Empirical Study on the Participation of the Bulgarian Companies in the Green Economy

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Abstract: The article is dedicated to the results from an empirical study among the Bulgarian companies for their participation in the green economy activities. It has been carried out within the framework of a scientific research project called "Global challenges in the environment protection and changes in the international business ". The paper presents the different aspects of the involvement of Bulgarian enterprises into the modern economic trends, resulting from the global efforts to protect the nature and to save the decreasing amounts of natural resources. The main purpose of the study was to find out how the Bulgarian companies take part in these global processes, what kind of business practices they apply and what future opportunities there are for them in the sustainable development context.

Key words: international business, green economy, environment, business operations.

Резюме: Статията представя резултатите от емпирично изследване сред българските фирми относно тяхното участие в зелената икономика. Това проучване е направено в рамките на научен изследователски проект „Глобалните предизвикателства в опазването на околната среда и промените в международния бизнес“. Материалът разглежда отделни аспекти от участието на българските фирми в съвременните икономически тенденции, възникнали в резултат от глобалните усилия за опазване на природата и за съхраняване на намаляващите природни ресурси. Основната цел на проучването е да открие как българските компании участват в тези глобални процеси, какви бизнес практики прилагат и какви бъдещи възможности се откриват пред тях в контекста на устойчивото развитие.
I. Introduction

In the modern world we are witnesses, as well as direct participants in constantly developing and changing economic processes, in forms of business relations and business activities unprecedented so far in scale and diversity. This is mostly due to the intensive globalization processes all over the world (Boeva & Vasileva, 2009).

These processes are caused mainly by the fast development of technologies and the desire to achieve rapid economic growth and profit accumulation (Vasileva, 2010-a, 2010-b). This pursuit, however, entails some negative results such as dwindling reserves of natural resources used as raw materials in manufacturing processes; climate changes, leading to various natural disasters; disappearing biodiversity; reducing amounts of potable water. The above-mentioned negative influences of the human activity over the nature are just a few focal points but there are a lot of other similar problematic issues. In order to prevent the further destruction of nature on international level a lot of different measures have been developed and implemented. These efforts during the years have resulted in the creation of a new development concept, namely, sustainable development.

Sustainable development is the most discussed issue in the beginning of the twenty-first century. It has led also to the emergence of a new sector in the economic life – the green economy. “Everyone is talking green these days” (Slaper & Krause, 2009).

These modern developments inevitably result in different changes in the various economic sectors, especially in the field of international business. They, however, have not been studied and summarized in detail by the literature yet. There are numerous definitions and ideas about what green economy and sustainable develop-
ment are. There are also different suggestions how to solve the problem of limited resources and nature protection. Nevertheless, the studies dedicated to the actual changes in the economic life resulting from these new developments on a national and international level are very few. In addition, there is no specific research on the changes that occur particularly in the Bulgarian economic and business environment in the context of the green economy issues. All these considerations provoked the development and implementation of a research project called “Global challenges in the environment protection and changes in the international business”. The project is focused mainly on the changes that occur in the forms of international business due to the global environment protection measures. During the project implementation, as a supplementary aspect, some changes in other sectors of the economic life have been identified.

The project has several aims:

- to summarize the theoretical views in the field of green economy and its impact on the international business;
- to examine the changes in the supply chain and in the internationalization forms under the influence of the joint efforts of the countries all over the world to protect the environment;
- to summarize the changes that appear in the forms of international business;
- to find out what the participation of the Bulgarian companies in the green economy is on national and international level.

The main research methods applied in the project are sustainable development and green economy literature review, review and analysis of international research in the field and highlights of the main changes that can be noticed in the international business practice, analysis of the environmental policies, particularly in the field of waste management and climate change mitigation and how they influence the international business operations. The main research results from the project are related to summarizing the theoretical views in the field of green economy and its impact on the international business; examining the changes in the supply chain and in the internationalization forms under the influence of the joint efforts of the countries all over the world to protect the environment; summarizing the changes that appear in the forms of international business; finding out what the participation of the Bulgarian companies in the green economy is on national and international level.

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ed to summarizing the changes identified in the international business forms due to the measures taken to protect the environment. One component of the scientific project was to find out how the Bulgarian business takes part in these processes and how it incorporates in this international trend.

The present article is devoted particularly to the results of the survey among the Bulgarian companies and what they do in the green economy context.

