changes		retail price changes		state receives less amount of VAT	
	Formally	Calculation results	Formally	Calculation results	Formally	Calculation results
Retail dealer	Formula (19.2)	- $500	Formula (19.5)	- $600	Formula (19.8)	$100
Wholesale dealer	Formula (19.3)	- $625	Formula (19.6)	- $750	Formula (19.9)	$125
Producer	Formula (19.4)	- $750	Formula (19.7)	- $900	Formula (19.10)	$150

Introduction of backing of eco-friendly products prices is prospective, however in so doing one ought to account of several peculiarities.

Under conditions of the market economy prices depend not so much on the cost price of the goods and sale markups as on supply and demand ratio. Therefore in some cases backing can causes green products market growth, in others - only a moderate growth of profits of the enterprises that produce or sell these goods. When making a decision on the expediency of backing of particular eco-friendly products one should take that into account and make an additional analysis of possible results.

In the conditions of market economy the price is not a rigidly established value and depends not only on the costs connected with manufacture and market advancement of the goods. It is determined by an equilibrium point of supply and

demand. The manufacturer or the seller is not always willing to reduce green product price voluntarily. Therefore one should use backing only if certain requirements are met. It can be either the requirement to maintain, no more than was stipulated, price growth index or the one to sell green product below a certain price ceiling.

Let us consider another aspect of backing too. One of the results of backing which the state aspires to at its introduction, is to reduce eco-friendly goods prices, and, consequently, to increase volumes of their consumption. It is possible to receive different results concerning green products purchase volumes at decrease in their prices [31]. Price reduction does not lead to consumption growth without fail. There are so called Giffen goods for which demand reduces as their price reduces (appendix F) [14]. Indeed, owing to the reduction of eco-friendly products prices the consumer's purchasing ability changes. But s/he does not necessarily spend means to buy green products. S/he even can refuse to purchase some quantity of green products and buy non-green ones.

The positive result of green products demand alteration owing to backing depends on indifference curves which are changed owing to the influence on the consumer. It is recognition of importance of environmental properties of the goods (vide topics 10-11) that leads to demand growth.

The efficiency of green product backing also depends on elasticity of demand for it. Of course, backing of eco-friendly goods, whose demand is inelastic, will fail.

Green products can be subsidized and at the same time non-green products prices can be increased. That is already being partially introduced in some countries by collection of environment pollution payments and fees and those for use of resources that raises the cost price of non-green goods. But there, where manufacture of the eco-friendly goods is possible, it is expedient to include more rigid compulsory tools with a simultaneous wide introduction of incentive tools.

Green goods can be leased. The expediency of that, in our opinion, can be defined using the following equation:

$$E_l < C_l < \Delta P_e, \qquad (20.11)$$

where E_l - leaseholder's expenses; C_l - leasing charge; ΔP_e - leaseholder payment reduction for saved energy.

It is possible to present other conditions of encouragement of consumers as well, for example, joint expenses for insulation while promoting of energy-efficient products and services.

Details

Frequently some people bear greening costs but other people get earnings. So, the owner of an edifice will prefer not to insulate the roof because benefit will be received only

by inhabitants. The owner could when connecting to heating to pressurize the edifice that entails costs on the corresponding control. Only when they will pay for the electric power a lot then consumers will carefully select household appliances with high energy-efficiency for themselves (and for this purpose manufacturers should provide customers with particular information).

The examples of optimization of economic motivation methods of production greening considered in the topic allow choosing methods so that to receive the maximum economic and environmental result at the minimal expenses.

To know the role of the state in formation of external environment of green marketing development allow at level of the state and regions to create conditions for its development and at the level of individual economic management subjects - to take account of state regulation possibilities, to predict action of tools applied by the state for greening of activity of enterprises and to adapt promptly to these tools effect.

LIST OF REFERENCES

1. Алексеенко О.Д. Экологический маркетинг как новая философия бизнеса / Механізм регулювання економіки, економіка природокористування, економіка підприємства та організація виробництва. - 2000. - Вип. 2. - С. 283-285.
2. Аналітичні матеріали до парламентських слухань 29 листопада 2000 р. з питань дотримання вимог екологічного законодавства в Україні, напрямів реалізації та вдосконалення екологічної політики.
3. Арсмаков А.Х. Инновационный тип развития производства как фактор решения экологических проблем : дис... канд. экон. наук: 08.00.05 / — М., 1997. — 178 с.
4. Баб'як О.С., Біленчук П.Д., Чирва Ю.О. Екологічне право України : навч. посіб. /- К. : Атіка, 2000. - 216 с.
5. Бейкер М. Маркетинг: Энциклопедия: пер. с англ./. СПб.: Питер, 2002.
6. Богоявленский О.В. Проблемы количественной оценки рынка потенциальных покупателей // Маркетинг: теорія і практика // Тези доповідей IV Міжнародної науково-практичної конференції. — Ялта, 2000. — Т. 1. — С. 42—43.
7. Браун Л. Экоэкономика. Как создать экономику, оберегающую планету. М.: Весь Мир, 2003.
8. Вайзеккер Э. Фактор четыре. Затрат — половина, отдача — двойная. Новый доклад Римскому клубу / под ред. академика Г.А. Месяца ; пер. А.П. Заварницына и В.Д. Новикова. — М. : Academia, 2000. — 400 с.
9. Вейн Р.О., Джон В. Робертс. Повсякденний контакт із токсичними забруд-нювачами / // Світ науки. - 1998. - № 2. - С. 66-71.
10. Веклич О. Формування економічного механізму сталого розвитку України / Вісник Нац. акад. наук України. — 2000. — № 2. — С. 3—16.
11. Величко О.П. Наукове пізнання менеджменту: текст лекції / Д. : ДДАУ, 2004. — 20 с.
12. Вернадский В.И. Научная мысль как планетарное явление. М., Наука, 1991. С. 241.
13. Вівевич А.М., Т.В. Вайданич, І.І. Дідович та ін. Екологічний маркетинг: навч. посіб. /— Л.: УкрДЛТУ, 2002. — 248 с.
14. Вэриан Х.Р. Микроэкономика. Промежуточный уровень. Современный подход: учеб. для вузов / под ред. Н.Л. Фроловой ; пер. с англ.— М. : ЮНИТИ, 1997. — 767 с.

