



“Green Business is Smart Business”

GoGreen

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NATIONAL REPORT ON THE PERCEPTION AND IMPLEMENTATION OF GREEN PRACTICES BY SMEs IN THE REPUBLIC OF BULGARIA

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INTRODUCTION

One of the ten principles formulated in EC's Small Business Act implies "enabling SMEs to turn environmental challenges into opportunities". It means that the EU and the Member States should provide to SMEs more information, expertise and financial incentives for full exploitation of the opportunities for new "green" markets and increased energy efficiency. Member States are to provide incentives for eco-efficient businesses and products and put in place conditions for full utilization of Community financial assistance for the support of eco-friendly products and processes in SMEs. All of those incentives are aimed at convincing SMEs to "rethink" their policies and strategies towards environment.

All the necessary ingredients for this "rethinking" to take place are already emplaced. Therefore it is necessary to raise the environmental awareness of entrepreneurs and managers and to encourage them to engage in environmentally responsible practices and operations. This is one of the main objectives of the **GoGreen project** which is a 24 month initiative co-funded by the European Commission, under the Directorate Education and Culture. It is implemented by eleven partners from Greece, Italy, Spain, Romania, Bulgaria and Turkey.

The project focuses on the delivery of a personalized "**Green Training Programme**", aiming to improve the knowledge and the skills of entrepreneurs and professionals related to the effective introduction and management of green business practices.

The present analysis report is part of the project activities and describes the main features and characteristics of local environment in Bulgaria concerning the present situation of SMEs in terms of "environmental efficiency", key environmental issues, legislation, key stakeholders at regional and national level, main initiatives and support mechanisms that

A part of the report focuses on the findings of an analysis of the information awareness of SMEs which was researched through the implementation of an inquiry of 200 Bulgarian SMEs. The survey aims to assess the eco-capability awareness degree of Bulgarian businesses and define the existing knowledge gap in the field of Green entrepreneurship. The findings of the survey will aid the Project partners to develop a SME friendly **GoGreen Training Model** aimed at improving the "green" capacities and knowledge of SMEs.

1. GENERAL SOCIO-ECONOMIC ANALYSIS

Bulgaria is a small open economy located in South-eastern Europe surrounded by five countries (Romania, Greece, Turkey, Serbia and the Former Yugoslav Republic of Macedonia) and the Black Sea. It has an area of 110 910 km². Bulgaria's population at the end of 2009 was 7 563 710, a figure 0.6 % lower than in 2008 but representing the lowest rate of population decrease since 1993, according to National Statistical Institute¹ figures released on March 24 2010. In accordance with the provisions of EC Regulation No. 1059/2003 in Bulgaria there are 6 Planning Regions: 1. North-western planning region; 2. North-central planning region; 3. North-eastern planning region; 4. South-western planning region; 5. South-central planning region; 6. South-eastern planning region.

²Figure 1: Administrative map of Bulgaria



¹ National Statistical Institute - <http://site.nsi.bg/indexen.php>

² Map taken of National Regional Development Strategy of the Republic of Bulgaria for the period 2005-2015

The results of the present report are based mainly on the findings of a survey of micro, small and medium-sized companies operating in the South-western planning region of Bulgaria which includes an area of 20306, 4 km² and is the second largest planning region in Bulgaria.

The South-western planning region is a specific region in terms of both business and technological development. The specificity of this region is determined largely by the fact that the capital city of Sofia, which boasts a large part of the private businesses, is located on the territory of the region. In addition there are the border regions with Greece, FYROM and Serbia. Therefore the SWPR provides the largest contribution to GDP (over 35%). In addition to the rich business life the region hosts the largest number of universities and research institutions. At the same time the region is characterized with high internal economic development contrast. In this aspect there are 2 sub-regions – the district of Sofia and the rest of the region, including the districts of Blagoevgrad, Pernik and Kyustendil. In addition Southern and western boundaries of the Southwest planning region coincide with state borders with the Republic of Greece, Republic of Serbia and FYROM. The region consists of 5 administrative areas - Sofia city, Sofia District, Pernik District, Kyustendil District and Blagoevgrad District, which include a total of 52 municipalities.

With its largest population (2 110 036 people according the Census of 2004) and the most significant economic contribution to the country's GDP the South-western planning region is defined as one of the most important areas for the overall development of the country. Another important factor for the development of the region is its vital cross-border location. The region operates 7 border crossing check-ins - 3 are on the border with Serbia (Oltomantsi, Strezimirovtsi, Kalotina); 3 on the border with FYROM (Zlatarevo, Stanke Lisitchkovo, Gueshevo) and 1 on the border with Greece (Kulata).

The region provides a larger part of the country's capital. The vast business community operating on the territory of the region provides the largest contribution to GDP (over 35%). A larger part of the universities and research institutions such as the Bulgarian Science Academy and the University of National and World Economy are located on the territory of the region. At the same time the region is endowed with the most severe internal contrasts in terms of economic development. In this sense, it has 2 distinct sub-regions - Sofia and the rest of the planning region that includes areas of Sofia and administrative centres of Pernik, Kyustendil and Blagoevgrad.

2. BUSINESS ENVIRONMENT

Bulgaria joined the European Union on January 1st 2007, after seven years of accession period and eighteen years of uneven and difficult transition towards democracy and market economy. As a post-communist country Bulgaria is one of the economies which experienced rapid changes without coherent strategies in the economic and social spheres. After the recovery of the dramatic crisis of 1996-1997, the 1998-2001 period is marked by a speedy privatization and liberalization of the market (the energy sector, the banks and telecommunication). The period of 2001-2005 is marked by a reform agenda covering local government, tax system, legislation, health care, social policy, privatization, education following the start of the accession negotiations of Bulgaria to EU in 2000. The accession process demanded fundamental reforms across all sectors of the social, political and economic life in order to integrate the European standards.