II. Main characteristics of the green economy

In our everyday life we are constantly surrounded by issues related to sustainable development and environment protection. In the course of the green talking, however, it remains unclear what “green” is. In order to be able to find the changes in the international business and to find out what the Bulgarian companies do in the field, we first have to highlight what actually green economy is.

One of the most frequently cited green economy definitions is the one of the United Nations Environmental Programme (UNDP), stating that this is “an economy that results in improved human well-being and social equity by significantly reducing environmental risks and ecological deficits” (UNEP, 2011). The green economy is a low-carbon economy, in which resources are used efficiently and conditions for social inclusion have been created. In the green economy the income and employment growth is driven by public and private investments that reduce carbon emissions and pollution, as well as improve energy and resource efficiency.

Similar definitions are given also by other international organizations. OECD defines green growth as the one that “stimulates economic growth and development while the natural assets continue to provide the resources and environmental services on which our well-being relies” (OECD, 2011). According to the World Bank the green growth is an economic growth that is environmentally sustainable. Green economy development complies with the sustain-
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It is also a way to strengthen its economic and environmental pillars, without neglecting the social aspects (The World Bank, 2012).

In addition, some of the EU documents recognize also the need to consider the use of the term “blue economy”, which extends the green economy principles by including also the conservation and sustainable use of marine resources (Council of the European Union, 2012).

Bolivian president Evo Morales believes that the green economy is “a new form of colonialism” while the UN Secretary-General, Ban Ki-moon in 2011 stated that “the green economy is not a luxury anymore, but a win-win policy for everybody and its time has already come”.

There is no single and unambiguous definition for the green economy. All definitions presented above, however, share the view that the green economy is a modern phenomenon, a new sphere in the contemporary economic life not only in a separate country, but on an international level (Stiglitz, 2006). It seeks different ways to achieve growth and development in a sustainable way - in a way that our nature is preserved for the future generations (Blair & Hitchcock, 2001). Several key features of the green economy can be derived from all definitions, namely:

- It is aimed at restricting the use of the traditional production resources;
- It seeks to implement alternative production sources such as energy from the sun, wind and water;
- It is characterized by the production of goods and services from “clean” energy that does not emit any harmful substances and does not pollute the environment.

The governing authorities on national and international level put a lot of efforts into making this economy attractive to the society and the business. Through different stimulating or restricting policies, they introduce environmental protection measures in order to “force” the economic entities to be more environmentally-friendly. These measures (such as different envi-
Environmental legal requirements, financial stimulus, or international agreements of better economic conditions where the environmental footprint is reduced etc., inevitably result in changes in the everyday business practices of the companies. For example, the efforts and initiatives to reduce the waste generation on international level have led to changes in the business operations – the traditional operations such as import and export got a new tradable commodity, namely, the waste.

According to an UNIDO report (UNIDO, 2010) most of the waste paper in Europe and USA is exported to China where it is treated at lower costs. In the developed countries a whole new economic sector has appeared, dealing only with the waste management issues. The companies working in this sector are doing different operations only with waste and have created a new supply chain - the waste management chain (Zhivkova, 2013-a).

Another field of the green economy where companies find opportunities is related to reducing the greenhouse gas emissions. The Protocol from Kyoto (which expired in 2012) provided the business with the opportunity to trade its emissions or to implement different projects for emission reduction, thus getting financial benefit from its waste gas products. Whether or not successful, these stimuli allowed the companies to go on the international market by offering their emissions, or by implementing different emission reduction projects. In this context, some companies which had experience only on their local markets, got the chance to start working in international environment by participating in the emission trading schemes or in joint implementation projects (Zhivkova, 2013-b). It should be noted that despite the opportunities provided by the Kyoto protocol in particular and the different stimulating policies in a more general aspect, the majority of the EU companies are not willing to participate in the field of the green economy related to the emission trading activities (Pinkse & Kolk, 2007). They do it because they are forced in some way (legal or other) to take measures to reduce their emissions and be part of these

пример различни екологични нормативни изисквания, или финансови стимули, или различни международни споразумения за по-добри икономически условия при намаляване на екологичния отпечатък и др.) неизбежно водят до промени в ежедневните бизнес практики на фирмите. Така например международните усилия и инициативи за намаляване на количеството генерирани отпадъци променят някои от бизнес операциите – традиционни сделки като вноса и износа вече имат нова търгуема стока, а именно отпадъците.

