



# **Assessment of Beer on Compliance with Ecolabelling Criteria**

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## **ABSTRACT**

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The purpose of this study was to assess a product of a brewing company on compliance with chosen ecolabelling criteria. Assessment procedure was meant to provide understanding to the management of the company about product's readiness level for such certification. As a method of assessment a specific questionnaire based on a standard of chosen ecolabelling system was compiled and used to request information from several responsible departments of the company. The obtained answers were used in a manual assessment of product's compliance level.

A study of green labelling that was conducted within this work as a part of the internal audit preparation phase provided an overview of current situation in the sphere of sustainability labelling for food in the European Union and Russia. A method for internal audit was created. The overall description of the procedure provides a framework for any company that requires conducting of an internal environmental check. The assessment itself showed a high level of product's readiness for certification and initiated subsequent actions towards ecolabelling certification of the company's product.

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Key words: ecolabelling, assessment, internal, audit, food, beer

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## 1 INTRODUCTION

### 1.1 Case description

Environmental department of Baltika Breweries, a Russian beverage production company, was interested in conduction of a study of potential for third party green labelling of their products, as the company had an environmental policy and sustainability development strategy (Baltika Breweries n.d.) that was not marked on the products' packaging. It was agreed with representatives of the company to carry out a joint work that would be a brief internal environmental audit based on some existing standard.



PICTURE 1. Baltika Breweries logo (Baltika Breweries n.d.)

The aim of the work was to study existing green labelling systems that were used for food production in European Union and Russia, to choose one of them that would be trustworthy and feasible at the same time, to create a clear and relatively simple audit tool, to implement it and to give a brief overview of the environmental standard compliance level of the assessed product. The final overview was supposed to be provided to the management of the company. It was decided in advance to prioritize third party life cycle based labelling systems that were recognized by the Russian authorities and complied with the national laws due to their implementation simplicity. If no Russian labelling system could be used it would be possible to utilize a European system.

### 1.2 Green labelling in the European Union

Green label is a symbol that is placed on products in order to provide more reliable information about their environmental impact and to promote the production and consumption of more sustainable goods (Environment.fi 2013). The

leading sustainability labelling systems are members of the Global Ecolabelling Network, a non-profit association that was formed in 1994 with an aim to help protect the environment by developing and promoting the ecolabelling of products and services. The GEN members in Europe include: the European Commission with the EU Ecolabel, the Nordic Ecolabelling Board with the Nordic Swan Ecolabel, the German Federal Environment Agency with the Blue Angel Ecolabel. (GEN n.d.)

Several types of labels are distinguished: Type I, Type II and Type III (ISO 14020:2000). The Type I ecolabels are voluntary and imply the third party assessment and certification, the Type II is an environmental self-declaration claim (first party assessment) and the Type III is an information card that describes the product by categories set by the third party without certification (GEN 2004). All GEN members are operating the Type I ecolabels that are defined by the ISO 14024 standard (ISO 14024:2018). Within this work only the Type I ecolabels were discussed in accordance with the company's request.

In addition to the listed ecolabels there is the "Organic" official labelling system in the European Union. It is mandatory for all the products that are made with compliance to the requirements of the organic farming that are set by the Regulation On Organic Production and Labelling of Organic Products (Regulation 834/2007/EC). Organic farming in general is a set of agricultural practices aimed to food production with use of natural substances and processes. Goods produced by organic farming have a limited environmental impact as well as the products marked with ecolabels. (European Commission n.d.). Organic labels on food prove its compliance to the European Union's regulations on organic agricultural production, while any Type I ecolabel is the wider indicator of the product's environmental performance. Under the ecolabelling certification procedure the whole product's life cycle is assessed, not only the farming process solely. (Environment.fi 2013.)

According to the Regulation On the EU Ecolabel (Regulation 66/2010/EC) EU Ecolabel is a voluntary sustainability symbol that verifies a product's compliance with the Type I ecolabel criteria described by the ISO (ISO 14024:2018). The EU Ecolabel was established in 1992 and currently has eleven different catego-

ries of products's criteria, but none of them can be used for food. According to the EU Commission's opinion (European Union Ecolabelling Board 2011) the Type I ecolabelling standards for food cannot be created and implemented at the current situation based on the feasibility study. According to the conducted research the extension of EU Ecolabel to food products would cause large expenses and confusion among customers due to its similarity with the "Organic" stickers (FIBL 2011; Oakdene Hollins 2011).

The other potential sustainability labelling systems that could be used as the base for the audit could be the Blue Angel Ecolabel, the first green labelling system created in 1978 (German Federal Environment Agency n.d.) and the Nordic Swan Ecolabel established in 1989 (Nordic Ecolabelling Board n.d.). Both systems had lists of criteria by category. The Blue Angel had requirements for household items, electric devices, construction, heating, business and municipal services (German Federal Environment Agency n.d.). The Nordic Swan ecolabel had similar product groups (Nordic Ecolabelling Board n.d.). No standard that could be potentially used for beer assessment was presented. It could be concluded that among the European Union's ecolabelling systems only the EU "Organic" labelling could be used for food product assessment.

### **1.3 Green labelling in Russia**

The sustainability labelling in Russia began developing later than in Germany, Nordic countries and European Union. The first environmental non-governmental organizations were created only in the 90's. Currently, only one Russian environmental organization, Ecological Union, operates its own sustainability assessment and labelling system, which is recognized internationally (Bellona 2016; Kommersant 2016). The Ecological Union (earlier – the Saint Petersburg Ecological Union) is a non-profit organization established in 1991. The Ecological Union is the only Russian GEN member, a certified member of the Global Ecolabelling Network's Internationally Coordinated Ecolabelling System GENICES (GEN n.d.), an associate member of the International Federation of Organic Agriculture Movements (IFOAM n.d.), the owner and the operator of

the “Vitality Leaf” Ecolabel and “Vitality Leaf Organic” label (Ecological Union n.d.).

The “Vitality Leaf” is the Type I ecolabel based on the ISO standard (ISO 14024:2018), it is authorized by the official standardization body of the Russian Federation (Rosstandart 2013). As it is required by the ISO standard, the “Vitality Leaf” system combines the assessment criteria related to all stages of products’ life cycle: from the raw material production phase till the disposal phase. The criteria also incorporate the Russian Federation legislation. The “Vitality Leaf Organic” is the label that is based on the same requirements as the EU “Organic” label, which means that it does not take into account all life cycle stages of the assessed products and thus does not meet the initial green labelling request of Baltika.