During recent years, the business environment in Bulgaria has considerably improved. Confidence in the implemented policies and in the work of the administration and the legislation increased (the political and legal environment). The trend to reduce the overall tax and social security burden of business continues and the measures to improve the effective functioning of the economic market continue (the economic and competitive environment). Cooperation and partnership between state administration and business are being strengthened.

Parallel to external business improvements, methods for stimulating the companies to implement internal changes are necessary. These methods are orientated towards marketing systems and quality management for increasing the flexibility in sales, achieving conformity to quality, new forms of control and organization, etc.

The number of active businesses in Bulgaria totalled some 110,000 in 2009, of which between 10,000 and 15,000 enterprises employed more than 10 staff and only between 1,000 and 2,500 – more than 50. The dynamics of the number of newly registered companies in Bulgaria amongst which authentic innovative entrepreneurs can be sought show that after a peak of 9,000 in June 2008, it dropped more than threefold, reaching slightly over 3,000 a month after March 2009³.

Micro-enterprises (with 1 to 9 persons employed) are the dominant size class – in 2009 they are 88.9 % of all surveyed private enterprises and 89.2 % of all SMEs. While in the period between 2004 and 2006 their number only registered a modest increase - a little over 1 % per year, in 2009 they increased considerably - by 10.2 %, and are already 19.6 % more than they were in 2001.

³ Data according the National Report on SMEs conducted by Ministry of Economy and Tourism

Small enterprises (with 10 to 49 persons employed) are almost 10 times less in number than micro-enterprises – 22 745 in 2007. Over the entire 2001-2009 period, their number has been growing at the fastest rate (by 86.7 %) as compared to the remaining size classes. In 2002-2003, the annual increase reached a double-digit number. For 2009 the increase in their number was 6.7%, and they amount to about 9 % both of the total number of surveyed private enterprises, and of SMEs.

Medium-sized enterprises (with 50 to 249 persons employed) are almost 5 times less than small enterprises and their share has been kept for some time under 2 % of the total number of SMEs and private enterprises, in spite of the fact that between 2005 and 2006 the annual increase in their number was the fastest when compared to remaining size classes. In 2009, they were 67 % more over 2001, and 8.2 % more over the preceding year 2008.

Large enterprises (with 250+ persons employed) represent about 0.3 % of the total number of private enterprises working in Bulgaria.

Manufacturing is the most dynamically developing sector, marking 11.3 % growth in 2008, but still making the lowest level of labour productivity among all industrial sectors. Manufacturing industry is dominated by the sectors: Production of foods and beverages (18% of total manufacturing production), metal production and casting (18%), refined oil products (16%), production of machines, equipment and vehicles (14%), textile production (9%) and chemicals (7%). The gross value added in manufacturing is concentrated in traditional industries.

The accelerated development of the service sector over the last years makes it an important factor for economic growth. The share of the sector over the last years reaches 60% of the total gross value added of the economy. Over the period 2000-2006, the export of services has increased twice (from 2.4 billion Euros in 2000 up to 4.5 billion Euros in 2009), where the most significant increase is in the export of tourist services - 76 %.

The positive trends in the service sector are determined mainly by the reforms implemented in the economy – privatization, de-regulation of the monopolies in energy, insurance, banking, telecommunication and the transport sectors, etc. The service sector provides more than 50% of the total employment of the active population.

The growth of services declined from 8.3% in 2005 to 6.1% in 2008. Transport and communications generate biggest share of value added for the sector, despite its decreasing share in GVA over the last two years.

3. ENVIRONMENTAL PROTECTION AND BULGARIAN SMES - LEGISLATION, SUPPORT POLICIES AND INITIATIVES

The measures undertaken by the Bulgarian government in supporting the environmental effectiveness of SMEs as efficient tools for improving the business competitiveness and profit and thus achieving a sustainable economic growth are inadequate. In most cases Bulgarian SMEs find environmental legislation very complex and difficult to understand. As a matter of fact most of Bulgarian SMEs environmentally related regulations and ordinances as very boring and irrelevant to read since the general perception is that *such legislation only provides limitations not benefits to a company*. In general, the smaller the company, the harder it is. Small and medium-sized enterprises face great challenges when meeting the requirements of legislation and encounter barriers in taking steps to improve their eco-efficiency. The first step towards “better regulation” is in the actual formulation and operation of the legislation itself, which means that requirements are to be better defined and procedures made simpler. Company resources can be effectively focused on actually improving environmental performance and compliance instead of expending them on administrative formalities.

More simplified and shortened procedures

Over the past several years, Bulgarian government institutions responsible for the enforcement of environmental laws have been acting in the spirit of the principles set out in major European programs and regulations. Recent amendments on the Environment Protection **Law simplified the procedures which were previously considered the heaviest administrative burden on enterprises**. Regulatory arrangements, including some which duplicate similar regimes applied by other institutions, are eliminated. The time limit of the EIA procedure for investment projects is cut down to one month and the time for competent authorities to come out with decisions on EIA is reduced from three months to 45 days. The time for evaluation of environmental impact statements is increased from 14 to 30 days with a view to improving the quality and efficiency of statements. Some licensing procedures related to permit arrangements in the water sector are made simpler. Amendments in the area of control of major-accident hazards facilitate the business as they reduce safety report information requirements. And while national and regional institutions related to environment protection declare readiness to employ the advances in information technologies in informing the business on legislative amendments and requirements, the opportunities for provision of e-services, as well as for cutting down administrative charges and making administrative procedures simpler by introducing **good practices like the “all-in-one permit” are still not being maximized**.