15. Галушкина Т.П. Экономические инструменты экологического менеджмента (теория и практика) / Ин-т проблем рынка и экономико-экологических исследований НАН Украины, 2000. — 280 с.

16. Голубев Г.Н., Лосев К.С., Ушаков С.А. Как улучшить экологическую обстановку в России // Жизнь земли. Природа и общество: Сб. науч. р./Под ред. С.А. Ушакова. – М.: Изд-во МГУ, 1993. - 170 с.

17. Дайман С.Ю. и др. Системы экологического менеджмента для практиков. — М.: Изд-во РХТУ им. Д.И. Менделеева, 2004. С. 212.

18. Джейкобс М. Зеленая экономика: окружающая среда, устойчивое развитие и политика будущего. Ванкувер, 1993.

19. Доповідь про стан навколишнього природного середовища в Сумській області за 1999 рік. — Суми: Слобожанщина, 2000. — 153 с.

20. Дорогунцов С., Федорищева А. Научно-технический прогресс как основа развития производства и снижения его потенциальной опасности / Экономика Украины. - 1998. - № 3. - С. 4-12.

21. Дрейер О.К., Лось В.А. Экология и устойчивое развитие : учеб. пособие. /- М. : Изд-во УРАО, 1997. — 224 с.

22. Євтушевський ВА. Еколого-економічний потенціал України: відтворення в умовах формування ринкових відносин: дис... д-ра екон. наук: 08.08.03 / Київський університет імені Тараса Шевченка. — К., 1997. — 428 с.

23. Жубанова Л.К. и др. Введение в экологический маркетинг: Учебное пособие. – Алматы: Қазақ университеті, 2000.

24. Закон України “Про систему оподаткування” // Все про бухгалтерський облік. — 1999. — № 68 (371) (Спецвипуск 33), 19 липня. — С. 2—5.

25. Зарайский ДЛ. Управление чужим поведением. Технология личного психологического влияния / Дубно: Феникс, 1997. — 272 с.

26. Извеков А. Маркетинговые исследования рынка плодоовощной продукции и его развитие / Маркетинг. - 2000. - № 1 (50). - С. 40-47.

27. Ілляшенко С.М., Прокопенко О.В. Екологічний маркетинг / Економіка України. — 2003. — № 12. - С. 56—61.

28. Ілляшенко С.М. Маркетинг: бакалаврський курс: навч. посіб. / - Суми: Університетська книга, 2004. — 976 с.

29. Ілляшенко С.М. Управління інноваційним розвитком: проблеми, концепції, методи: навч. посіб. / Суми: Університетська книга, 2003. — 278 с.

30. Ілляшенко С.М., Прокопенко О.В. Формування ринку екологічних інновацій: економічні основи управління: монографія / за ред. д. е. н., проф. С.М. Ілляшенка. — Суми: Університетська книга, 2002. — 250 с.

31. Ілляшенко С.М., Прокопенко О.В. Менеджмент екологічних інновацій: навч. посіб. / за заг. ред. С.М. Ілляшенка. - Суми: Вид-во СумДУ, 2003. - 266 с.

32. Ілляшенко С.М. Менеджмент та маркетинг інновацій: монографія / за заг. ред. д. е. н. - Суми : Університетська книга, 2004. — 616 с.

33. Ілляшенко С.М., Прокопенко О.В. Особливості комплексу маркетингу екологічних інновацій / Управління розвитком : зб. наук, статей. — Х.: Вид-во ХНЕУ, 2005. - № 3 : Спецвипуск "Міжнародна науково-практична конференція, присвячена 75-річчю заснування ХНЕУ "Економічні проблеми інноваційно-структурних перетворень в Україні" (7—8 жовтня 2005 р.). — С. 83—84.

34. Ілляшенко С.М., Прокопенко О.В. Теоретичні аспекти обґрунтування доцільності формування ринку екологічних товарів / Механізм регулювання економіки, економіка природокористування, економіка підприємства та організація виробництва. - Суми : Вид-во СумДУ, 2000. - Вип. 4. - С. 17-27.

35. Карпатская-Скорик Е. Маркетинговые исследования с нечетким прогнозированием рынка / Бизнес Информ. — 1997. — № 3. — С. 55.

36. Кашенко О.І. Фінанси природокористування / - Суми : Університетська книга, 1999. - 419 с.

37. Кашенко О.І. Фінансово-економічні основи природокористування / К. : Вища шк., 1999. — 219 с.

38. Кирилова О.І. Організаційно-економічний механізм ре-гулювання процесу екологізації виробництва (на прикладі харчової промисловості Одеської області): дис... канд. екон. наук : 08.08.01 / К., 1997. — 159 с.

39. Костоглодов Д.Д., Бондаренко В.А., Гуськов А.И. Экологический маркетинг в развитии рынка органических продуктов питания в России: эволюция, современное состояние, перспективные тенденции (региональный аспект): Монография.- Ростов н/Д: Издательско-полиграфический комплекс РГЭУ (РИНХ), 2014.-136 с.

40. Котлер Ф., Армстронг Г. Основы маркетинга. М.: Вильямс, 2009.

41. Культелеев С.Т. Экологическое право Республики Казахстан. Общая часть. Учебное пособие. - Алматы: «NURPRESS», 2011. - 432 с.

42. Кэмпбелл Р.М., Л.Брю Стэнли Экономикс. — М. : Республіка, 1993. — Т. 1. — 399 с.

43. Литвиненко А.С. Продукция экологического назначения как средство решения эколого-экономических проблем / Механізм регулювання економіки, економіка природокористування, економіка підприємництва та організація виробництва. — 1999. — Вип. 3. — С. 73—78.

44. Литвиненко А.С. Экономический инструментарий обоснования производства и потребления продукции экологического назначения (на примере малогабаритных автомобильных газонаполнительных компрессорных станций) : дис... канд. екон. наук : 08.08.01. — Сумы, 2000. — 186 с.

45. Лукина А.В. Экологический фактор в современном маркетинге: дисс.канд. экон. н. Москва, 2003.

46. Лукъянчиков Н.Н., Потравный И.М. Экономика и организация природопользования. — М. : Тройка, 2000. - 456 с.