Според доклад от 2010 г на Индустриалната организация за развитие на ООН (UNIDO, 2010) по-голямата част от отпадъчната хартия в Европа и САЩ се изнася в Китай където се преработва при по-ниски разходи. В развитите страни дори се появява изцяло нов икономически сектор, който се занимава само с управление на отпадъци. Фирмите, работещи в този сектор, извършват различни операции само с отпадъци като по този начин се създава „верига на отпадъците” (Живкова, 2013-a).

Друго направление на зелената икономика, в което фирмите откриват различни възможности, е намаляването на емисиите на парникови газове. Протоколът от Киото (чиято валидност изтече през 2012 г) дава възможност на бизнеса да търгува с генерираните от него емисии или да изпълнява различни проекти за намаляване на емисиите като по този начин получава финансова полза от отпадъците си газове. Тези стимули, независимо колко успешни са били, предоставят възможност на фирмите да излязат на международен пазар като предлагат своите емисии или като участват в различни проекти за намаляването им. По този начин някои фирми, които са работили само на местен пазар, чрез участнието си в схемите за търговия с емисии или в проекти по механизъм от Протокола от Киото „съвместно изпълнение“, получават възможност да започнат да работят в международна среда (Живкова, 2013-b). Тук трябва да се отбележи, че независимо от възможностите, които се предоставят от Протокола от Киото в частност и от различните стимулиращи политики в по-общ план, по-голямата част от европейските фирми не са склонни да участват в сферата на зелената икономика, отнася-
schemes. Of course there are a lot of positive examples where the business itself is the active part and takes actions to lower its environmental footprint. Such examples are companies like DuPond (Drucker, 2008) and FORD (2011), which introduced on their own initiative technologies for improvement of their environmental performance.

The next part is dedicated to the Bulgarian companies and their participation in the green economy.

III. Empirical study on the participation of Bulgarian companies in the green economy

One of the main tasks of the project “Global challenges in the environment protection and changes in the international business” was a specialized empirical study to be carried out, aiming to find out the extent to which Bulgarian companies participate in the green economy.

1. Methods used and specific features of the empirical study

As part of the project and in order to explore the participation of the Bulgarian companies in the green economy, a pilot study using a random sample has been made. Companies are the main units of study.

The number of units and the way the sample has been determined were dependent on the questionnaire and the number of questions and possible answers included. Most of the questions allow for more than one correct answer. This is a prerequisite for minimizing the number of units, included in the survey.

Due to the limited financial and human resources, a cluster sample was made. It was determined that the scores to be analyzed will be presented as relative proportions. The relative size of the maximum stochastic error for the different relative proportions has been determined to be between 5% and 22%.

According to the experts’ opinion, the best approach for searching solution to the different problems, that the survey had to address, is to apply a two-step cluster...
sample (Kish, 1995; Groves et al., 2004) by determining that the average number of cells in the table will be in the range of 12-15. This means that the number of observed companies should be at least 53.

At the first stage, 200 companies were selected, and at the second stage, 66 companies remained. Questionnaires were sent electronically and 54 of them were returned, which covers the requirements, needed to apply the method.

The questionnaire is relatively short in order to be easier for the respondents to fill it in (Converse & Presser, 1986). It has 21 questions, 10 of which allow for only one correct answer. The maximum number of answers is 11. This made the data processing more difficult. Another specific characteristic of the questionnaire is that a large number of questions allow the respondents to select more than one correct answer. Therefore the sum of the relative proportions is sometimes more than 100%. It should also be noted that there are a lot of questions that have not been answered by the respondents. The monitored period has been determined to be the three-year period 2008-2010.

The questionnaire was developed taking into consideration the specific Bulgarian business environment. Its main aim was to find out if the companies take part in the green economy in any way and if yes, how they do that. Due to lack of funding, human resources and time, the empirical study was not implemented on markets other than the Bulgarian one.

2. Results from the empirical study

2.1. Structure of the surveyed companies

The companies, which took part in the survey, were established in the period 1993-1998, which means that they have already accumulated experience on the Bulgarian market. In terms of the economic sector they operate, most of the companies (29.4%) are engaged in the sphere of environmental protection, followed by the companies in the food industry and machine building (17.6% respectively). Comparatively lower is the share of the companies

хастична грешка за различните относителни дялове варира между 5% и 22%.