Integrating Environmental Concerns into the Core Business Activities of SMEs

Bulgarian institutions have recognized the importance of increasing the “environmental” performance as the way for SMEs to adapt to the challenges of a global economy and turn them into opportunities. In line with European policies and legislation aimed at improving the environmental performance of SMEs Bulgaria has adopted various instruments that encourage the adoption of environmental management systems such as the *Community Eco-Management and Audit Scheme (EMAS)*⁴. In addition to EMAS, there are also other voluntary instruments developed within the Community (Directive on the Eco-Design Requirements for Energy-Related Products, Eco-Label Scheme, and Environmental Technologies Action Plan - ETAP).

EC’s reports on the implementation of above mechanisms highlight that they are still not quite visible and applicable across the Community.

In most countries, excluding Austria, Italy and Spain, the number of registered enterprises is negligible. There are a number of reasons for that. First, smaller businesses generally lack the dedicated resources and expertise to devote to environmental or legal issues. On the whole, they tend to have shorter planning times and less access to capital than larger businesses, which means that upfront investment in eco - technology makes less economic sense or is beyond their reach.

Data for Bulgaria confirm the general trend for EU Member States. **Even worse, according to statistics there is not a single company that has been EMAS certified.** To turn this negative tendency in 2010 Bulgarian government has encouraged the implementation of EMAS by SMEs through the provision of grant financing for companies which are willing to certify their activities according the specification. The funding is provided within the framework of one of Bulgaria’s Operational Programmes – OP “Competitiveness”. In 2008 legislative amendments were made which integrate national into existing European eco-label schemes such as EPD (product category rules according to ISO 14025 and EN ISO 14024: Environmental labels and declarations.

An analysis of the policy in the field reveals that the SME sector **needs targeted and pro-active government policy in support of the adoption and implementation of voluntary environment protection schemes** such as the corporate environmental programs. This is the way for Bulgarian SMEs to become part of the existing SME support networks aiming to encourage their internationalization and entry of new competitive markets.

According the National Report on SMEs in Bulgaria of 2008 a number of instruments are available to help Bulgarian SMEs comply with legislation, produce more eco-friendly products, use cleaner technology, to save energy or take part in research projects. The regulatory authority – the Ministry of Environment and Water – has made it a priority to improve the state of play by **taking measures to make environmental information complete, accessible and more understandable.** The latest amendments to EPL reduce the time limits for provision of information on the state of the environment and on environmental policies and concern both state of the environment reports for Bulgaria and ongoing stakeholder awareness.

Over the past year, good practices in the field include:

- Internet portal developed in fulfillment of Regulation (EC) concerning the Registration,
- Evaluation, Authorization and Restriction of Chemicals (REACH).
- E-service systems in the two main Ministry departments related to environment.

⁴ More information on EMAS in Bulgaria - <http://www.emas-bulgaria.com/>

All these channels make the information environment more understandable for and more usable by the business

To date, Bulgaria does not have in place any specialized mechanism for provision of advice and consulting to enterprises, for example through free consultations on environmental regulatory requirements in a single Internet portal. *There is lack of specialized information on networks in support of SMEs.*

4. FINANCIAL TOOLS AND INCENTIVES IN SUPPORT OF ECO-PRACTICES IN SMES

SMEs generally need financial incentives and support to innovate because they have limited resources for investment in environmental technologies and often need additional assistance for participation in joint research programs. Statistics from the National Statistic Institute (NSI) point out very slight growth of investment by SMEs in environmental technologies by the end of 2009. Additional surveys made by Regional branch associations confirm this trend: **64 % of the enterprises interviewed for the purposes of the report state that in the past year their company investments were not environmental.** Furthermore, 47 % of respondents report that their company has not been inspected for environmental compliance.

At present there are limited market incentives/recognition for environmentally friendly behavior. Furthermore, SMEs often fall below the thresholds for many environmental schemes. Actions such as inspections are insufficient to ensure compliance and rarely produce more permanent change in behavior among SMEs. These factors imply that SMEs may be missing out on the significant benefits that greening their operations can bring. **Many problems with the implementation of legislation can be avoided through the greater involvement of SME stakeholders in the policy-making process** – both when policies are first proposed and when they are put into practice.

Public procurement is another mechanism that can encourage environmental compliance. **Currently government authorities started using public procurement** to put in place real incentives for industry to develop environmentally friendly technologies in sectors such as IT, energy-efficient buildings, public transport, etc.

There are **various funding sources for energy efficiency improvement measures and for adopting internationally recognized environment standards** and practices. Such instruments and incentives include:

- **Energy Efficiency Fund⁵** – the main objective of the fund is to provide management of resources allocated for investment projects for energy efficiency development. The Fund's resources are used for repayable funding of projects, underwriting of loans made for energy efficiency projects by financial and credit institutions.

⁵ More information on funding available under the Energy Efficient Fund is available at: <http://www.bgeef.com/display.aspx>

- **Credit line for energy efficiency and renewable energy sources in Bulgaria**⁶ – the program provides credit lines to participating Bulgarian banks, which in turn make loans to private companies for energy efficiency projects in industry, and renewable energy sources projects. In this way commercial banks are encouraged to make loans to SME for energy efficiency improvement, and motivate them to take such measures.

- **Operational Programme “Development of Competitiveness of Bulgarian Economy”**⁷ - the European Regional Development Fund (ERDF) is the largest Community financial instrument for the support of SMEs available to Bulgaria. Bulgaria carries out ERDF funding via its operational programs (OP). A key priority of OP “Development of the Competitiveness of the Bulgarian Economy” is to improve the international positions of Bulgarian products at the external markets, a targeted support is provided to enterprises for achieving compliance with internationally recognised market standards – projects in the area of design, implementation and certification of international Quality Management Systems, introduction of environmental management systems and standards (EMAS), IT based management systems, GMP, etc. The support started with a pilot grant scheme at the end of 2007 which was followed by three other calls for proposal in 2008, 2009 and 2010. During the last session for call for proposals in October 2010 has received more than 700 applications for financing. The funding in the Operational Programme “Development of the competitiveness of the Bulgarian Economy” is sufficient but not popular enough for Bulgarian enterprises to start to becoming “greener”. The heavy administrative procedures often “scare” most of the small entrepreneurs on their quest in becoming more environmentally friendly and sustainable. The decision of the government to increase the funding within the framework of the Programme as an anti-crisis measure was the right thing to do. However it was not necessary. What is important is to facilitate the application procedures and to shorten the periods for transferring the funds to SMEs.