47. Ляпоров В. Зеленый еще. - http://www. sostav.ru/columns/opinion/2005/statl7/

48. Маслоу А. Мотивация и личность. - 3-є изд. - СПб.: Питер, 2003. - 352 с.

49. Медоуз Д.Х. и др.. Пределы роста: докл. по проекту Римского клуба "Сложное положение человечества" /- 2-е изд. - М.: Изд-во МГУ, 1991.

50. Мельник Л. Экономическая точка опоры экологизации общественного производства / Экономика Украины. — 1998. — № 7. — С. 64—69.

51. Мельник Л.Г. Экологическая экономика : Учебник / — Сумы : Университетская книга, 2001. — 350 с.

52. Мельник Л.Г., Литвиненко А.С., Шевелев И.И. Целевая ориентация при формировании региональных программ устойчивого развития / Экологическая экономика и управление. Труды участников образовательной программы эколого-экономического менеджмента для работников местных администраций Украины. — Сумы : ИПП “Мрія-1” ЛТД, 2003. — С. 129—132.

53. Мельник Л.Г. Информационная экономика / — Сумы : Университетская книга, 2003. — 288 с.

54. Мельник Л.Г. Экономика развития : учеб. пособие / — Сумы : Университетская книга, 2000. — 450 с.

55. Мельник Л.Г., Прокопенко О.В., Вакулишина Н.Н. Японский опыт исследования компонентов экологического спроса / Вісник Донецького державного університету економіки і торгівлі ім. М. Туган-Барановського. — (Серія “Економічні науки”). — 2001. — № 4 (12). — С. 96—101.

56. Мэфферт Г. “Зеленый” маркетинг / Г. Мэфферт, М. Киркгеорг // Маркетинг / под ред. М. Бейкера. — СПб.: Питер, 2002. — С. 967—991.

57. Національна доповідь про стан навколишнього природного середовища в Україні у 2000 році. — К. : Міністерство екології та природних ресурсів в Україні, 2001. — 184 с.

58. Национальный план действий по реализации решений Конференций ООН по окружающей среде и развитию (проект) // Зелен. мир. - 1993. - № 19/20.

59. Негреба О.Н. Экологическая маркировка как фактор эффективного продвижения товаров в условиях рынка / Праці П’ятої міжнародної наукової конференції студентів та молодих учених “Управління розвитком соціально-економічних систем: глобалізація, підприємництво, стале економічне зростання” / ред. кол. : О.Б. Ступін, І.О. Александров та ін. — Донецьк : ДонНУ. — 2004. — Ч. 3. — С. 310— 313.

60. Основи екології. Екологічна економіка та управління природокористуванням: підручник / за заг. ред. д. е. н., проф. Л.Г. Мельника та к. е. н., проф. М.К. Шапочки. — Суми : Університетська книга, 2005. — С. 416–434.

61. Петрова Ю. Общество с органической ответственностью // Секрет фирмы, № 10 (193) от 19.03.2007.

62. Пилипчук М. Фінансування екологічної галузі та лізинг в Україні / Вісник Сумського державного університету. — 1998. — № 3 (11). — С. 133–134.

63. Постанова Кабінету Міністрів України "Про затвердження переліку видів діяльності, що належать до природоохоронних заходів" від 17 вересня 1996 р. № 1147.

64. Програма охорони навколишнього середовища м. Суми на 2002–2005 роки / Академія підприємництва і менеджменту України, Сумське регіональне відділення. — Суми : Університетська книга, 2002. — 94 с.

65. Прокопенко О.В. Визначення ступеня екологічності товарів / Праці Першої міжнародної, Другої всеукраїнської наукових конференцій студентів та молодих учених "Управління розвитком соціально-економічних систем: глобалізація, підприємництво, стале економічне зростання". — Донецьк : ДонНУ. — 2001. — 4.1. — С. 25–28.

66. Прокопенко О.В. Внедрение экологических инноваций как способ обеспечения экологической безопасности территории / Малая энергетика в системе обеспечения экономической безопасности государства / под общ. ред. Г.К. Вороновского, И.В. Недина. — К. : Знания Украины, 2006. — С. 182–188.

67. Прокопенко О.В. Економічні інструменти мотивації екологізації виробництва / Вісник Сумського національного аграрного університету. — (Серія "Економіка та менеджмент"). — 2003. — Вип. 3—4. — С. 125—134.

68. Прокопенко О.В. Мотивації у маркетингу екологічно чистих продуктів харчування / Третя Міжнародна науково-практична конференція "Економічні проблеми виробництва та споживання екологічно чистої агропромислової продукції" (ЕП - 2003). - Суми : ВАТ "СОД" : Козацький вал. - 2003. - С. 116-118.

69. Прокопенко О.В. Мотиваційні дослідження в системі екологічного маркетингу / Збірник тез доповідей Другої міжнародної науково-практичної конференції молодих вчених "Економічний і соціальний розвиток України в XXI столітті: національна ідентичність та тенденції глобалізації". — Т. : Екон. думка, 2005. — Ч. 2. — С. 301—303.

70. Прокопенко О.В. Особенности формирования и развития экологического рынка / Механізм регулювання економіки, економіка

природокористування, економіка підприємства та організація виробництва. — Суми : Вид-во СумДУ. — 2000. — Вип. 1. — С. 117—121.

71. Прокопенко О.В. Оцінка суб'єктом господарювання варіантів формування ринку екологічних товарів / Вісник Сумського державного університету. — (Серія "Економіка"). — 2002. — № 7 (40). — С. 40—49.

72. Прокопенко О.В. Підходи до удосконалення економічного мотивування екологізації виробництва / Вісник Сумського державного університету. — (Серія "Економіка"). — 2005. — № 10 (82). — С. 23—31.

73. Прокопенко О.В. Складові мотивації екологічно орієнтованого споживання / Вісник Сумського державного університету. — (Серія "Економіка"). — 2005. — №2(74). — С. 60—71.

74. Прокопенко О.В. Стратегія і тактика екологізації економіки; мотивація реалізації стійкого соціально-економічного розвитку: посіб. для перепідготовки фахівців / Основи стійкого розвитку / за заг. ред. д. е. н., проф. Л.Г. Мельника. — Суми : Університетська книга, 2006. — С. 280—282, 296—298.