The “Vitality Leaf” system (picture 2) includes requirements for different categories of products including food products on the contrary to the other labelling systems such as the EU Ecolabel, the Nordic Swan and the Blue Angel. Its product groups include: building and finishing materials, electronics, vertical gardening modules, household chemicals, cosmetic products, services and food products. Each of the groups include several standards (at least one). The standards are based on the requirements of the ISO standard (ISO 14024:2018) and the described product’s specifics (Ecological Union n.d.). This means that the each standard sets requirements for all life cycle stages of the product it is related to according to the same framework established by the ISO standard (ISO 14024:2018) but also has a set of unique requirements specified by the experts of the Ecological Union when a new standard is developed. This can be seen if a couple of standards from the same group are compared. For example, in the food products group there are exactly the same requirements for different foods that is explained by the coherence of the Russian legislation in the sphere of food production: there is a same list of harmful substances that must not be contained in the raw materials and final product, there are the same requirements for industrial safety, waste treatment, etc. The best illustration for this is a direct comparison of two standards: for juice products (STO-56171713-018-2017) and for strong alcohol (STO-56171713-004-2017). Both standards have exactly the same criteria except some requirements for the production



phase – they are described by different technical specifications that are given in GOST standards for different products. For example, in the strong alcohol standard it is GOST standard for vodka. It specifies the type of ethanol that can be in the production and its characteristics (GOST 12712-2013).



PICTURE 2. "Vitality Leaf" logo (Ecological Union n.d.)

#### **1.4 Feasibility of strong alcohol standard**

The "Vitality Leaf" ecolabelling system's food product standards did not contain any criteria that could be used directly for the assessment of beer. But as it was showed on the example with the juice product standard and strong alcohol standard – the majority of aspects of two standards made for beverages were the same. So from the sustainability point of view strong alcohol and beer would be also similar. The main difference would be the type of used raw material (different grain crops) and some procedures of their factory processing (brewing of beer and distillation of ethanol for vodka). All other aspects – plant raw material production, packaging, energy consumption, corporate social responsibility, etc. would be similar. Based on this assumption it was decided that the strong alcohol standard of "Vitality Leaf" can be used for the internal audit, before the company would apply for ecolabelling certification, as this assessment would reveal the critical flaws in the overall environmental efficiency.

## **2 METHODOLOGY**

### **2.1 Defining assessment method: questionnaire**

As it was mentioned in the introduction, the aim of the work was to carry out an internal audit of one particular product on compliance with the chosen criteria. The criteria were described in the documents provided by the Ecological Union (STO-56171713-004-2017). The criteria contained information about different aspects of the alcoholic drink production: waste management, energy consumption, corporate social responsibility, etc. All the information was categorized but given in a descriptive manner: different requirements were listed in plain text.

It was decided to make a questionnaire based on the description of the standard (STO-56171713-004-2017) as a tool for an internal audit. The aim of the tool was to provide the data about the company's operation aspects. It was required the tool could be used by employees without studying the whole structure of the standard. This requirement could be reached by dividing the questionnaire into several parts each of those could be addressed to a particular department of the company – depending on the production aspect it managed.

### **2.2 Questionnaire structure**

The description of the standard had six sections: general requirements, raw material requirements, final product requirements, production requirements, packaging requirements and requirements for informing of employees and consumers about the use of the "Vitality Leaf" ecolabel (table 1). Each of these sections contained subsections referred to different, more precise aspects of production (table 2). (STO-56171713-004-2017.)

TABLE 1. The "Vitality Leaf" standard's structure (section division)

<b>The "Vitality Leaf" standard:</b>
General requirements
Raw material requirements
Final product requirements
<b>Production requirements</b>
Packaging requirements
The use of the "Vitality Leaf" ecolabel

TABLE 2. The "Vitality Leaf" standard's section 4 (subsection division)

<b>Production requirements:</b>
<i>Resource consumption requirements</i>
<i>Requirements for waste management at work</i>
<i>Requirement for detergents and disinfectants</i>
<i>Requirements for water consumption reduction</i>

It was decided to keep the overall structure of the questionnaire similar to the standard's criteria description, so that the answers, as soon as they were obtained, could be directly compared to the standard. The original questionnaire that was made for internal audit is presented in the appendices. General requirements are in the appendix 1, raw material requirements are in the appendix 2, production requirements are in the appendix 3 and packaging requirements are in appendix 4.

Final product requirements section (section three) was used in the questionnaire to a certain limit – only in the subsections where requirements were similar for beer and vodka. Section six that contained requirements for informing of employees and consumers about the use of the "Vitality Leaf" ecolabel was not used in the questionnaire. Selected aspects of the section three and a brief description of the section six are provided in the appendix 5.

### **2.3 Questionnaire implementation**

Subsections of the questionnaire were compiled the way they could be answered by specific departments responsible for the subsection's production aspect. Then the grouped subsections were forwarded to the departments where the executives answered the questions of their area of responsibility.

Then questionnaire sections were compiled with obtained subsections' answers back for a manual processing. During the manual processing of the answers the information was compared to the standard's criteria. Crucial flaws were determined during this processing, so that they could be discussed with the company and removed before ecolabelling certification procedure. The results of the data processing contained in the part 3.

## **3 RESULTS**

### **3.1 Section 1: General requirements**

#### **3.1.1 Requirements for the general description of production**

The company reported that the assessed product is produced according to the GOST standard (GOST 31711-2012). The standard gives a definition of beer, its components and production process in a comprehensive manner. The company fulfilled the requirements on the description of the assessed product according to the ecolabelling criteria (STO-56171713-004-2017).

#### **3.1.2 Compliance requirements**

The company reported that it follows Russian regulations for the production and circulation of alcoholic and alcohol-containing products (171-FZ/1995). The company complies with the Russian legislation and is officially registered. This is verified by the responsible authority. (Federal Tax Service 2019). The company uses integrated management systems based on international standards: quality management standard (ISO 9001:2015), environmental management system standard (ISO 14001:2015), occupational health and safety standard (OHSAS 18001 2007), food safety standard (FSSC 22000 2017) and energy management standard (ISO 50001:2018). According to the Federal Law "On Environmental Protection" (7-FZ/2002; 219-FZ/2014) the company registered all its objects that produce an environmental impact and regularly pays a specific tax for these objects that is proved by the authority (Federal Tax Service 2019). The company complies with the requirements of the standard (STO-56171713-004-2017) in this section.