- **ESCO contracts (contracts with guaranteed results)**⁸ – the contract with guaranteed results is a specific trade contract regulated by art. 21 of the Energy Efficiency Act⁹. The specifics of this type of contracting is that the contractor of the energy efficient service calculates and guarantees the efficiency of the implemented energy saving measures, ensures project funding, and the remuneration is calculated by the actual economy during the period of buying. This funding mechanism allows a much larger number of SME to implement energy efficiency measures, even without having the adequate investment funds.

In addition the wider “green energy” opportunities opened up by a fast-growing sector of companies producing renewable and bioenergy hold huge potential for SMEs.

⁶ More information on the Credit line and a list with best practices is available at www.beerecl.com

⁷ More information on OP Competitiveness is available at: www.opcompetitiveness.bg

⁸ Coordinator of ESCO implementation in Bulgaria <http://seea.government.bg/>

⁹ Translated text of the Energy Efficiency act of Bulgaria:
<http://www.mi.government.bg/eng/norm/rdocs/mdoc.html?id=190688>

5. EDUCATION AND E-LEARNING DEVELOPMENT IN BULGARIA

Education and qualification according to the needs of SMEs

In order to study the assessment and attitudes of entrepreneurs in the sector of small and medium-sized enterprises for continuous qualification and training, and to provide an evaluation of the education system in Bulgaria, in October 2009 a National Representative Survey was held among managers of SMEs. The opinion of responding businesspeople on the quality of the educational system is extremely negative as **77.40%** of entrepreneurs believe that the level of education is not adequate. At the same time, managers themselves do not make enough efforts in the sphere of continuing training and qualification. **Out of over 500 respondents, only 27.2 % have attended specialized training courses in management, and only 29.4 % plan to attend training courses** in the next twelve months to improve their managerial skills.

Half of the 550 companies interviewed did not provide company-paid training to their employees during the past year. Out of the remaining half, 10 % provided training to over half of their employees, and 40 % provided training to between 10 and 50 % of their employees.

GoGreen Survey Findings

The same fact is evident in the results of the survey which was conducted in the field of the GoGreen project in Bulgaria. Almost **85% of the respondents** answered that they rarely participate in trainings of the staff organized by the company.

This situation is started to change since there are a sufficient amount of funds for participating in training and qualification programs under OP „Human Resources”. Only within the past 2010 more than **30 million EUR** were provided for vocational qualification purposes of employed persons.

Lifelong Learning

The acquisition of new knowledge and skills is a precondition for the speedier dissemination of technological and environmentally related innovations in the various areas of public life and as the only way of counteracting the trend of the level of qualification of those in employment falling short of the dynamic development of science and technology and the new knowledge with a multidisciplinary purpose.

The 2007 Adult Education Survey by Eurostat¹⁰ showed that one-third of the EU-27 population aged 25-64 years participated in formal and informal learning. **About 80 % were involved in informal learning, which is less expensive and time consuming. Another 6 % were engaged in formal learning.** Bulgaria's poor record in this respect (only France, Greece, and Hungary out of the countries surveyed had lower indicators regarding participation in formal training) is indicative of lasting and difficult problems in the education system (the focus is more on providing knowledge than teaching the skills to acquire new knowledge) and in business (spending on staff training is still not viewed as a long-term investment and ways have not been found to retain the anticipated positive effect within the company). In a time of economic crisis (as is to be expected for the Bulgarian economy for at least till the end of 2011), the measures to encourage participation in continuing education are not among the priorities on the agenda. Regardless of the abundance of strategic and program documents, Bulgaria still lacks a critical mass of people ready to take risks, to work hard to achieve their goals and to face new challenges. **Knowledge could hardly become the new medium of exchange in Bulgaria unless a few but clear-cut priorities are defined even in a time of crisis.**¹¹ It is further indispensable to lay down the conditions and procedures for their implementation and to mobilize the available resources to achieve this goal.

The following table represents the number of participants in informal learning divided by various features

Table 1: Participation in informal learning for 2008

¹⁰ http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/adult_education_survey

¹¹ National Report on Innovations – Innovations.bg

	Total	Participated	Not participated
Total	4 295 030	1 201 130	3 093 900
By sex			
Males	2 120 002	555 203	1 564 799
Females	2 175 027	645 926	1 529 101
By age			
25 - 34	1 141 616	396 984	744 632
35 - 54	2 127 408	613 763	1 513 645
55 - 64	1 026 006	190 382	835 623
By educational attainment level			
Tertiary education	971 466	533 628	437 838
Secondary education	2 284 298	562 747	1 721 551
Basic education and below	1 039 266	104 754	934 511
By labour status ¹			
Employed	2 929 552	983 056	1 946 496
Unemployed	604 843	92 397	512 446
Inactive	760 635	125 676	634 959
By place of residence			
Urban	3 172 067	986 844	2 185 223
Rural	1 122 963	214 286	908 677 ¹²

E-learning development in Bulgaria

In the final years of the process of pre-accession of Bulgaria to the European Union, the conditions for involving and efficient use of e-Learning in different educational institutions were significantly improved. The basic factors that positively influenced the improvement of the e-education index in Bulgaria could be summarised as follows: the participation of educational and research institutions in a lot of international projects; government policy; initiatives by universities, educational and research institutions; well-qualified experts in information and communication technologies, didactics, psychology and other subject areas that, with enthusiasm, add value to the development and dissemination of e-learning content. Unfortunately, there are problems, such as lack of sufficient e-Learning content, insufficient preparation and readiness of university lecturers and school teachers to use e-Learning technologies; lack of a regulatory system in schools and in some universities to stimulate school and university teachers to develop and use e-Learning content.