Прецени се, че оптималният вариант за решаването на множеството конкретни проблеми е да се приложи двустепенен гнездови подбор (Kish, 1995; Groves et al., 2004) като се определи, че средният брой клетки в таблицата ще бъде от порядъка 12-15, от което следва, че броят на наблюдаваните фирми трябва да бъде най-малко 53. На първата степен бяха избрани 200, а на втората степен - 66 фирми. По електронен път бяха изпратени анкетни карти като от тях попълнени се върнаха 54 карти, което задоволява изискванията при приложението на методата.

Изготвената анкетна карта е сравнително кратка с цел да не обременява много респондентите (Converse & Presser, 1986). Тя съдържа 21 въпроса, 10 от които дават възможност само за един верен отговор. Максималният брой отговори е 11. Това в известна степен затруднява обработката на първичните данни. Друга особеност на изследването е, че сравнително голям брой въпроси дават възможности анкетираните да посочат всички верни според тях отговори, поради което не винаги сумата от относителните дялове е равна на 100%. Трябва да се отбележи, че в анкетните карти има сравнително голям брой въпроси, на които липсват отговори. Изследваният период обхваща три години - от 2008 до 2010 г.

Въпросникът беше разработен като се взе предвид конкретната българска бизнес среда. Неговата основна цел беше да се установи дали българските фирми участват по какъвто и да било начин в зелената икономика и дали, ако “да” как го правят. Застигането е, че финансите, ресурсите и времето, които се използват за историческата изследвания, не бяха достатъчни.
that provide services.

The study is dominated by the small enterprises, that have between 11 and 50 employees - 42.11%. Large companies with over 250 employees and micro-companies with up to 10 employees represent 21% of the structure each. The middle-sized companies, employing between 51 and 250 employees are considerably small in number (15.8 %). Another key feature of the surveyed companies is the size of their turnover. The questionnaire had four ranges to be selected - up to 1 million BGN, 1 to 5 million BGN, from 5 to 10 million and over 10 million BGN. As expected, the dominant part of the respondents is the small firms, which have a turnover of up to 1 million BGN – 47.4%. 21.05% of the companies are with turnover between 1 and 5 million BGN. The same is the percentage of the large companies with over 250 employees and a turnover of more than 10 million BGN.

2.2. Data analysis

After revealing the structure of the companies participating in the survey, the next stage aimed to determine how they participate in the “green economy”. The question allows selecting each of six possible answers; therefore, the percentage sum exceeds 100% (Fig. 1). The dominant response is “introducing energy efficiency measures” - 68%, followed by the response “production of environmentally-friendly products” - 36.84%. Every fifth company provides services in the field of environmental protection, and every tenth produces bio-products. Most of the companies operate both on national and international market.
Another analytical approach shows that 100% of the companies from the machine-building sector are involved in implementation of energy efficiency measures (Table 1). This type of measures are very typical also for the food industry companies. Firms engaged in the production of environmentally-friendly products mainly work (100%) in the field of environmental protection and 50% - in the services sector (the sum exceeds 100% as the companies were allowed to select two or more correct answers). Logically, companies in the environmental protection sector are focused primarily on the production of environmentally-friendly products. Companies from the service sector are equally engaged in introducing energy efficiency measures, producing environmentally-friendly products, providing services in the field of environment and energy production from renewable energy sources.

In addition, the study focused on the areas of the green economy, where Bulgarian companies invest. The results show that more than 50% of the companies invest in introduction of eco-standards and recycling while 47,4% of them invest in energy efficiency measures. An interesting fact is that the percentage sum of all investment

**Figure 1.** How does your company participate in the green economy

Фиг. 1. В какво се изразява участието на Вашата фирма в зелена икономика

Друг аналитичен подход показва, че 100% от фирмите от сектор машиностроение са включени във въвеждането на мерки за енергийна ефективност (табл. 1). Този тип дейности са много характерни и за фирмите от хранително-вкусовата промишленост. Фирмите, които се занимават с производството на еколо-съобразни продукти работят предимно (100%) в сектора на опазване на околната среда и 50% - в сектора на услугите (сумата надвишава 100%, тъй като са допустими два и повече верни отговора). Логично фирмите от сектора на опазването на околната среда са концентрирани предимно в производството на еколо-съобразни продукти. Фирмите от сектора на услугите пък поравно са заети с въвеждане на мерки за енергийна ефективност, производство на еколо-съобразни продукти, предоставяне на услуги в сферата на околната среда и производство на енергия от възобновяеми енерго-източници.