### **3.1.3 Requirements for a correction of violations**

Every year the state supervisory authorities conduct scheduled and / or unscheduled inspections of compliance with environmental and sanitary legislation requirements. The revealed violations (if they are present) are eliminated in the terms established by the responsible federal executive authority in each case. Execution is controlled by the responsible federal executive authority in each case. The company reported that it has executives at each branch: the head of the production laboratory, the manager for quality and food safety, the chief ecologist. The reported practices comply with the criteria (STO-56171713-004-2017).

### **3.1.4 Requirements for environmental protection. Air emissions**

The established standards for maximum permissible emissions (MPE) of harmful (polluting) substances into the atmosphere (96-FZ/1999) are not exceeded. Maximum permissible concentrations (MPC) of pollutants (HN 2.1.6.3492-17) are not exceeded. Both facts are certified by the federal executive authority in the sphere of nature management (Rosprirodnadzor 2018). The boundaries of sanitary protection zones (SPZ's) are established in accordance with the sanitary regulations and norms (SanRN 2.2.1/2.1.1.1200-03/2007) that is verified by the federal executive authority in the sphere of protection of consumers' rights and human well-being (Rospotrebnadzor 2019). The reported information complies with the standard (STO-56171713-004-2017).

### **3.1.5 Requirements for environmental protection. Water supply and sanitation. Discharge to water bodies**

Water supply is legal: sewage use contracts are signed with the corresponding branches of the state unitary enterprise «Vodokanal». The contracts are not public but can be provided by the authority's request. At four branches, where water wells are used, licenses for subsoil use were obtained (Federal Tax Service 2019) according to the federal laws (2395-1/1992; 74-FZ/2006). No limits

for permissible water body discharges (416-FZ/2011) are exceeded. Details are contained in closed documentation, procedures are verified by Rosprirodnadzor. The reported information in this section complies with the criteria (STO-56171713-004-2017).

### **3.1.6 Requirements for environmental protection. Production and consumption waste**

Waste generation limits and disposal standards (89-FZ/1998) are met, procedures are certified by the authority. Waste: 1 – 2 hazard classes are transferred to neutralization, 3 – 4 hazard classes are transferred to disposal / burial, 5 hazard class is transferred to disposal. Utilization of waste is carried out by licensed organizations that have the necessary disposal facilities and personnel. (Rosprirodnadzor 2018.)

The accumulation of waste at the territory of the enterprise is carried out according to the temporary waste accumulation site plan contained in a certified project for waste generation and limits on their disposal of the company, separate at each branch. In addition, Baltika has a licensed right (its own) to work with hazardous waste in terms of its collection and transportation (1 – 4 hazard classes). The license is issued by the authority. (Rosprirodnadzor 2018.) The reported information in this section complies with the criteria (STO-56171713-004-2017).

### **3.1.7 Requirements for environmental protection. Employee qualifications**

It is reported through the questionnaire that all employees involved in the process of working with hazardous waste have appropriate licenses and certificates and participate regular testing that confirms their level of expertise according to the federal laws (7-FZ/2002; 89-FZ/1998; 116FZ/1997) that is confirmed by the authority (Rosprirodnadzor 2018). The reported practices comply with the standard (STO-56171713-004-2017).

### **3.1.8 Requirements for environmental protection. Payment for negative environmental impacts**

According to the federal law (7-FZ/2002) the negative environmental impact tax payment is made quarterly, a negative impact declaration is submitted annually that is verified by the responsible authority (Federal Tax Service 2019). The reported information in this section complies with the criteria (STO-56171713-004-2017).

### **3.1.9 Labor protection requirement**

A special assessment of working conditions at workplaces is carried out by the company in accordance with the Federal Law "On specific assessment of working conditions" (426-FZ/2013). Air pollutants are regularly monitored in the of the working area by an accredited external laboratory. If any harmful or dangerous human health factors are identified corrective actions are taken, for example, to provide employees with personal protection equipment (PPE) in noisy rooms, etc. The execution of the reported practices is verified by the authority (Russian Federation Ministry of Labor 2019). The reported information complies with the standard (STO-56171713-004-2017).

### **3.1.10 Industrial and fire safety requirements**

According to the federal law (116-FZ/1997) all hazardous production facilities are registered in the government register of the dangerous production units (Rosprirodnadzor 2018). There are no explosive and chemically hazardous production facilities defined by the federal law (99-FZ/2011). The reported data comply with the requirement of the criteria (STO-56171713-004-2017).



### **3.1.11 Sanitary and epidemiological safety requirement**

The company works according to the sanitary standards and requirements of Food Safety System Certification (FSSC 22000 2017). The company has cleaning and disinfection schedules, determining the used means, the place of use and the frequency of treatment. Internal sanitary audits of production units are conducted every two weeks. Disinsection and deratization of the company's premises are executed by accredited organizations. The company complies with the sanitary and epidemiological requirements for food production that is confirmed by the authority (Rospotrebnadzor 2019). The information provided by the company complies with the criteria (STO-56171713-004-2017).

### **3.1.12 Requirements for ensuring consistency in product quality and safety**

The quality control department of the company follows the requirements of the ISO quality management standard (ISO 9001:2015) that ensures consistency in product quality and safety. The reported practice complies with the criteria (STO-56171713-004-2017).

### **3.1.13 Environmental management system requirements**

The company developed and implemented an environmental policy at the request of the regulator. It was approved by the top management of the enterprise and communicated to the employees. Environment protection action plan was developed by the company's specialists according to the Federal Laws No. 7 (7-FZ/2002), 89 (89-FZ/1998), 96 (96-FZ/1999).

The implementation executives have been defined. The plan was implemented. Internal cross-checks of the environmental policy and the action plan's performance are conducted independently by the specialists of the company's headquarters and its branches. This guarantees a higher level of internal audit objectivity.

There is an open access to the company's policy and the action plan through the internal online portal. Regular internal mailing is carried out. Together Towards Zero program that describes the company's strategic sustainability goals is public, but it is unclear if it can be assumed to be the environmental policy according to the criteria (STO-56171713-004-2017). This part requires an additional discussion.

## **3.2 Section 2: Raw material requirements**

### **3.2.1 Requirements for quality control of raw materials**

The raw material used for production meets the requirements established by the legislation of the Russian Federation (GOST 31711-2012) that is confirmed by the quality and safety certificates (Rospotrebnadzor 2019). The suppliers conduct an assessment of their raw materials and then supply them at the transition to Baltika with certificates issued by specialized bodies. Prior to the signing of the contract, the supplier is audited. Test use is carried out before mass production. The testing is done by the employees of Baltika's integrated management system (IMS) service, both suppliers and products are checked. Quality control is carried out for each consignment and / or selectively for critical items, according to a special control plan. Raw material input control is provided by warehouse staff (visual check), selective control of the quality and safety is done by the company's laboratory (full check). Before the checking is done all raw materials are stored in a quarantine zone. The reported practices comply with the criteria (STO-56171713-004-2017).