¹² Data of the official records of the National Statistical Institute
<http://site.nsi.bg/otrasalen.php?otr=36&a1=1345&a2=1346&a3=1348#cont>

According to recommendations of key experts in the area of e-learning in Bulgaria, in order to overcome the above problems, a regulatory system has to be approved to stimulate, develop and use e-Learning content at all educational levels; good practices need to be disseminated; open-source software and e-learning environments with Bulgarian language interfaces should be popularised; joint research concerning the technological and didactical issues of e-Learning have to be conducted on a larger scale; and more universities should offer Master's programmes in e-Learning education. For example in 2005/2006 a master program in e-learning has been started in University of Sofia. This program will provide highly qualified young experts, which will actively participate in development and application of e-learning content.

Regardless of the fact that there are trained specialists in the sphere of ICT, that universities, researchers and academic staff are trying hard to implement ICT in the educational process, The eEurope index ranks Bulgaria last in the list of 28 European states.

The basic factors that influenced to positively to the improvement of e-education index in Bulgaria could be summarised as follows:

- Participation of educational and research institutions in a lot of international projects.
- Government policy.
- Initiatives of universities, research centres and schools.
- Well qualified experts in information and communication technologies, didactics, psychology and different subject areas, that with enthusiasm add value to the development and dissemination of e-learning content.

Unfortunately there exist still opened problems such as:

- Finances-* The main source of financing is the national budget. The financial support from the business society is quite limited. The insufficient investments effect negatively onto the quality of eLearning
- Technical equipment-* needs for a better technical infrastructure to stimulate the development of eLearning. Initiatives are undertaken for improving and widening the computer equipment, networks and Internet connections; but still there is a lot to be achieved
- Publicity-* eLearning is not enough publicly advertised. Many people in Bulgaria are not fully aware of it, because the relevant information is spread mostly amongst the well-educated intellectual society. Thus, eLearning stays quite unreachable and not assimilable for risky learner groups as unemployed, elderly, disabled, minorities, etc.

- *eLearning software*- Linguistic and cultural inappropriateness of much of the educational software available. Lately, there have been lots of Bg researches in the field of VLE, LMS, eLearning platforms and assessment tools, etc. In many Bg universities enthusiastic professors and students designed their own VLEs, which provided interface in Bg as well. But in most cases the resulting software tools are yet in an experimental or prototype stage. Practically, the eLearning in Bulgaria uses some open sources or own simple platforms that have some limitations in different directions: operation with content, resources and tools, management of activities and services to different groups of learners, applying various pedagogical strategies, etc.
- *Professionalism of staff*- There is a lack of trainers, who have been specially trained in e-learning in Bulgaria. Professional staff is definitely insufficient

GoGreen Survey Findings

The negative trend in the development and participation in E-learning initiatives is demonstrated in the results of the survey which was conducted in the framework of the GoGreen project in Bulgaria. Almost **99% of the respondents** answered that they have never participated in ICT related training courses or any other online based classes. The positive aspect is that almost **90% of the interviewed participants indicate willingness to participate in such courses** if they are offered an opportunity.

6. ENVIRONMENTAL PRACTICES IN BULGARIAN SMES

The adoption of new ethical principles and culture based on democracy, market economy, economic efficiency, “entrepreneurial spirit, personal responsibility and liberal solidarity” was long and challenging transition due to gaps in legislation, cultural and historical specifics and level of economic development of Bulgaria.

With the opening of its economy and its membership at the EU, Bulgaria saw an influx of foreign direct investments. While entering the Bulgarian market the large international companies brought with them a tradition of community engagement, environment-friendly technologies, a new management culture, and a practiced eye for how business might help solve social and environmental challenges. They established the true foundations of corporate responsibility and in bringing knowledge and awareness of socially-responsible practices which gradually become a model for gaining economic power Bulgarian companies to start developing CSR activities first

oriented mostly inside the company towards employees and then developing to activities towards communities and other stakeholders.

The majority of SMEs operate principally in the Bulgarian market. However, post accession, the integration of the Bulgarian market into the European market in terms of product standards, regulations and market requirements posed new challenges in front of Bulgarian SMEs.

While companies depending on exports appear to be prepared for the requirements of the European single market, this statement does not apply for companies operating in the internal market. Currently, only 10% of firms meet the requirements for CE marking and 23% the requirements for labour safety. Very few Bulgarian firms have an ISO certificate and HACCP (Hazard Analysis and Critical Control Point) system which guarantees food safety and quality. In addition according to data of 01.02.2011 only 753 Bulgarian SME's were ISO 14001 certified which in average is less than 1.5% of total number of SME.

GoGreen Survey Findings

The negative trend in acquisition of environmentally related standards is shown in the results of the survey which was conducted in the framework of the GoGreen project in Bulgaria. Almost **95% of the respondents** answered that they do not operate under an Environmental standard such as EMAS Regulation, EN ISO 14001, CEI/EN 16001, EN ISO 14064 etc. The positive aspect is that almost **larger part of the interviewed participants indicates willingness to receive more information on the implementation of standards related to environment** if they are offered an opportunity.