В допълнение проучването беше насочено към сферите на зелената икономика, в които инвестират българските фирми. Резултатите показват, че над 50% от фирмите инвестират във въвеждането на еко-стандарти и се занимават с рециклиране, 47,4% от тях пък инвестират средства в областта на повишаването на енергийната ефективност. Интересен е фактът, че сумата от относителните
areas is about 230%, which indicates that a significant number of the analyzed companies in the period 2008 – 2010 made investments simultaneously in two or more areas of the “green economy” (Fig. 2).

**Table 1.** Company structure according to the type of participation in the green economy

<table>
<thead>
<tr>
<th>Company sector</th>
<th>Company’s participation in the green economy</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine-building</td>
<td>Introduction of energy efficiency measures 100,0%</td>
<td>33,3%</td>
</tr>
<tr>
<td></td>
<td>Production of environmentally friendly products 0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Services in the field of environmental protection 0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Production of bioproducts 0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Energy production from renewable sources 0%</td>
<td></td>
</tr>
<tr>
<td>Food industry</td>
<td>Introduction of energy efficiency measures 75,0%</td>
<td>25,0%</td>
</tr>
<tr>
<td></td>
<td>Production of environmentally friendly products 0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Services in the field of environmental protection 0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Production of bioproducts 0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Energy production from renewable sources 0%</td>
<td></td>
</tr>
<tr>
<td>Environmental protection</td>
<td>Introduction of energy efficiency measures 0%</td>
<td>33,3%</td>
</tr>
<tr>
<td></td>
<td>Production of environmentally friendly products 100,0%</td>
<td></td>
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<tr>
<td></td>
<td>Services in the field of environmental protection 0%</td>
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<tr>
<td></td>
<td>Production of bioproducts 0%</td>
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<tr>
<td></td>
<td>Energy production from renewable sources 0%</td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td>Introduction of energy efficiency measures 50,0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Production of environmentally friendly products 50,0%</td>
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<td></td>
<td>Services in the field of environmental protection 50,0%</td>
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<td></td>
<td>Production of bioproducts 0%</td>
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<tr>
<td></td>
<td>Energy production from renewable sources 0%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Introduction of energy efficiency measures 80,0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Production of environmentally friendly products 20,0%</td>
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<tr>
<td></td>
<td>Services in the field of environmental protection 20,0%</td>
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<tr>
<td></td>
<td>Production of bioproducts 20,0%</td>
<td></td>
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<tr>
<td></td>
<td>Energy production from renewable sources 0%</td>
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</tbody>
</table>

**Figure 2.** Areas of company investments in the period 2008-2010

Фиг. 2. Сферы на инвестиране на фирмите през периода 2008-2010 г.
Another interesting research issue was the factors that forced the companies to invest in "green economy". The results show that some companies have two or even three major reasons to invest. About half of the respondents (47.37%) were forced to invest because of the legal requirements related to environmental protection. Every third company claims that these are factors associated with the aim to increase the profits, or the desire to reduce business costs and improve the company’s image, or state that the green economy has become part of the company’s marketing strategy (Fig. 3).

When analyzing the combined influence of the sector in which firms operate and the reasons for investing in green economy, it can be seen that the main reasons of the companies in the machine-building sector are limited to reducing the corporate costs and the legislative requirements for environmental protection (Table 2). The percentage sum is higher than 100 as more than one correct answer can be selected. Food industry companies invest in order to improve their image and as part of their marketing strategy. Concerning the companies working in the environmental protection sector the main argument for

На следващо място интерес представляват факторите, които са накарали фирмите да инвестират в "зелена икономика". Резултатите показват, че някои от фирмите имат две или дори три съществени причини, които са предопределили сферата на инвестиране. Около половината (47,37%) от анкетираните са били притиснати към тази инвестиция поради законодателните изисквания, свързани с опазването на околната среда. Всяка трета фирма твърди, че това са фактори, свързани със стремежа към повишаване на печалбата, или стремежът за намаляване на фирмени разходи, или повишаване на фирмения имидж, или че зелената икономика се е превърнала в част от маркетинговата стратегия на фирмата (фиг. 3).

При едновременното анализиране на сектора, в който работят фирмите и мотивите им за инвестиции в зелена икономика се вижда, че основните причини на фирмите от сектор машинностроение се свеждат до стремеж за намаляване на фирмени разходи и наличието на законодателни изисквания за опазване на околната среда (табл. 2). Сумата от процентите надвишава 100, тъй като са допуснати повече от един верни отговора. Фирмите от хранително-вкусовата промишленост инвестират с цел повишаване на имиджа си и като част от маркетинговата им стратегия. По отношение на фирмите от сектора по опазване на околната среда аргументация
investments is to increase the profit and secondly – the legislative requirements for environment protection. The profit improvement was the main investment reason for most of the companies in the environmental protection sector.