### **3.2.2 Requirements for water in the product**

The water treatment procedure is standard and conducted according to the sanitary and epidemiological regulations defined by the GOST standard for beer (GOST 31711-2012) that is verified by the authority (Rospotrebnadzor 2019). The reported practice fulfills the criteria (STO-56171713-004-2017).

### **3.2.3 Plant raw materials requirement**

The chain of plant raw materials suppliers can be fully traced – from the seeds to the brewhouse. Additionally, a soil analysis is conducted, the farmers's equipment and the crop production itself are checked by a specially formed structure «Agroproject» that belongs to Baltika. The structure controls the whole process of barley production in the fields (that has to be performed strictly according to the requirements set by the company) and its transportation for the subsequent processing.

All the farmers-contractors are legal and included in the register of agricultural producers (Russian Federation Ministry of Agriculture 2019). No plants from the Red Data Book of the Russian Federation are used in production. Raw material treatment complies with the standard (STO-56171713-004-2017).

## **3.3 Section 4: Production requirements**

### **3.3.1 Resource consumption requirements**

Regular measurements of water, energy, consumption of resources and waste generation are carried out and documented. The recording and reporting of the actual values is implemented in accordance with the ISO Energy Management standard (ISO 50001:2018) and the internal regulations. The reported actions fulfill the criteria (STO-56171713-004-2017).

### **3.3.2 Requirements for waste management at work**

It was reported through the questionnaire that the enterprise has measures targeted at reduction of waste generation, its selective collection, reduction of the proportion of industrial waste disposed at landfills, and return of raw materials and reject products back to the production cycle. The listed measures are conducted within the framework of the Together Towards Zero program (Baltika n.d.) A separate collection system was developed at all branches, a full-time

unit of the Recycling Manager was introduced. The company transfers less than 50% of industrial waste for disposal at landfills. The waste of cullet is transferred for recycling to glass plants as raw material for the production of glass containers. Organic waste is recycled / recycled and transferred to feed production. The reported actions fulfill the criteria (STO-56171713-004-2017).

### **3.3.3 Requirement for detergents and disinfectants**

The enterprise has documentation on all detergents and disinfectants that are used in accordance with the requirements of the legislation of the Russian Federation. None of the detergents and disinfectants can be classified as H300 (fatal if swallowed), H301 (toxic if swallowed), H310 (fatal on skin contact), H311 (toxic in contact with skin), H330 (fatal by inhalation), H331 (toxic by inhalation), H334 (may cause an allergic reaction, asthma or shortness of breath if inhaled), H340 (may cause genetic effects), H350 (may cause cancer), H360 (may adversely affect the ability to bear a child or an unborn child) – in accordance with the GOST standard (GOST 31340-2013) that is confirmed by quality and safety certificates of external accredited laboratories (Rosпотребнадзор 2019). The reported information complies with the standard (STO-56171713-004-2017).

### **3.3.4 Requirements for water consumption reduction**

The enterprise keeps water consumption at a stable level and targets at annual reduction of water consumption per unit according to the Together Towards Zero program (Baltika n.d.). According to the internal regulations if a significant increase in monthly water consumption occurs (more than 2%) a report with a factor analysis of the causes is made by the energy department of the company and provided to the management.

The standard (STO-56171713-004-2017) requires an action from an enterprise in a case of 15% annual water consumption increase. Baltika checks water consumption monthly and takes an action immediately to sustain a stable con-

sumption level thus it can be considered that the standard's requirement is fulfilled.

### **3.4 Section 5: Packaging requirements**

#### **3.4.1 Requirements for recyclability**

It is reported through the questionnaire that all packaging materials that are used in transportation and sales of the product have a possibility of recycling in the territory of the Russian Federation. The package does not contain any coating or impregnation that impedes its recycling process – in 2018 a barrier additive in PET kegs was abolished. The bottle does not have a dispenser and not decorated by any means / elements other than those that are applied to the label / film / foil, which, in turn, can be separated from the glass. No parts of closures remain in the neck of the bottle after opening, caps are removed completely. The reported data fulfill the criteria (STO-56171713-004-2017).

#### **3.4.2 Retail package requirements**

The bottle used as a retail product packaging made from polymeric material (PET). For glass bottles, different colors are used and all can be transferred to glass recycling factories. The containers have volumes that meet the legal requirements for alcohol products of this type (171-FZ/1995) that is verified by the authority (Rosпотребнадзор 2019). The information fulfills the requirements of the criteria (STO-56171713-004-2017).

#### **3.4.3 Requirements for transport packaging**

The company reported that no transport or storing packaging is made of polyvinyl chloride, polyvinyl dichloride or polystyrene which fulfills the criteria (The reported data fulfill the criteria (STO-56171713-004-2017). The share of recycled materials in cardboard used for packaging reaches 70%, depending on its

fraction. This does not comply with the requirements set by the standard (STO-56171713-004-2017). The cardboard use should be thoroughly checked.

#### **3.4.4 Requirements for minimizing the amount of packaging**

Retail individual product packaging is single-layer only, no additional boxes or similar containers are used. This complies with the requirement of the standard (STO-56171713-004-2017).

### **3.5 Questionnaire sections 3 and 6: notice**

#### **3.5.1 Section 3: Final product requirements**

Section 3 can be used only to a certain extent that can be applied for any beverage, not only strong alcohol. The topics that can be applied in the questionnaire were used.

It was reported that the characteristics of the finished product comply with the current requirements of the legislation of the Russian Federation and the Customs Union for alcohol products that is confirmed by the authority (Rosspotrebnadzor 2019).

The finished product does not contain persistent organic and hazardous toxic pollutants, as well as priority pollutants of this type of product in quantities that exceed the norms that is confirmed by quality and safety certificates (Rosspotrebnadzor 2019).

### **3.5.2 Section 6: Requirements and requirements for informing of employees and consumers about the use of the “Vitality Leaf” ecolabel**

Section 6 contains the rules for an enterprise that has already passed the certification procedure for compliance with the “Vitality Leaf” labeling standard. In the context of our work, this part is irrelevant.