75. Прокопенко О.В. Теорія мотивації: конспект лекцій. — Суми : Вид-во СумДУ, 2006. — 171 с.

76. Прокопенко О.В. Формування ринку екологічних товарів для забезпечення екологічної безпеки / Вісник аграрної науки Причорномор'я. — Спец. вип. 3 (12): у 2 т.: за мат. Всеукраїнської науково-практ. конф. "Соціально-економічні проблеми природокористування та екології". — Миколаїв. — 2001. — Т. 2. — С. 131—136.

77. Прокопенко О.В. Экономическая оценка экологического риска в деятельности Сумского ОАО "Химпром" / Економічний вісник Нац. гірничої академії України : матеріали Міжнародної науково-практ. конф. "Проблеми та перспективи розвитку економіки України в умовах ринкової трансформації", присвяченої 100-річчю з дня заснування Національної гірничої академії України. — Дніпропетровськ, 21—22 травня 1999 р. — Т. 2. — С. 197—200.

78. Прокопенко О.В., Лермонтов Ю.О. Сучасне становище і шляхи удосконалення механізму управління охороною навколишнього природного середовища / Мат. научно-практ. семинара "Охрана окружающей среды и рациональное природопользование Сумщины" (27 февраля — 2 марта 2001 г.). — Сумы, 2001. — С. 50—58.

79. Прощание с иллюзиями // Комп&ньоН, 2008. №35.

80. Пруцакова О.І. Маркування екологічно безпечної продукції / Екологічний вісник. — 2003. — № 5—6. — С. 16—18.

81. Ростов Є.Ф. Економіка країн світу. Довідник. — К. : НВП "Картографія", — 1998. — 383 с.

82. Сабадаш В.В. Экономические инструменты экологизации торговых процессов : дис... канд. екон. наук: 08.01.01 Сум- ГУ. — Сумы, 1998. — 189 с.

83. Садченко Е.В. Принципы и концепции экологического маркетинга : монография. — О. : Астропринт, 2002. — 400 с.

84. Садченко Е.В., Харичков С.К. Экологический маркетинг: понятия, теория, практика и перспективы. - О. : Институт проблем рынка и экономико-экологических исследований НАН Украины, 2001. — 146 с.

85. Скребец В.Л. Экологическая психология. — К., 1998. — 141с.

86. Сладкевич В.П. Мотивационный менеджмент : курс лекций. — К. : МАУП, 2001. — 168 с.

87. Смирнова Е.В. Экологический маркетинг // Практический маркетинг, 2010. №4 (158). С.9–14.

88. Снакин В. Экология и охрана природы : словарь-справочник. — М. : Academia, 2000. — 384 с.

89. Соснина Т.Н., Боброва Н.А. Производство экологически чистой продукции как стратегическая цель России / Волга-бизнес. — 1999. — Октябрь. — С. 11—12, 32.

90. Стратегія екологічної безпеки (регіональний контекст) / за ред. М.І. Долішнього, В.С. Кравціва. — Л., 1999. — 243 с.

91. Сухаревский А. Новая эра экономии // Эксперт, 18 апреля 2011, №15.

92. Телентинов В.Е. Концепция и механизмы управления охраной окружающей природной среды / Экономика природопользования. — 1999. — № 2. — С. 8—19.

93. Урсул А.Д., Романович. Концепция устойчивого развития и проблема безопасности. www.philosophy.nsc.ru

94. Фофанов В.П. Региональный аспект устойчивого развития. – М., 1999. – 240 с.

95. Хачатуров А.Е. и др. Экологический маркетинг / Маркетинг в России и за рубежом. — 2000. — № 4.

96. Шафалюк О.К. Поведінка споживачів: курс лекцій / О.К. Шафалюк. — К. : КНЕУ, 2003. — 68 с.

97. Шоган Г.И. Возможности развития экологического пред-принимательства на местном уровне / Механізм регулювання економіки, економіка природокористування, економіка підприємництва та організація виробництва. — 1999. — Вип. 3. — С. 69—72.

98. Щербак В. Затратно-новационная концепция “длинной волны” / Экономика Украины. — 1998. — № 2. —С.53—59.

99. Экономика природопользования: учебник / под ред. JI. Хенса, JI. Мельника, Э. Буна. — К. : Наук, думка, 1998. — 481 с.

100. Эриашвили Н.Д., Ховард К., Цыпкин Ю.А. и др. Маркетинг. – М.: ЮНИТИ-ДАНА, 2005.

101. Brown L. R. Building a Sustainable Society. New York; London. 1981.

102. Carlsson-Kanyama, A., Faist, M. Energy use in the food sector: A data survey.Stockholm University; Stockholm, Sweden, 2000.

103. Chapagain A.K., Hoekstra A.Y. Water Footprints of Nations. UNESCO-IHE, Delft, the Netherlands, 2004.

104. Chapagain, A.K., Hoekstra, A.Y. The water footprint of coffee and tea consumption in the Netherlands // .Ecological Economics, 2007.№64(1). P. 109–118.

105. Consumers' Awareness and Behaviour concerning Global Environmental problems and Their Impact on Corporate Business Strategy in Japan // National Institute for Environmental Studies, Sumitomo Life Research Institute. — 1997. — March. — Part 1: Survey on Business Corporations. — 50 p.

106. Cullen S., Stembridge B. Convenience vs. conscience. Food packaging in the 21st century.The Role of Intellectual Property in the Food Packaging Industry.ThomsonReuters, 2011.

107. Daly H. Toward a Steady-State Economy. - San-Francisco: Freeman and Co., 1973.

108. EarthEnterprise: Tool Kit // International Institute for Sustainable Development (USD). — Canada, 1994. — P. 59—60.

109. Fischer Maria-Elisabeth. Nere Yavuz "Sustainable consumption: a research agenda"/ Maria-Elisabeth Fischer, Fredrich Hinterberger. — 1997. — 15—17 July.

110. Franz P. Green retail sales set to double in Europe by 2015. May 31, 2010. http://www.digitaljournal.com/article/292735 (10.06.2011).

111. Grant J. The Green Marketing Manifesto.Chichester: Wiley, 2008.

112. Henion K., Kinnear T. Ecological Marketing. American Marketing Association, 1976.

113. Household consumption and the environment. EPA, 2005.

114. Leonard A. The Story of Stuff: How Our Obsession with Stuff is Trashing the Planet, Our Communities, and Our Health and a Vision for Change. Free Press, 2010.