Table 2. Company structure according to the reasons for investments in green economy and the industrial sector

<table>
<thead>
<tr>
<th>Company sector</th>
<th>Reasons for investments in green economy</th>
<th>Legal requirements for environment protection</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Profit increase</td>
<td>Decrease of company costs</td>
<td>Improvement of the company image</td>
</tr>
<tr>
<td>Machine-building</td>
<td>33,3%</td>
<td>66,7%</td>
<td>33,3%</td>
</tr>
<tr>
<td>Food industry</td>
<td>25,0%</td>
<td>25,0%</td>
<td>75,0%</td>
</tr>
<tr>
<td>Environmental protection</td>
<td>100,0%</td>
<td>33,3%</td>
<td>33,3%</td>
</tr>
<tr>
<td>Services</td>
<td>50,0%</td>
<td>50,0%</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>20,0%</td>
<td>40,0%</td>
<td>40,0%</td>
</tr>
</tbody>
</table>

The amount of investments in “green economy” is also of interest for the analysis. The questionnaire provides four options: up to 1 million BGN, from 1 to 5 million BGN, from 5 to 10 million BGN and over 10 million BGN. It is interesting that 80% of the companies make the minimum possible investment of less than 1 million BGN (Fig. 4). Investments in the range of 5 to 10 million BGN are missing at all, and every fifteenth company has invested in the “green economy” more than 10 million BGN.

Table 2. Структура на фирмите според причините за инвестиране в зелена икономика и сектора на работа

За инвестиране е основно стремежът към повишаване на печалбите и на второ място - законодателни изисквания за опазване на околната среда. Стремежът за повишаване на печалбите е бил водещ предимно за фирмите от сектора на опазване на околната среда.

Причините за инвестиране в зелена икономика

<table>
<thead>
<tr>
<th>Сектор на работа</th>
<th>Причини за инвестиране в зелена икономика</th>
<th>Законодателни изисквания за опазване на околната среда</th>
<th>Друго</th>
</tr>
</thead>
<tbody>
<tr>
<td>Машиностроене</td>
<td>33,3%</td>
<td>66,7%</td>
<td>33,3%</td>
</tr>
<tr>
<td>Хранително-кусо-ва промишленост</td>
<td>25,0%</td>
<td>25,0%</td>
<td>75,0%</td>
</tr>
<tr>
<td>Опазване на околната среда</td>
<td>100,0%</td>
<td>33,3%</td>
<td>33,3%</td>
</tr>
<tr>
<td>Услуги</td>
<td>50,0%</td>
<td>50,0%</td>
<td>0%</td>
</tr>
<tr>
<td>Друго</td>
<td>20,0%</td>
<td>40,0%</td>
<td>40,0%</td>
</tr>
</tbody>
</table>

Next, the study found out that about two thirds of the companies are fully engaged in the production of eco-products. Another 25% of the companies say that between 60 to 90% of their turnover comes from activities in this area and only 12.5% of the respondents have realized only 5% of their turnover from the “green economy” (Table 3).

Almost half of the companies (55.56%) stated that they have international cooperation in the field of green economy. One in five companies collaborates with foreign partners in the recycling activities. Every sixth company has chosen the form of cooperation in the production of green energy, and every tenth company cooperates with foreign partners in the production of bio-products and the implementation of other specific activities in the field of the green economy (Fig. 5).

<table>
<thead>
<tr>
<th>Proportion of realized products in green economy (в %)</th>
<th>Companies proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Дол на реализирани продукти от „зелена икономика“ (в %)</td>
<td>Дол на фирмите (%)</td>
</tr>
<tr>
<td>5%</td>
<td>12,5</td>
</tr>
<tr>
<td>60%</td>
<td>12,5</td>
</tr>
<tr>
<td>90%</td>
<td>12,5</td>
</tr>
<tr>
<td>100%</td>
<td>62,5</td>
</tr>
<tr>
<td>Total</td>
<td>100,0</td>
</tr>
</tbody>
</table>

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Table 3. Company distribution according to their turnover from green economy activities

Почти половина от анкетираните фирми (55,56%) заявяват, че осъществяват международно сътрудничество в сферата на зелената икономика. Всяка пета фирма си сътрудничи с чуждестранни партньори при рециклирането. Всяка шеста фирма е избрала формата на сътрудничество при производството на зелена енергия, а всяка десета фирма си сътрудничи с чуждестранни партньори при производството на био-продукти или при реализирането на други специфични дейности от областта на “зелената икономика” (фиг. 5).
Empirical Study on the Participation of the Bulgarian Companies in the Green Economy

In the period 2008-2010 the companies used various investment sources for their activities in the green economy. More than 84% of them used their own financing. Every third company used funding from the EU funds. A quarter of the companies took bank loans. Each twentieth company used, as a main or supplementary source, funding from the state institutions (Fig. 6).