The part includes:

- Requirements for environmental labeling of products
- Information requirements for the consumer
- Information requirements for employees
- Requirements for organizing certification procedures

## 4 DISCUSSION AND CONCLUSION

The first goal of this study was to examine the open information about the already existing green labelling systems that were implemented in the food production industry of the European Union and Russia, and then to choose one of them that would be trustworthy and feasible for the Russian brewing company at the same time. The findings indicate that none of the European Type I ecolabelling systems can be used for beer's environmental efficiency evaluation. The reason for that is the absence of food standards in the systems as such. The EU Ecolabel, being the most influential European label and the example for national systems such as The Blue Angel and the Nordic Swan, will not expand to the food production market sector in the upcoming years according to the European Commission's decision that is caused by the lack of resources for this project and misgiving of confusion that may be brought to the consumers who already have the "Organic" Label for food. (FIBL 2011.)

At the same time the study revealed that one sustainability labelling that totally meets the initial request of the company already exists and successfully operates in the Russian market being absolutely similar to the European systems in terms of the core framework (ISO 14024:2018) and reliability (it is operated by the internationally recognized environmental organization that is a member of the same international cooperation group as the European Commission, Nordic Ecolabelling Board and others). The first part of the work also touches the "Organic" labelling systems and some issues they are causing to the extension of the life cycle based sustainability evaluation criteria. This subject seems to be covered only briefly by the media and ignored by the academic writers, this topic needs a thorough study and additional attention.

The second (main) goal of the work was to create an instrument for an internal audit of Baltika's beer on compliance with the chosen criteria. The Russian Type I ecolabel "Vitality Leaf" was chosen as a core of requirements. A questionnaire based on those requirements was compiled and implemented. The questionnaire itself clearly presents an instrument that can be used for internal audit of any beer product. For any Russian product of this type the question-



naire can be used as is, for beers that are produced in other countries it can act as a real case practical example. The instrument can be modified – the Russian laws can be replaced with similar regulations of the European Union or any other country that has a regulation for food production, industrial safety, etc. Another possibility for a modification of the questionnaire is to implement it for some other processed food product that is made in Russia according to the national laws. In the latter case only some minor parts has to be changed: section three that contains the description of production technique and, possibly, some Sanitary Regulations and Norms that are unique for many foods and some packaging requirements if the product is not liquid.

The data obtained by the questionnaire show that the most spheres of Baltika's beer production already meet the requirements of the standard. And this result seems logical in the context of the studied case: the company complies with all Russian laws and regulations and operates legally in all its spheres. It has integrated management systems that cover all aspects of the product and production's cycles and operates legally that is regularly verified by the authorities. All of the measures utilized by Baltika dramatically decrease a possibility of a critical flaw. Nevertheless some flaws were found during the manual assessment of questionnaire answers.

The first issue that was identified is the publicity of the environmental policy of the company. In general, the company aims at being transparent in its environmental approach towards production of environmental impacts. It has its own environmental policy and strategic sustainability goals. But, unfortunately, only the latter are public. Environmental policy of the enterprise is available to the employees only. This issue seems to be easy to solve: the internal plan should be added to the company's website in addition to the strategic goals of the company. This action will provide a full compliance with the standard (STO-56171713-004-2017) in this aspect.

The second identified issue is related to the packaging. The value reported through the questionnaire in this section does not match the criteria's requirement. According to the standard 100% of cardboard used in production and transportation should be a recycled material or a material produced according to

the sustainability principles. The reported data say about 70% only. Taking this into account it is suggested to the company to pay attention to this sphere and to try to implement some measures. The amount of the recycled cardboard can be simply raised to 100% through the supply management improvement or, alternatively, if this is not possible, non-recycled cardboard can be replaced with PEFC (Programme for the Endorsement of Forest Certification) or Forest Stewardship Council (FSC) certificated material that ensures higher level of sustainability as it is required for the ecolabelling certification. The FSC and the PEFC are international certification systems that operate similarly to ecolabelling systems but in the sphere of forest management. FSC sets ten principles of responsible forest management for a manager or owner to follow (FSC 2012), while PEFC also focuses on the processing of timber (PEFC n.d.). This results in a greater environmental efficiency of the overall supply chain than FSC. Any of these two systems is accepted by the “Vitality Leaf” standard (STO-56171713-004-2017).

The extra goal of the work was to initiate a movement towards the creation of one of the first ISO 14024 standards for beer. The result of the work and discussion that was started during its active stage show that there is a high potential in creation of this standard due to the company’s high initial level of compliance to the potential certification. Successful completion of this work will provide a valuable document for all brewing companies interested in their environmental efficiency improvement. Even if these companies will not certify their products according to this Type I ecolabelling requirements they will receive a possibility for sustainability self-declaration claim or first party assessment.

According to FIBL (2011) the impacts on the environment related to the production and processing of food, feed and drinks make up about 20 – 30 % of the total environmental impact of all the goods consumed in the European Union. If the eutrophication process (the process that means the accumulation of nutrients in water that causes a reduction of oxygen availability) is counted these industrial activities account up to 58 % of the total impacts. The experts of FIBL believe that ecolabels that could be used by the most of 18 million relatively small producers of food, feed and drinks could be a significant improvement of the overall environmental efficiency of those enterprises and the European in-

dustry in general. The development of the ecolabels for food that is now happening in Russia would greatly help in this process as the existent standards could be modified for the European enterprises, there would be no need to invest a lot in the creation of the standards from scratch. And this suggestion does not seem unrealistic as the Russian authorities in the sphere of standardization actively cooperate with the International Organization for Standardization. The ISO 14024 standard for beer would be one step towards the implementation of ecolabels on the European scale and thus greater environmental efficiency on the continent.

## REFERENCES

Baltika Breweries. N.d. Our History. Read on 24.05.2019.  
<https://corporate.baltika.ru/about-us/company/history/>

Baltika Breweries. N.d. Together Towards Zero. Read on 24.05.2019  
<https://corporate.baltika.ru/sustainability/sustainability-programs/>

Bellona. 2016. Ecolabeling in Russia: on guard for environmental standards.  
Read on 24.05.2019.  
<https://bellona.ru/2016/10/04/eco-labeling/>

BS OHSAS 18001. 2007. Occupational Health and Safety Management (OHS).  
London: British Standards Institution.