115. McKinsey Quarterly, February 2008.

116. Meffert, Heribert Marktorientiertes Umweltmanagement: Konzeption, Strategie, Implementierung / Heribert Meffert / Manfred Kirchgecrg. — Stuttgart, 1998.

117. Ottman J. The New Rules of Green Marketing: Strategies, Tools, and Inspiration for Sustainable Branding. San Francisco: Berrett-Koehler Publishers, 2011.

118. Redclift M., Pearce D. Editors' Introduction // Futures. 1988. December. Vol. 20, #6. P. 597.

119. Wackernagel M. Ecological Footprint and Appropriated Carrying Capacity: A Tool for Planning Toward Sustainability. Ph.D. Thesis, School of Community and Regional Planning. The University of British Columbia. Vancouver, Canada (1994)

120. http://bibliofond.ru/view.aspx?id=602758

121. http://centrecon.ru/news/1747

122. http://cyclowiki.org/wiki/Greenwashing

123. http:// ecolabel.org.ua/ - environmental labeling program in Ukraine.

124. https://expo2017astana.com

125. http://hirosima.scepsis.ru/movement/mov_2.html

126. http://inspiredeconomist.com/2009/06/29/green-marketing-whats-all-the-fuss - Tolliver-Nigro H. Green Marketing: What's All the Fuss. 2009.

127. http://mariabystrova.ru/blog/7-grekhov-grinvoshinga

128. http://marketinggreen.wordpress.com/2007/12/29/a-look-back-at-green-marketing-in-2007 - A Look Back at Green Marketing in 2007

129. http://responsiblemarketing.com/blog/2009/02/16/is-green-marketing-responsible-marketing - Is green marketing Responsible Marketing. 2009.

130. http://sinsofgreenwashing.com

131. http://terrachoice.com/about/

132. http://virtualwater.eu - Virtual Water Project website

133. http://www.adme.ru/rusal/zelenaya-prachechnaya-the-64003 - Виноградова Е., Стрелкова Е., Сагдиев Р. Зеленая прачечная, 2008.

134. http://www.benjerry.com - website of Ben&Jerry's

135. http://www.cbc.ca/ageofpersuasion/episode/season-5/2011/01/08/its-not-easy-being-green-green-marketing - It's Not Easy Being Green: Green Marketing: January 8-13, 2011.

136. http://www.ci-journal.ru/article/103/200802eco_marketing - Галечьян Н. В чем выгода экологически благополучного имиджа компании // Корпоративная имиджелогия, 2008. №02 (03).

137. http://www.digitaljournal.com/article/292735 - Franz P. Green retail sales set to double in Europe by 2015. May 31, 2010.

138. http://www.elimai.kz/mezhdunarodnoe-antiyadernoe-dvizhenie-nevada-%E2%80%93-semipalatinsk.html

139. http://www.environmentalleader.com/2010/07/14/greenwashing-how-to-avoid-the-typical-marketing-traps

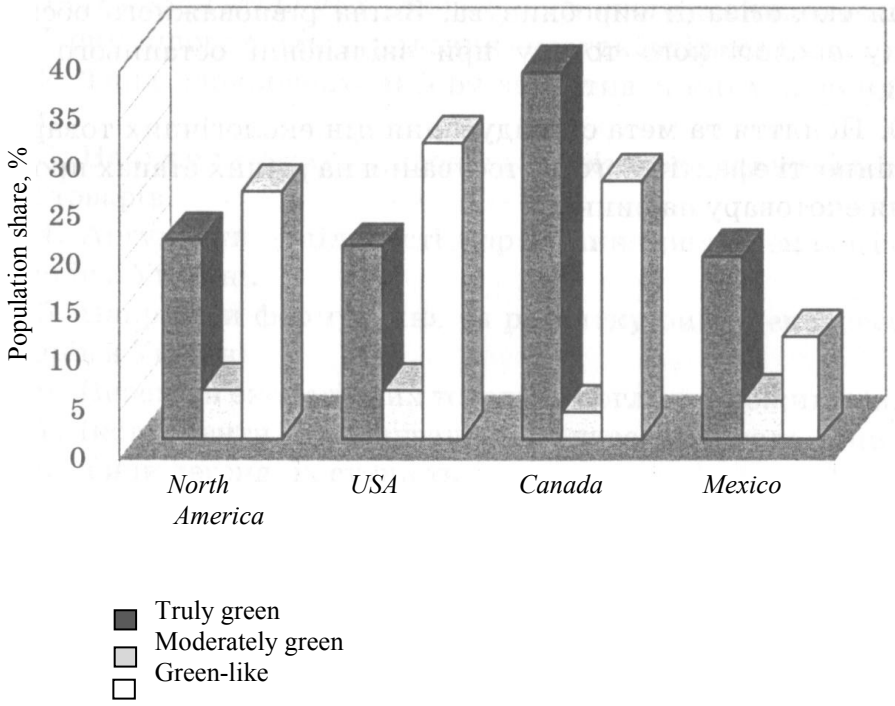
140. http://www.environmentalleader.com/2010/11/04/businesses-stay-the-course-on-sustainability/?graph=full&id=1 - Businesses Stay the Course on Sustainability. November 4, 2010.

141. http://www.kazsu.kz/do/ books/ecologmarketing/litra.htm
142. http://www.klubok.net/
143. http://www.lbsglobal.com/r/events/green/speaker - Ляпоров В. Экомаркетинг, 2005.
144. www.primorye.ru - non-traditional methods of production promotion to the market
145. http://www.sheltongroupinc.com/research/eco_pulse.php - EcoPulse company website
146. http://www.storyofstuff.com
147. http://www.thejakartapost.com/news/2008/08/28/commentary-when-csr-neither-profit-nor-public-good.html.