Figure 5. Fields of green economy where international cooperation is carried out

Фиг. 5. Сфери на зелена икономика, в които се осъществява международно сътрудничество

Figure 6. Green economy investment sources, 2008-2010

Фиг. 6. Източници на инвестиции в зелена икономика през последните три години
The enterprises also apply different forms of international cooperation (Fig. 7). Despite the large number of possible answers, included in the questionnaire, approximately 45% of respondents use other, not specified, forms of international cooperation. From the options, listed as possible choices, the most common answer (16.67%) is the export of green products/services. Every ninth company cooperates with foreign partners through foreign direct investments or franchise, or the import of green products/services. Every twentieth company implements international engineering.

![Figure 7. Forms of international cooperation](image)

One of the questions in the survey was “Why does your company go to the international market in the field of “green economy”?”. Most common answers were “in order to enter new markets” and “other” - 22.22% respectively (Fig. 8). The answer “getting higher profit” was mentioned by every sixth company as a reason to enter into the green economy international market. One in eighteen companies was motivated to take this decision because of lack of opportunity on the Bulgarian market.

На въпроса “Защо фирмата излиза на международния пазар в сферата на “зелената икономика”?”, най-широко е застъпено становището за стремеж към навлизане на нови пазари” и “друго” - съответно по 22,22% (фиг. 8). Стремеж към по-високи печалби е поводът всяка шеста фирма да излезе на международния пазар в сферата на “зелената икономика”. Всяка осемнадесета фирма е била мотивирана за решението си под ради липсата на възможност за реализация на българския пазар.
Empirical Study on the Participation of the Bulgarian Companies in the Green Economy

It turned out that the Bulgarian companies face a lot of difficulties in the implementation of their green products/services on our national market. Figure 9 shows that the most frequently mentioned reason for the difficulties is “appreciation of the product due to higher production costs” (42%). The next most important reason, according to the respondents, is lack of an adequate legal framework. This reason is shared by more than 26% of them. One in five firms states that there is lack of interest in the customers regarding the “green economy” products/services. Every sixth company faces either “great market competition”, or legislative obstacles.

Figure 8. Reasons why the companies enter international markets in the field of green economy

Българските фирми определено срещат затруднения при реализацията на своите зелени продукти/услуги на националния ни пазар. От фиг. 9 е видно, че най-често посочваната причина за затрудненията е “оскъпяване на продукта поради по-високи производствени разходи” (42%). Следваща по значимост причина според респондентите е ”липса на адекватна нормативна база”, която е споделена от над 26% от тях. Всяка пета фирма е констатирала липсата на интерес към продуктите/услугите на “зелената икономика“ от страна на потребителите. Всяка шеста фирма се сблъсква или с ”голяма конкуренция на пазара“ или с законодателни пречки.

Figure 9. Difficulties for the companies to sale the green products/services on the national market

Фиг. 9. Затруднения на фирмите при реализация на зелените продукти/услуги на националния пазар
Naturally the “green economy” companies experience a number of difficulties related to the provision of their products/services when going out on the international market (Fig. 10). One of the most common reasons for that, mentioned by every sixth company, is the big competition on the foreign markets. Every ninth company mentions three reasons for difficulty in the implementation of “green” products/services: insufficient demand of the products, lack of trained staff and difficulties in finding foreign partners.

Figure 10. Difficulties for the companies to sale the green products/services on the international markets

2.3. Discussion

In the context of the sustainable development, the green economy is the main instrument for its practical implementation. Within all the “green” talking, a lot of opportunities have been created for the companies (both nationally and internationally) to improve their competitiveness through participation in various sectors of the green economy.