Ecological Union. N.d. Activities. Read on 24.05.2019.  
<http://ecounion.ru/en/about/activities/>

Ecological Union. N.d. Criteria directory. Read on 24.05.2019.  
<http://ecounion.ru/en/vitality-leaf/стандарты/criteria-directory/>

Ecological Union. N.d. "Vitality Leaf" Program. Read on 24.05.2019.  
<http://ecounion.ru/en/vitality-leaf/о-программе/vitality-leaf-program/>

European Commission. N.d. The EU Ecolabel Product Catalog. Read on  
24.05.2019.  
<http://ec.europa.eu/ecat/>

European Commission. 2011. Opinion of the European Union Ecolabelling  
Board: On the Development of EU Ecolabel for Food and Feed Products. Read  
on 24.05.2019.  
[http://ec.europa.eu/environment/ecolabel/documents/EUEB\\_position\\_on\\_food\\_f  
inal.pdf](http://ec.europa.eu/environment/ecolabel/documents/EUEB_position_on_food_final.pdf)

Federal Law of the Russian Federation "On Environmental Protection"  
10.01.2002/7-FZ

Federal Law of the Russian Federation "Water Code of the Russian Federation"  
03.06.2006/74-FZ

Federal Law of the Russian Federation "On Production and Consumption  
Waste" 24.06.1998/89-FZ

Federal Law of the Russian Federation "On Atmospheric Air Protection"  
04.05.1999/96-FZ

Federal Law of the Russian Federation "On Licensing of Certain Types of Activi-  
ty" 04.05.2011/99-FZ

Federal Law of the Russian Federation "On Industrial Safety of Hazardous Production Facilities" 21.07.1997/116-FZ

Federal Law of the Russian Federation "On State Regulation of Manufacture and Turnover of Ethanol, Alcoholic and Alcohol-Containing Products and on Limitation of Alcohol Consumption" 22.11.1995/171-FZ

Federal Law of the Russian Federation "On Amendments to the Federal Law "On Environmental Protection" and certain legislative acts of the Russian Federation" 21.07.2014/219-FZ

Federal Law of the Russian Federation "On Water Supply and Disposal" 07.12.2011/416-FZ

Federal Law of the Russian Federation "On Special Assessment of Working Conditions" 28.12.2013/426-FZ

Federal Law of the Russian Federation "On Subsoil" 21.02.1992/2395-1

Federal Tax Service of the Russian Federation. 2019. United State Register of Legal Entities Certificate "Baltika Breweries". Printed on 26.05.2019.

FIBL. 2011. Should the EU ecolabel be extended to the food sector? Read on 24.05.2019.

<https://www.fibl.org/en/service-en/news-archive/news/article/should-the-eu-ecolabel-be-extended-to-the-food-sector.html>

Forest Stewardship Council. 2012. Principles and criteria. Read on 24.05.2019.

<https://ru.fsc.org/ru-ru/cert/principy>

FSSC 22000. 2017. Food Safety System Certification. Gorinchem: Foundation FSSC 22000.

German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. N.d. Our Label for the Environment. Read on 24.05.2019.

<https://www.blauer-engel.de/en/our-label-environment>

German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. N.d. Products. Read on 24.05.2019.

<https://www.blauer-engel.de/en/products>

Global Ecolabelling Network. N.d. What is GEN? Read on 24.05.2019.

<https://globalecolabelling.net/about/gen-the-global-ecolabelling-network/>

Global Ecolabelling Network. N.d. Members map. Read on 24.05.2019.

<https://globalecolabelling.net/gen-members/environmental-certification-members-map/>

Global Ecolabelling Network. 2004. Introduction to Ecolabelling. Read on 24.05.2019.

<https://globalecolabelling.net/assets/Uploads/intro-to-ecolabelling.pdf>

GOST 31711-2012. 2012. Beer. General Specifications. Moscow: Rosstandart.

GOST 12712-2013. 2013. Vodkas and Special Vodkas. General specifications. Moscow: Rosstandart.

GOST 31340-2013. 2013. Labeling of chemicals. General requirements. Moscow: Rosstandart.

Hygienic Norms “Maximum permissible concentration (MPC) of pollutants in the ambient air in urban and rural settlements” 22.12.2017/HN 2.1.6.3492-17

International Federation of Organic Agriculture Movements. N.d. Directory of Affiliates – Map. Read on 24.05.2019.

<https://directory.ifoam.bio/affiliates/map>

ISO 9001:2015. 2015. Quality Management Systems – Requirements. Geneva: International Organization for Standardization.

ISO 14001:2015. 2015. Environmental Management Systems – Requirements with Guidance for Use. Geneva: International Organization for Standardization.

ISO 14020:2000. 2000. Environmental labels and declarations – General principles. Geneva: International Organization for Standardization.

ISO 14024:2018. 2018. Environmental Labels and Declarations – Type I Environmental Labelling – Principles and Procedures. Geneva: International Organization for Standardization.

ISO 50001:2018. 2018. Energy Management Systems – Requirements with Guidance for Use. Geneva: International Organization for Standardization.

Kommersant. 2016. The quality of goods - in the approaches. When certification works on informed consumer choice. Read on 24.05.2019.

<https://www.kommersant.ru/doc/3131493>

Nordic Ecolabelling Board. N.d. The Official Ecolabel of the Nordic Countries. Read on 24.05.2019.

<http://www.nordic-ecolabel.org/the-nordic-swan-ecolabel/>

Nordic Ecolabelling Board. N.d. Product Groups. Read on 24.05.2019.

<http://www.nordic-ecolabel.org/product-groups/>

Oakdene Hollins. 2011. EU Ecolabel for Food and Feed Products – Feasibility Study. Read on 24.05.2019.

[http://ec.europa.eu/environment/ecolabel/about\\_ecolabel/pdf/Ecolabel%20for%20food%20final%20report.pdf](http://ec.europa.eu/environment/ecolabel/about_ecolabel/pdf/Ecolabel%20for%20food%20final%20report.pdf)

Programme for the Endorsement of Forest Certification. N.d. Standards and Guides. Read on 24.05.2019.

<https://www.pefc.org/standards-implementation/standards-and-guides>

Regulation 834/2007/EC of the Council of the European Union on Organic Production and Labelling of Organic Products. Official Journal of the European Union 28.06.2007. Read on 24.05.2019.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32007R0834>

Regulation 66/2010/EC of the European Parliament and of the Council on the EU Ecolabel. Official Journal of the European Union 25.11.2009. Read on 24.05.2019.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32010R0066>

Rospotrebnadzor. 2019. Register of State Registration Certificates. Read on 24.05.2019.