This situation is caused by several reasons. According to Nationwide studies and surveys of branch associations SMEs state that inadequate financial resources and the lack of information are the main obstacles to meeting EU requirements. The most significant actions of enterprises which are preparing to meet European product standards and market requirements are improving the control over the product quality (27% of SMEs), training of staff (22%), replacement of process equipment (17%), new strategic relations with trade partners (15%), investments in new technologies (14%) and receiving ISO certificates (11%). **On a national level only 10% of SMEs have paid attention to meeting environmental and technical requirements for products and manufacturing, training of managers and protection of the intellectual and industrial property.**

The positive aspect is that more than **45% of SMEs have not started preparation** for accession to the Common European Market. One in five firms considers that EU requirements do not concern it. One in three firms is not acquainted with the European requirements in general. One in two firms does not know what the terms are for the introduction of the various requirements, while some 20% of SMEs are acquainted with these terms.

Table 2. Level of awareness on the requirements which companies should observe after the accession of Bulgaria to the EU

	Informed	Partially informed	Not really informed	Not informed	Does not concern the company
CE-marking	14.6	17.1	15.4	14.3	34.9
Environmental protection	19.6	29.1	16.5	11.8	18.8
Quality management	21.9	29.0	17.1	10.1	18.5
Internal organisation of production	19.8	25.0	17.9	10.2	23.7
Working conditions and occupational safety	31.7	34.9	12.8	9.2	8.3

GoGreen Survey Findings

According to the findings of the survey which was conducted in Bulgaria within the **GoGreen project**, a large part of the interviewed SMEs see the **reduction of costs related to reduced energy consumption** as the main reason for SMEs to implement green practices. Another reason which is frequently stated by SMEs is the implementation of future local and EU taxes and regulations in matter of environmental impact. When asked what are the **main drawback in front of SMEs when implementing “green practices”** most companies point out as the main reason the economic aspects (large financial investments) related to the introduction of more efficient systems (for example Renewable Energy Systems).

Almost 99% of the interviewed companies answer positively on the question “Do you think that in the long term benefits of environmental investments will be more valuable than the costs of these investments?”.

Expenditure on protection and restoration of the environment

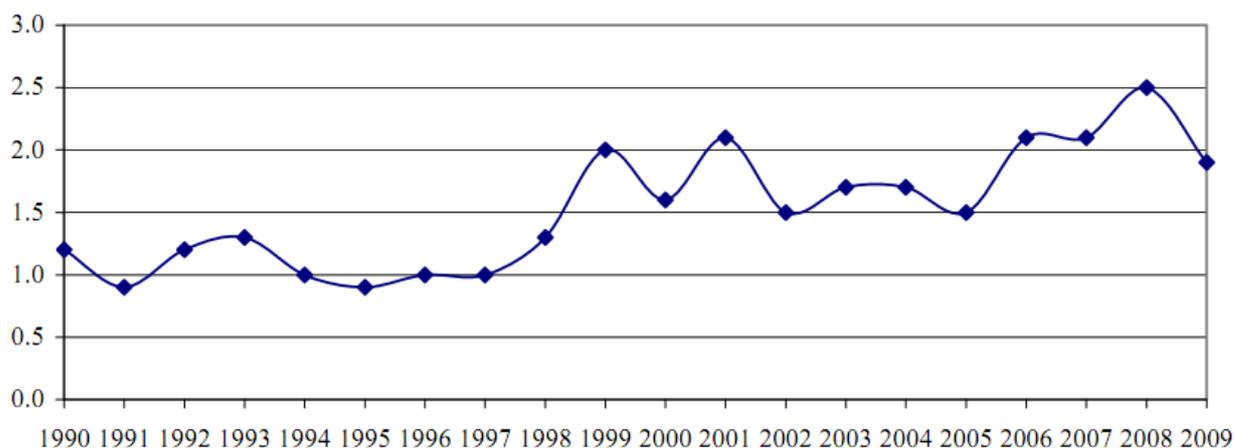
SMEs generally need financial incentives and support to innovate because they have limited resources for investment in environmental technologies and often need additional assistance for participation in joint research programs.

The necessity to protect the environment from pollution requires additional resources. The amount of these funds is a key indicator for measures, which the society and the state undertake to reduce the negative impact of socio-economic processes on the environment.

In 2009 1 280.6 million BGN¹³ were spent on protection and restoration of the environment. The share of environmental expenditure as a percent of GDP is considered the more appropriate indicator for the purposes of comparison. In 2009 it was 1.9% (2.5% in 2008).

¹³ 1 EUR = 1,95580 BGN

Table 3. Share of environmental expenditure of GDP



Environmental expenditure includes two components: expenditure on maintenance, and expenditure on acquisition of tangible fixed assets. In 2009 current expenditure on maintenance has a predominant share (57.4%), while that of investment is 42.6%. In 2009 the total expenditure on protection and restoration of the environment are allocated by major directions of ecological use in a following way: the greatest is the share of the expenditure on waste disposal and recovery (42.2%), followed by the share of expenditure on water resources (21.2%), and the expenditure on preserving air purity (16.4%). 3.2. Tangible fixed assets with ecological use. At the end of 2009 the availability of tangible fixed assets with ecological use amounts to 3 144.9 million BGN. The available fixed assets with ecological use are allocated by basic directions of ecological use as follows: for air preserving - 34.1%, for water resources' preserving - 30.7% and for waste - 18.9%.

7. ENERGY EFFICIENCY AND USAGE OF ICT BY BULGARIAN SMES

Energy Efficiency of SMEs

The Bulgarian economy is characterized by high energy intensity. Compared to the industry sectors of EU Member States, **Bulgarian industry consumes twice more energy for production of one unit of gross value added**. Therefore, industrial enterprises hold huge potential for boosting their competitiveness by applying energy efficiency measures.

Electricity accounts for the highest share of energy consumption in the sector of “Services”– 67%. Natural gas is coming in strong (5%) at the expense of thermal energy (21%) and liquid fuels (4%).

Table 4: Energy intensity of the economy¹⁴

	2003	2004	2005	2006	2007	2008
toe per 1000 euro GDP (2000 = 100)	1.217	1.106	1.100	1.066	0.972	0.903

Building a competitive economy goes through maximum efficient use of energy resources because they are a core element of every end product in industry and services. The Bulgarian economy is characterized by high energy intensity compared to EU average and Member State scores on this indicator. Evidence shows that, after a period of stabilization, final energy consumption is increasing since 2006.