Based on the results from the empirical study among Bulgarian companies, it seems that in the Bulgarian conditions the green economy has not yet found its stable place. Bulgarian companies do not see yet the opportunities that it really provides such as reducing company ex-
penses, gaining competitive advantage or enhancing company image. This is proved by the answers the companies gave during the study. A very small percentage of them is active in the green economy because they see/ know its advantages. On the other hand, through the various national and European funds, as well as the numerous legislative requirements, the state strives to make "green" investments and the green economy as a whole attractive for the private business. These efforts cannot be sustainable and cannot achieve the main objective of this economic trend, unless there is a substantial change in the way of thinking (Hoffman, 2007) of both Bulgarian managers and companies’ employees. This would become possible only when the external drivers of the green economy become internal motivators, when the environmental protection becomes an internal necessity and a real benefit not only for the individual companies, but also for the whole society.

IV. Conclusion

Several main conclusions might be drawn from the survey among the Bulgarian companies about their participation in the green economy and the business operations they apply:

• Bulgarian companies take part in the green economy, particularly through introduction of energy efficiency measures, production of environmentally-friendly products, providing services in the field of environment as well as biomass production. The majority of the firms work both on national and international markets;
• investments in green economy are made mainly in the field of introducing eco-standards, recycling and energy efficiency measures;
• Bulgarian companies invest in the green economy for several main reasons: in order to comply with regulation requirements for environmental protection; additional profit; company costs cuts; improvement of company image;
• More than 50% of the studied companies enter cooperation with foreign partners mainly in the field of recycling

ските компании все още не привиждат в нея онези възможности, които тя реално предоставя по отношение например на намаляване на фирмени разходи, придобиване на конкурентно предимство или повишаване на фирмения имидж. Това се потвърждава от отговорите, които фирмите дадоха, по време на проучването. Много малък процент от тях участват в зелената икономика защото виждат/ знайт нейните предимства. От друга страна, чрез различните държавни и европейски фондове за финансиране, както и чрез множеството законосъдебни изисквания, държавата полага големи усилия да направят „зелените" инвестиции и зелената икономика като цяло привлекателна за икономическите субекти. Тези усилия обаче и този вид инвестиции не могат да имат устойчив характер и да доведат до постигане на основната цел на това икономическо направление, а именно по-рационално използване на невъзпроизводимите ресурси и опазване на околната среда, ако не се промени мисленето (Hoffman, 2007) както на българските мениджъри, така и на служителите в компаниите. Това би станало възможно само когато грижата да околната среда се превърне във вътрешна потребност и реална полза не само за отделната фирма, но и за общинското ни като цяло.

IV. Заключение

Като обобщение на представените резултати от проучването на участието на българските фирми в зелената икономика и използваните бизнес операции могат да се направят няколко основни изводи:
• българските фирми участват в зелената икономика, най-вече чрез въвеждане на мерки за енергийна ефективност, производство на екологически качествени продукти, предоставяне на услуги в сферата на опазването на околната среда и производство на биопродукти, като болнинството от фирмите работят както на националния, така и на международен пазар;
• инвестиции в “зелена" икономика се влагат най-вече за въвеждане на еко-стандарти, рециклиране и енергийно-ефективни мерки;
• българските фирми инвестират в зелената икономика поради няколко основни причини: спазване на нормативните изисквания за опазване на околната среда, използване на невъзпроизводимите ресурси и опазване на околната среда.
activities, production of green energy and bio-products;

- The main financing sources used are: own funding; EU funds; bank loans;

- Most common forms of international partnership are: import/export of “green” products and services; foreign direct investments; franchising and international engineering;

- The Bulgarian companies face a number of difficulties on the national market in the field of the green economy: “green” products are considerably more expensive; deficiencies of legal requirements; lack of demand for these types of products;

- The challenges on the international markets are related to strong local competition; weak demand of Bulgarian products abroad; lack of foreign markets expertise and difficulties in finding reliable partners in the country of destination.

The results from the empirical study, carried out among the Bulgarian companies, show that although there are some activities in the green economy sector, they cannot lead to sustainable results. Bulgarian companies are not competitive on the international markets in terms of the green products and services they offer. In addition, the most frequently used forms of international cooperation in this area are imports and exports, franchising and international engineering. None of the modern forms of international business (like foreign direct investments, joint ventures, public-private partnerships, etc.) are applied by the Bulgarian companies in regard to the green economy. This means that the green economy can be seen as kind of a market niche for the Bulgarian business and in the future, with better access to information and more efforts of the stakeholders, more training of the managers and employees, this niche can lead to improvement of the overall economic situation both of our country and our society.
Reference/Литература