[http://fp.crc.ru/evrazes/?oper=s&type=max&text\\_prodnm=&text\\_ff\\_firm=&text\\_firmget=&text\\_firmmade=&text\\_usearea=&text\\_gighark=&text\\_n\\_state=&text\\_n\\_org=&text\\_n\\_otdel=&text\\_n\\_okp=&text\\_n\\_type=%C5&text\\_n\\_currnumb=&text\\_n\\_char=&text\\_n\\_year=&text\\_serialnumb](http://fp.crc.ru/evrazes/?oper=s&type=max&text_prodnm=&text_ff_firm=&text_firmget=&text_firmmade=&text_usearea=&text_gighark=&text_n_state=&text_n_org=&text_n_otdel=&text_n_okp=&text_n_type=%C5&text_n_currnumb=&text_n_char=&text_n_year=&text_serialnumb)

Rosprirodnadzor. 2018. Information about the issued permits for emission of harmful (polluting) substances into the atmospheric air. Read on 24.05.2019.

[http://rpn.gov.ru/sites/default/files/od-human-read/razresheniya\\_na\\_vybrosy30.07.2018\\_1.xlsx](http://rpn.gov.ru/sites/default/files/od-human-read/razresheniya_na_vybrosy30.07.2018_1.xlsx)

Rosprirodnadzor. 2018. State register of objects that produce a negative impact on the environment. Read on 24.05.2019.

<http://rpn.gov.ru/opendata/7703381225-ptouonvos>

Rosprirodnadzor. 2018. Register of licenses for the collection, transportation, processing, recycling, neutralization, disposal of waste of I-IV hazard classes. Read on 24.05.2019.

[http://rpn.gov.ru/sites/default/files/od-human-read/licenzii\\_1-4\\_0.xlsx](http://rpn.gov.ru/sites/default/files/od-human-read/licenzii_1-4_0.xlsx)

Rosstandart. 2013. Register Of Voluntary Certified Systems. Certificate No. ROSS RU.11082.04CHG01. Read on 24.05.2019.

[https://www.gost.ru/portal/gost/home/activity/compliance/VoluntaryAcknowledgement/reestr?portal:componentId=11f30a16-f554-4d49-a27a-e277ebf53b2f&portal:isSecure=false&portal:portletMode=view&navigationalState=JBPNS\\_rO0ABXdHAAZhY3Rpb24AAAABABBjb25jcmV0ZURvY3VtZW50AARmcm9tAAAAAQACMjAABmRvY19pZAAAAAEABDIyODEAB19fRU9GX18\\*](https://www.gost.ru/portal/gost/home/activity/compliance/VoluntaryAcknowledgement/reestr?portal:componentId=11f30a16-f554-4d49-a27a-e277ebf53b2f&portal:isSecure=false&portal:portletMode=view&navigationalState=JBPNS_rO0ABXdHAAZhY3Rpb24AAAABABBjb25jcmV0ZURvY3VtZW50AARmcm9tAAAAAQACMjAABmRvY19pZAAAAAEABDIyODEAB19fRU9GX18*)

Russian Federation Ministry of Agriculture. 2019. Read on 24.05.2019.

<http://opendata.mcx.ru/opendata/7708075454-semenovodcheskiekhozyaystva>

Russian Federation Ministry of Labor. 2019. Unified Russian Information System for Labor Protection. Verification of the information on the results of a special assessment of working conditions. Read on 26.05.2019.

<http://akot.rosmintrud.ru/sout/Statistics/varorganization?Inn=7802849641&Ogrn=&Captcha=4986>

Sanitary Regulations and Norms "Sanitary protection zones and sanitary classification of enterprises, structures and other objects" 25.09.2007/SanRN 2.2.1/2.1.1.1200-03

STO-56171713-018-2017. 2017. Juice products. Environmental Safety Requirements and Evaluation Methods. Saint Petersburg: Ecological Union.

STO 56171713-004-2017. 2017. Liqueur-vodka Products and Brandies. Environmental Safety Requirements and Evaluation Methods. Saint Petersburg: Ecological Union.



## APPENDICES

Appendix 1. Questionnaire section 1: General requirements 1 (4)

### ***Requirements for the general description of production***

1. Please provide a general description of the products.
2. Please provide a general description of the production process.
3. What is the composition of products, its components?

### ***Legal compliance requirements***

4. Does the enterprise's activity comply with the Russian legislation in terms of requirements for the production and circulation of alcohol and alcohol-containing products?
5. Does the enterprise's activity comply with Russian legislation in the field of environmental protection, fire safety, sanitary safety, industrial safety and labor protection?
6. Are the company's objects that have a negative impact on the environment registered in the federal / regional state register?

### ***Requirements for correction of violations***

7. Have all identified violations (if they are present) been eliminated during the established period during inspections by state supervisory authorities in compliance with the law, have the recommendations of the inspecting bodies been implemented? / Have corrective action plans been drawn up with deadlines and those responsible?

### ***Requirements for environmental protection. Emissions to the air***

8. Does the enterprise exceed the established standards for maximum permissible emissions (MPE) of harmful (polluting) substances into the atmosphere?
9. Does the enterprise exceed the maximum permissible concentration (MPC) of pollutants and the maximum permissible levels (MPL) of the physical impact at the borders of the sanitary protection zones (SPZ)?

(continues)

Appendix 1. Questionnaire section 1: General requirements 2 (4)

***Requirements for environmental protection. Water supply and sanitation.***

***Discharge to water bodies***

10. Is the water supply provided legally?
11. In case of water withdrawal from water bodies / subsoil, are the necessary licenses issued?
12. Does the enterprise exceed the standards for permissible discharges of harmful (polluting) substances into water bodies? In case of transfer of sewage to the centralized water supply system, does the company comply with the quality standards of the transferred sewage set by the contract for water disposal?

***Requirements for environmental protection. Production and consumption waste***

13. Are waste generation standards and disposal limits met?
14. Are all wastes that are not used in the enterprise transferred for further handling?
15. Is the accumulation of waste on the territory of the enterprise in accordance with established legislation?
16. Does the company handle the waste on its own? If so, does the company have a license for the relevant type of activity? If not, do legal entities that carry out further disposal and disposal of waste for the enterprise have a license for the relevant type of activity?

***Requirements for environmental protection. Employee qualifications***

17. Is training organized for decision-makers in the field of industrial and environmental safety, as well as for persons allowed to handle hazardous waste?

***Requirements for environmental protection. Payment for negative environmental impact***

18. Is the negative environmental impact tax calculated correctly and made on time?

(continues)

Appendix 1. Questionnaire section 1: General requirements 3 (4)

***Labor protection requirement***

19. Has a special assessment of working conditions at workplaces been carried out in accordance with Federal Law No. 426?