APPENDIXES

Appendix A

SEGMENTATION OF GREEN PRODUCTS MARKET OF NORTH AMERICA (as a whole and by regions)



Appendix B

Creation of motivation of environmentally focused innovative activity and eco attributive consumption at various levels

Table B. 1

Examples of creation of environmentally focused activity motivation and at different levels

Examples of incentive measures	Directions	Interests of the market subjects	Their actions	Stimulation result
At state level				
Ecological upbringing	Green products consumers	Preservation of the environment	Purchase of environmentally focused goods	Growth of green products consumption volume
Environmental examination	Green products manufacturers	Getting of permission to sell a product	Manufacture of products with observance of ecological requirements	Growth of production volume of green products
Adoption of environmental laws and orders	Green products manufacturers	Profit retention	Introduction of products ensuring observance of environmental laws and orders	Volume growth of eco-friendly products introduction
Eco-friendly products financing	Developers of eco-friendly innovations	Profit earning	Carrying out developments in a financed direction	Volume growth of eco-friendly developments
At level of producers				
Informing about eco-friendly properties of own product	Green products consumers	Ensuring of health	Green product consumption	Growth of green products consumption volume
Production of new eco-friendly goods	Green products manufacturers	Keeping of own market share	Manufacture of goods with eco-friendly properties not worse than those of competitor	Growth of production volume of green products

Expansion of production of eco-friendly goods	Green products manufacturers	Receipt of innovation competitive advantages	Introduction of fundamentally new eco-friendly developments	Volume growth of eco-friendly products introduction
Order of green developments	Developers of eco-friendly innovations	Receipt of innovation competitive advantages	Carrying out developments in a financed direction	Volume growth of eco-friendly developments
At level of consumers				
Formation of a positive attitude towards eco-friendly product	Green products consumers	Consumption of the best production	Choice to consume green product	Growth of green products consumption volume
Showing demand for green products and stop purchasing non-green ones	Green products manufacturers	Satisfaction of customers' needs	Production of goods with properties meeting cinsumers' requirements	Growth of production volume of green products
Protests against non-green manufacture	Green products manufacturers	Satisfaction of customers' requirements	Rejecting non-green manufacture in favor of green one.	Volume growth of eco-friendly products introduction

Table B.2.

Examples of creation of eco attributive consumption motivation of various green products

Green product type	Examples of the product	Main consumer	Major source of motivation
Means of environmental pollution prevention	Treatment facilities, soil-protective technologies	Producer	State institutes
Means promoting elimination of detrimental environmental impact consequnces	Recultivation technologies	Producer	State institutes
Protective means of person or nature system from detrimental impact penetration	Tools for afterpurification of water, conditioners	Consumer	Producer, public organizations
Products enabling to increase human tolerance or stability of nature systems to detrimental influence of eco-destructive factors	Pharmaceutical drugs boosting human immunity	Consumer	Consumer
Products enabling to maintain human tolerance	Cleaner foodstuff	Consumer	Consumer
The goods which give a chance to replace objects, services, works which have worse environmental properties	Less harmful kinds of fuel, construction materials	Producer, consumer	State institutes, producer
Products promoting saving of material and energy resources.	Heat insulating materials, non-resource intensive technologies	Producer, consumer	Producer
Means providing secondary processing of goods	Equipment, technologies and preparations providing recirculation of materials	Producer	State
The means promoting conservation of biodiversity and maintenance of balance in ecosystems	Means supporting wildlife reserves	State institutes	State institutes
Educational and information services	Ecological education, consulting services	Consumer, producer	State institutes
Goods and services necessary to increase the person's information contact with nature systems	Parks, public gardens	Consumer	Public institutes, consumer