The EU-wide target for improved energy efficiency is not bound to its allocation at a national level. At the same time (according to Eurostat figures for 2005 and at comparative prices for 2005): **1) The Bulgarian economy is 5,6 times more energy-intensive compared to the EU-27**, respectively - 927,1 goe/euro GDP compared to 165,4 goe/euro GDP (estimated by the gross domestic energy consumption). **2) The Bulgarian economy is over 4 times more energy-intensive compared to the EU-27, respectively — 452,4 goe/euro GDP compared to 106,6 goe/euro GDP** (estimated by the final energy consumption). **3) The ratio between final energy consumption and the total domestic energy consumption, which for Bulgaria and EU-27 is respectively 48.7% and 64.4% (for 2005);** i.e., while in Bulgaria the energy transformation losses (generation and transmission to end consumers) are more than half of the energy used, in the EU-27 such losses are about one third of it.¹⁵

ICT usage and e-commerce in enterprises

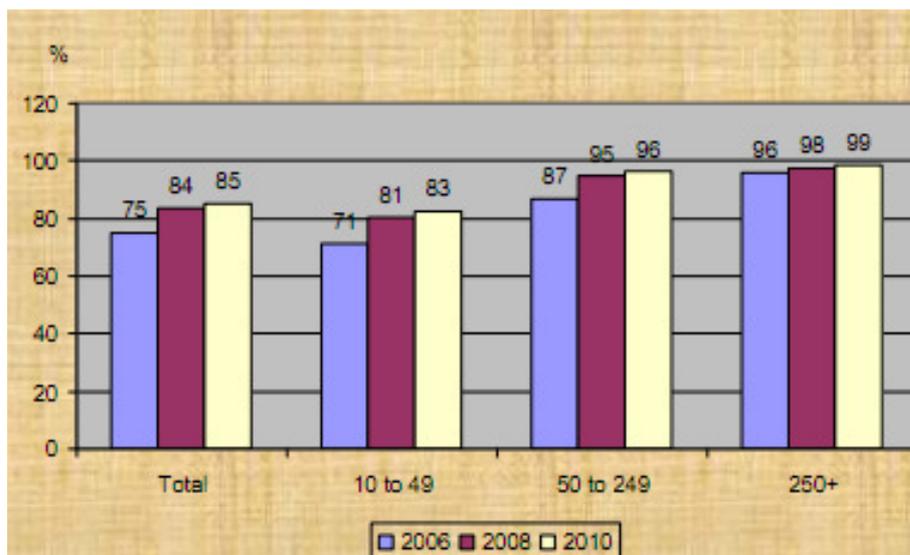
Analyses show that ICT investment are more efficient and have higher return compared to other infrastructure investment. Of paramount importance is the proliferation of broadband services – according to experts, increase of broadband service uptake by 10 % would translate into an increase of 1.2 % in GDP. Unfortunately, latest World Economic Forum data on the use of ICT⁸² show that **Bulgaria’s position is unfavorable – it ranks 107 of 134 countries on preparedness to use ICT.** Particularly poor is the performance on indicators like Extent of Business ICT Use (107 place), FDI and Technology Transfer (104 place).

Nevertheless the situation regarding the uptake and usage of ICT by SMEs has significantly improved in the period 2009 – 2010. The results from a survey carried out in 2010 by the National Statistical Institute **shows the growth tendency in ICT usage and e-commerce in enterprises.** Almost the total number of the largest enterprises (250+ employees) have an Internet access in 2010 (99%) and 88% of them having a broadband connection. The average annual growth rate of the enterprises with Internet access for the period 2006 – 2010 is 2.5%.

Table 5: Share of enterprises having an Internet access, by number of employees

¹⁴ Data from the National Statistical Institute

¹⁵ Data taken from the BULGARIAN ENERGY STRATEGY BY 2020

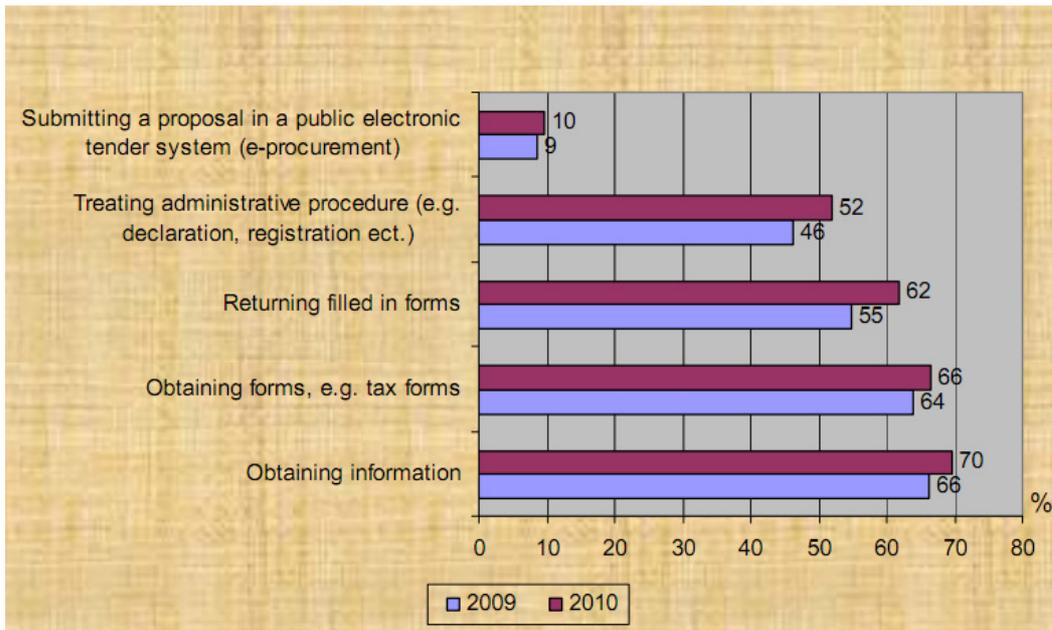


The share of the employees using computers in their work in sector “Financial and ensuring activities” is largest of 89.0% and right after them is ranking the ICT sector with 74.4%. The share of the employees which duties includes usage of computer is smallest in the “Construction” sector (12.8%).