20. Have any harmful / dangerous factors been identified at the workplace? If so, are the measures to improve working conditions and labor safety provided? There must be no workplaces with a working conditions class for physical and chemical impact factors above 3.2. The enterprise must not exceed the maximum permissible concentrations (MPC) at the workplaces.

***Industrial and fire safety requirements***

21. Are hazardous production facilities located within the enterprise registered?

22. Does the enterprise have a license to operate explosive and chemically hazardous production facilities (if such facilities are presented)?

***Sanitary and epidemiological safety requirement***

23. Does the enterprise have and also is implementing a sanitary program for cleaning, washing and disinfecting equipment and premises?

24. Have the cleaning and disinfection schedules, determining the means used, the place of use and the frequency of treatment, been developed and maintained at the enterprise?

25. Is disinsection and deratization of the premises performed?

***Requirements for ensuring consistency in product quality and safety***

26. Is the quality and safety of the finished product generally consistent?

27. Has the enterprise implemented the principles of Hazard Analysis and Critical Control Points (HACCP)? In particular, analysis and assessment of risks, identification of critical control points, establishment of critical limits, development of a monitoring system, development of corrective actions, documentation of all stages and procedures.

28. Does the enterprise have a quality management system (QMS) or its elements such as: quality policy and objectives, a procedure for handling customer complaints and managing nonconforming products, quality control and safety of the final product? (continues)

Appendix 1. Questionnaire section 1: General requirements 4 (4)

***Environmental management system requirements***

29. Is the environmental management system (EMS) or its individual elements, in particular, environmental policy, environmental protection plan, internal audits implemented and functioning effectively at the enterprise?

30. Is the environmental policy formulated at the enterprise? Is it approved by the top management of the company? Is it available to employees and the public?

31. Does the company have a plan of measures to reduce the industrial impact of production on the environment? Is the staff responsible for implementing such activities defined and checking their results?

Appendix 2. Questionnaire section 2: Raw material requirements

***Requirements for quality control of raw materials***

- 32. Does the raw material used for production meet the requirements established by the legislation of the Russian Federation?
- 33. Does the enterprise have a regulation (or other document) determining the requirements for quality and safety of raw materials, as well as suppliers?
- 34. Is quality control of produced / purchased raw materials carried out?
- 35. Is the water used to prepare the final product exposed to any chemical reagents?

***Plant raw materials requirement***

- 36. Can the chain of plant raw materials suppliers be traced down?
- 37. Are all sources of plant materials legal and known?
- 38. Are any plants or plant parts from the Red Data Book of the Russian Federation used in production?

### Appendix 3. Questionnaire section 4: Production requirements

#### ***Resource consumption requirements***

41. Are regular measurements of water consumption, energy, resources and waste generation being conducted? Are they documented properly? (This information must be passed annually to the certification body.)

#### ***Requirements for waste management at work***

42. Does the enterprise develop and implement measures to reduce waste generation, their selective collection, reduce the proportion of industrial waste disposed at landfills, and also to return reject products as raw materials to the production cycle, etc.?

43. Does the company transfer more than 50% of industrial waste for disposal at landfills?

44. Does the enterprise send waste cullet for burial?

45. Does the enterprise dispose organic waste from its production activities?

#### ***Requirement for detergents and disinfectants***

46. Does the enterprise have documentation on all detergents and disinfectants used in accordance with the requirements of the legislation of the Russian Federation?

47. Are all detergents and disinfectants used in the production area and for processing equipment allowed for use in the food industry?

#### ***Requirements for water consumption reduction***

48. Does the enterprise demonstrate annual reduction of water consumption per unit of production or maintain water consumption at a stable level?

If not, and the last year there was a significant increase in water consumption (more than 15% of the year before the last), can the enterprise provide an appropriate justification for this and develop measures to control and reduce water consumption?

#### Appendix 4. Questionnaire section 5: Packaging requirements

##### ***Requirements for recyclability***

49. Do all packaging materials used in the transportation and sale of products have a possibility of recycling in the territory of the Russian Federation?

50. Does the package contain a coating or an impregnation that impedes the process of its recycling?

51. Is the bottle decorated by any means / elements other than those that are applied to the label / film / foil, which, in turn, can be separated from the glass?

52. Does the bottle have a dispenser?

53. Do parts of closures remain on the neck of the bottle after opening? Are caps removed completely?

##### ***Retail package requirements***

54. Is the bottle used as a retail product packaging made from polymeric materials?

55. Is the bottle made of green, brown, blue or colorless glass? If the glass that makes up the bottle has a different color, is there an evidence of a possibility of transferring consumer waste of this type to glass recycling?

56. Does the bottle have a volume that meets the legal requirements for alcohol products of this type?

##### ***Requirements for transport packaging***

57. Is a packaging made of polyvinyl chloride, polyvinyl dichloride or polystyrene used for transporting or storing products?

58. Is the cardboard used by the company made from recycled materials?

##### ***Requirements for minimizing the amount of packaging***

59. Is individual retail product packaging single-layer? Is any extra packaging such as boxes, tubes, etc. used?

60. Is the requirement that the production of souvenir / promotional products with use of additional cardboard or paper packaging does not exceed 5% of the total volume of manufactured products? Does this cardboard / paper packaging consist of 100% recycled materials or produced responsibly?

Appendix 5. Questionnaire sections 3, 6 brief overviews 1 (2)

### **SECTION 3: FINAL PRODUCT REQUIREMENTS**

#### ***Requirement to the quality and safety of the final product***

39. Do the characteristics of the finished product comply with the current requirements of the legislation of the Russian Federation and the Customs Union for this group of products?

#### ***Requirements for the maintenance of persistent organic, toxic and priority pollutants identified by international organizations for the protection of the environment and human health***

40. Does the final product contain persistent organic and hazardous toxic pollutants, as well as priority pollutants of this type of product in quantities that exceed the norms?

(continues)



Appendix 5. Questionnaire sections 3, 6 brief overviews 2 (2)

## **SECTION 6: REQUIREMENTS FOR INFORMING OF EMPLOYEES AND CONSUMERS ABOUT THE USE OF THE “VITALITY LEAF” ECO-LABEL**

This part contains the rules for an enterprise that has already passed the certification procedure for compliance with the “Vitality Leaf” labeling standard. In the context of our work, this part is irrelevant.

The part includes items:

- Requirements for environmental labeling of products
- Information requirements for the consumer
- Information requirements for employees
- Requirements for organizing certification procedures