Appendix C

CHANGE OF DEMAND FOR ECO-FRIENDLY GOODS WHEN THEIR PRICES ARE BACKED

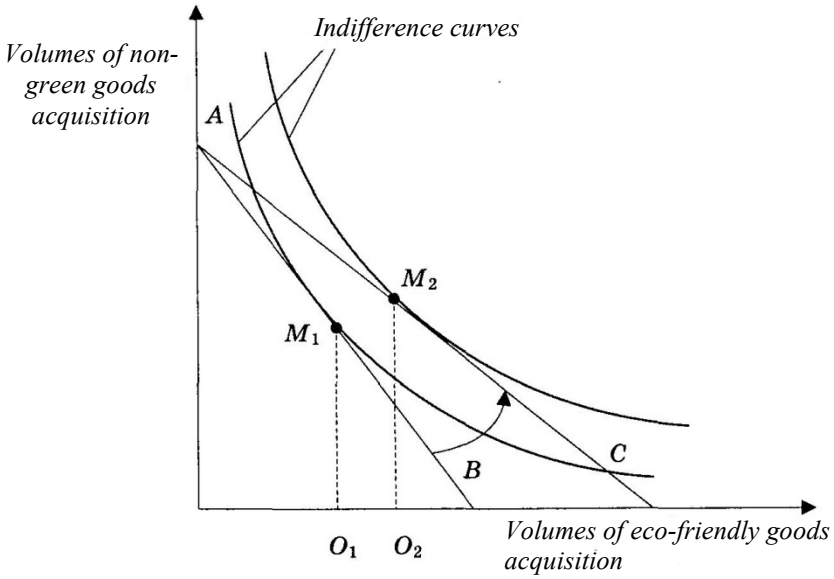


Fig. D.1. **DEMAND GROWTH FOR GREEN GOODS WHEN THEIR PRICES ARE BACKED**

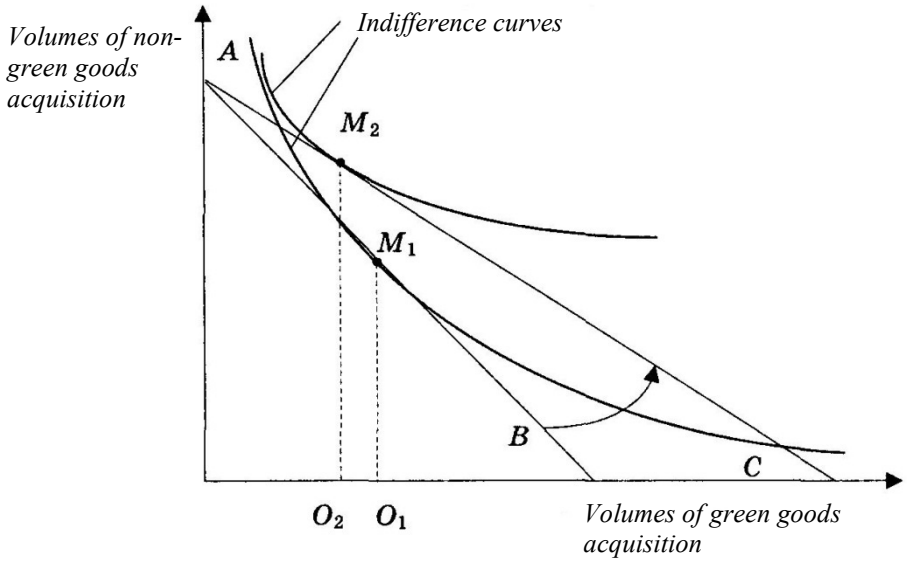


Fig. D.2. **DEMAND DECREASE FOR GREEN GOODS SIMILAR TO GIFFEN PRODUCTS WHEN THEIR PRICES ARE SUBSIDIZED**

Appendix D

THE ENVIRONMENTAL AND ENERGY RATING LIST

The Ministry of environmental protection of the Republic of Kazakhstan has made an environmental and energy rating of enterprises. The list includes 194 enterprises.

«AZIA AVTO» is placed first, «EPK Stepnogorsk» is placed second, «Aktubroentgen» – third. They are followed by «Asphaltobeton 1» and «Petropavlovsk Plant of Heavy Machine Building». «Kazgermunai» (192 position), «Kaskor-Transservice» (193 position) and «Kurmangazy Petroleum» - 194 position bringing up the rear of the list.

Authors of the rating, relying on aggregate indicators of environmental impact (I), power consumption (P) and output of products (O) of each enterprise, have determined 4 efficiency criteria:

The environmental and energy efficiency O / (I•P) is a quantity of useful products (in kind and in value terms) received per unit of consumed energy and total environmental impact.

P/I technological efficiency is featured by a parity of sum-total of wastes of influences on the environment and volume of the work done by the enterprise (primary energy consumption).

Efficiency dynamics is defined as the integral alteration of both environmental and energy and technological efficiency, average for the period 2005-2011 (+/ % per year).

The transparency of environmental and energy accountability is defined as the proportion of opened (published or presented in a questionnaire) parametres to the total number used for an estimation. This indicator is expressed as a percentage. It characterizes responsibility of company management (ability to answer the questions asked) and reliability of evaluations of efficiency based on these answers. The enterprises and the companies whose transparency is below 50%, in ratings are on grey lines, and in web site database - on grey pages. That emphasizes estimation proximity.

The company rating has been defined following the results of 4 variants of ranking. The sum of positions taken by each company in four rank lists was calculated. The position taken by the company while ranking according to the sum of positions is its rating.

The environmental and energy rating list of enterprises of Kazakhstan

Position out of 194	Enterprise name
1	*JSC «AZIA AVTO»*
2	*JSC «EPK Stepnogorsk»*
3	*JSC «Aktubroentgen»*
4	*LLC «Asphaltobeton1»*
5	*JSC «PPHMB»*
6	*Mineral Fertilizers affiliate of Kazphosphate LLC*
7	*LLC «Djet-7»*
8	*Atyrau Polyethylene Pipes Plant*
9	*Karaganda dairy factory LLC*
10	*JSC «KEMONT»*
11	*Atyrau Refinery LLP*
12	*Imstalcon JSC*
13	*JSC «PLANT S.M. KIROVA»*
14	*LLC «Stroydetal»*
15	*TEMIR ZHOL ZHYLU (TARAZ)*
16	*SHYMKENTCEMENT JSC*
17	*«Mashzavod №1» LLP*
18	*«AKSAI NAN" BAKERY COMPLEX» LLP*
19	*NDFZ Zhambyl affiliate Kazphosphate LLC*
20	*JSC «KazTransGaz-Almaty»*
21	*Intergas Central Asia JSC*
22	*JSC «AES Ust-Kamenogorsk»*
23	*«PetroKazakhstan Oil Products LLC*
24	*"NMSC «Kazmortransflot» LLP*
25	*JSC «KAZTRANSGAS AYMAK»*
26	*KARAGANDA ENERGOCENTER LLP*
27	*«TenizService» LLP*
28	*Ulba Metallurgical Plant JSC*
29	*Temirbeton LLC*
30	*FoodMaster-Shymkent LLC*
31	*«Tsesna-Astyk» Concern*
32	*«KazTransGaz» JCS*
33	*Prikaspiyskiy Machinebuilding Complex LLP*
34	*«STEPNOGORSK MINING-CHEMICAL COMPLEX» LLP*
35	*KAZ Minerals PLC*
36	*«Astana-Imstalcon» LLP*
37	*JSC «Astana-REC»*
38	*«Mashzavod» LLP*
39	*VOSTOKMASHZAVOD JSC*
40	*JSC KazNIPImunaygaz*
41	*«Multi-stock company Almatygorstroy» CJSC*
42	*«Rudniy Installation Firm –Imstalcon» LLP*

43	*ALMATY ELECTROMECHANICAL PLANT LLP*
44	*JSC"Tarazenergocentr"*
45	*«Karaganda Structural Steel Plant Imstalcon» LLP*
46	*«Ust-Kamenogorsk Structural Steel Plant Imstalcon" LLP*
47	*AksaiGasPromEnergo SC*
48	*«Imstalcon – Kapchagaistroy» LLP*
49	*Astana HES-1 and HES-2*
50	*JSC «Astana-Teplotranzit»*
51	*«AKTAU FIBERGLASS PIPES PLANT» LLP*
52	*"West Kazakhstan Machine Building Company" JSC*
53	*«Almaty Installation Firm 1 – Imstalcon» LLP*
54	*«Imstalcon – Temirtau» LLP*
55	*AES Sogrinskaya TETS LLP*
56	*LCC Tah-mahk*
57	*«Tehol» CJSC*
58	*«KazTransOil» JSC*
59	*Tas-kum JSC*
60	*«Rudniy Installation Firm – Imstalcon» LLP*
61	*SABURKHAN TECHNOLOGIES LLC*
62	*The NC «The KazMunayGaz Trade House»*
63	*SCE «Teplokommunenergo»*
64	*«Pavlodar Oil Chemistry Refinery» LLP*
65	*Kentau Transformer Plant JSC*
66	*Zhartas LLC*
67	*«SEVKAZENERGO» JSC*
68	*«Ust – Kamenogorsk Installation Firm – Imstalcon» LLP*
69	*JSC AIDABUL DISTILLERY*
70	*METAL TRADING LLC*
71	*Maikainzoloto*
72	*KARABULAK LLC*
73	*SCE ZhitikaraKommunEnergo*
74	*Hobas Pipes Kazakhstan LLC*
75	*LLC Roza - walk-mill*
76	*«Lisakovskgorkommunenergo» SCE PBO*
77	*Hazar Munai Gaz Kurylys LLP*
78	*JSC Zhana-semey shpal zavody*
79	*«Karakudukmunai» LLC*
80	*MAEC-Kazatomprom LLP*
81	*Kazarmaprom LLP*
82	*Briz Mangistau LLP*
83	*JSC «Araltuz»*
84	*Shahtinsk TETS LLP*
85	*Korona LLC*
86	*ABSOLUTE KAZAKSTAN PRODUCTION LLC*

87	*Remdorstroy LCC*
88	*JSC «Mangistau electricity distribution network company»*
89	*Kazphosphate GPK "Karatau"*
90	*«Tyub Karagan Operating Company B.V.»*
91	*JSC «Mangistaumunaigaz»*
92	*Karaganda Asbestos Cement Plant JSC*
93	*JSC «Euro-Asia Air»*
94	*LLC AES Ust-Kamenogorsk Hydropower Plant*
95	*Tsentr-Tsement Plus LLC*
96	*Vasilkovsky ore-dressing factory JSC*
97	*JSC "EKIBASTUZ GRES-2"*
98	*LLC Nadyozhnost i dolgovechnost*
99	*«Yustalcon» LLP*
100	*JSC KazMunaiGas Exploration Production*
101	*Irtysh Rare Earths Company Ltd.*
102	*RK-2 SEC kokshetau*
103	*KZM-Center LLP*
104	*Kazakhoil Aktobe LLC*
105	*Kostanai Minerals JSC*
106	*JSC "Aksaigasservice"*
107	*Tengizchevroil LLP*
108	*JSC South-Kazakhstan machine-building plant*
109	*Merken Sugar Plant LLC*
110	*ArcelorMittal Temirtau*
111	*“Lissakovsk Installation Firm – Imstalcon» LLP*
112	*A-Polygraphia LLC*
113	*«Zhambyl Installation Firm – Imstalcon» LLP*
114	*Akmola Beton LLP*
115	*LLP Almaty Bridge Construction Plant*
116	*Sevimstalkon*
117	*Balkhashbalyk LLC*
118	*PLWZ LLP*
119	*«Tekhnologiya» RPC LLP*
120	*SC «UralskNefteGazGeologiya»*
121	*«MaxJordan – Imstalcon» LLP*
122	*GKP Arkalyk TEK JSC*
123	*Polpharma SA*
124	*JSC “Uzhpolymetal“*
125	*Bulak LTD 2004*
126	*JSC «Astanaenergoservice»*
127	*CENTRAL ASIA CEMENT JSC*
128	*Semey Zholdary Ltd.*
129	*ZIKSTO JSC*
130	*Silikat semey LLP*

131	*SCE Tazalyk*
132	*Almaty Power Consolidated*
133	*KERATEK LLP*
134	*JSC AES Shulba HPP*
135	*LLP "KazMunaiGas Onimdery"*
136	*"Karaganda-Zhylu" LLP*
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138	*DINAL brewery LTD*
139	*Suindik LLC*
140	*Taldykorgan Installation Firm - Imstalcon LLP*
141	*"Shahta Zapadnaya" LLP*
142	*Almaty Installation Firm 1 - Imstalcon LLP*
143	*Ulba Fluorine Complex LLP*
144	*Zhambyl-Zhylu SPE*
145	*PetroKazakhstan Kumkol Resources JSC*
146	*CJSC "Amangeldy Gas"*
147	*Shubarkol Komir JSC*
148	*«KazMunayGas-Service» LLP*
149	*KARAGANDA PLANT OF ELECTROTECHNICAL EQUIPMENT JSC*
150	*BASSEL GROUP LLS*
151	*Kyzylordayuzhteplotsentr SCE*
152	*KMG's five exploration companies*
153	*JSC «Aktobe Plant of Chromium Compounds»*
154	*AZOK LLC KAPCHAGAJ*
155	*CSE Igilik*
156	*«Company Atash» Ltd*
157	*Zavod ZhBI-25 LLP*
158	*Pavlodar Installation Firm - Imstalkon LLP*
159	*Rudny VODOKANAL LLP*
160	*«Access Energo PCHP-2» LLP*
161	*PAVLODAR VODOKANAL LLP*
162	*SE Zyryanovsk Vodokanal*
163	*Karaganda Installation Firm - Imstalkon LLP*
164	*Vodnye resursy-Marketing LLP*
165	*"Aktobe Copper Company" LLP*
166	*Agip Kazakhstan North Caspian Operating Company*
167	*SE Balkash Su Zhylu Trans*
168	*Kurort LLC*
169	*Petropavl Su JSC*
170	*«Cotton Contract Corporation» JSC*
171	*LP "Bakyrchik mining company"*
172	*LLC «KOSSK»*
173	*JSC "TNK "Kazchrome"*
174	*LLC KaragandiSy*

175	*JSC «Shardarinskaya HPP»*
176	*LLC Sortirovka 2*
177	*LLC BUS PARK No.4*
178	*JSC "Koktas-Aktobe"*
179	*JSC «CNPC-AMG»*
180	*KazakhGold Group Limited*
181	*KazakhTurkMunai LTD*
182	*SCE Kyzylorda Su Zhuyesi*
183	*«Atbasar electric locomotive factory» LLP*
184	*SCE Kostanay Su*
185	*Airport JSC "International airport in Atyrau" KazMunayGas*
186	*Mining Processing Complex "Chulaktau» Kazphosphate LLC*
187	*Karatalirrigatsiya SCE*
188	*Lad-komir LLC*
189	*«Zhambay» Ltd*
190	*Caspi Meruerty Operating Company B.V.*
191	*«KMG-Zhayyk» LLP*
192	*JV Kazgermunai LLP*
193	*Kaskor-Transservice OJSC*
194	*Kurmangazy Petroleum LLP*

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