The share of enterprises having their own web site or webpage has been increased of 3% within a year and it’s reached 44% for the total number of enterprises in 2010. The largest companies with 250+ employees indicates growth of 5% as of 2009 and 76% of them report that maintain website or Internet page in order to develop their business as well in the net in 2010.

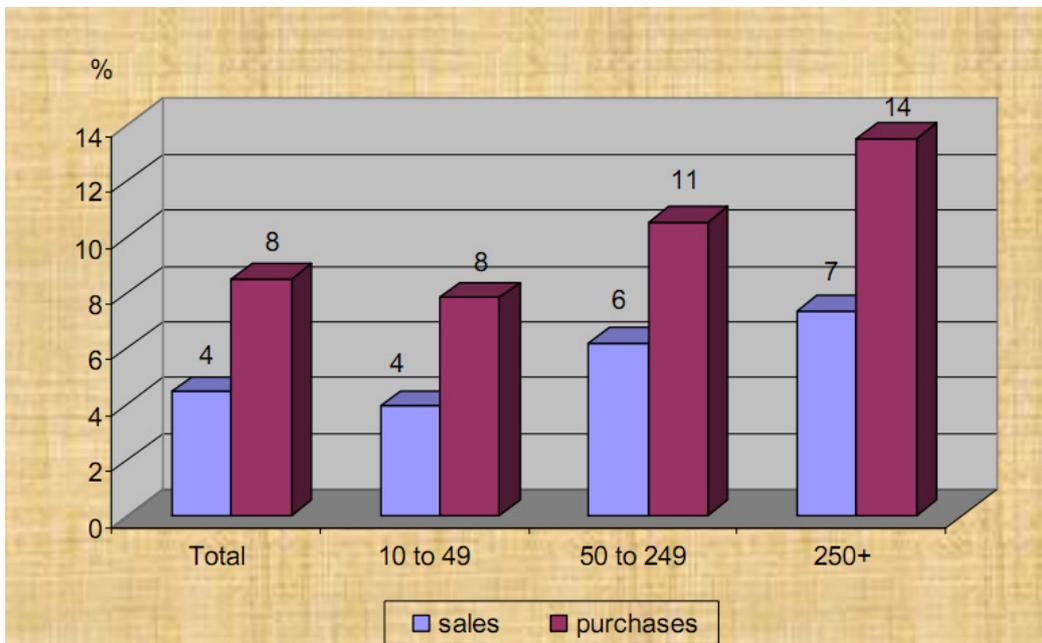
The share of enterprises using e-Government services to obtain information from the public authorities is the largest (70%) and 66% obtaining different kind of forms (tax, statistical forms etc.). More and more enterprises sending filled in forms (62%) and 52% of the companies treat an administrative procedure completely electronically without the need for additional paper work, e.g. registration, declaration, authorization request etc, making the payment online.

Table 6: Share of enterprises using e-Government services



E- Commerce ensures speed and convenience to the customers, save time and offers lower prices directly from the producer or the dealer without intermediation. The share of the enterprises placed orders via computer networks is 8% in 2010, excluding manually typed e-mails. Half as much are the companies which received orders via computer networks in 2010 (4%).

Table 7: E-commerce in enterprises in 2010, by number of employees



8. SUMMARY AND RECOMMENDATIONS

One of the ten principles formulated in EC's Small Business Act implies "enabling SMEs to turn environmental challenges into opportunities". It means that the EU and the Member States should provide to SMEs more information, expertise and financial incentives for full exploitation of the opportunities for new "green" markets and increased energy efficiency. Member States are to provide incentives for eco-efficient businesses and products and put in place conditions for full utilization of Community financial assistance for the support of eco-friendly products and processes in SMEs.

Convincing Bulgarian SMEs to become "greener" will be even more difficult task compared to other more economically developed countries in the European Union. What the situation in Bulgaria, **based on the findings of the survey and the general statistical data for the country:**

- ✓ Environmental concerns are not part of the sectors general agenda.
- ✓ According to data of 01.02.2011 only 753 Bulgarian SME's were ISO 14001 certified which in average is less than 1% of total number of SME.
- ✓ The low concern for the environment among SME's also affects the compliance with the national legislation.
- ✓ Only 14% of SME's meets all environmentally related requirements, but at the same time 73% of all Bulgarian companies are not making any environmental investments.
- ✓ Only 3.4 % of companies feels that a social responsible business should contribute to the protection of the environment
- ✓ Companies do not think that such investments lead to a competitive advantage
- ✓ Companies are focused on prices – since customers on the Bulgarian market are still most sensitive about price
- ✓ Most managers are poorly familiar with the relevant EU requirements.

What barriers and challenges need to be tackled? Here are the main hinders:

- Lack of supply chain pressure from suppliers/customers,
- Lack of specialized business support and advice for implementation of "green" practices and business models in SMEs
- Lack of simplified administrative procedures and incentives when applying for grants related to the introduction of environmentally related standards and practices
- Lack of local authorities/regulation demanding certification from companies applying for government projects
- Lack of regulation for "green" only public procurement
- The absence of local companies from global supply chains.

In general Bulgarian ordinary people and most of the small entrepreneurs consider the notion "green" or "CSO" as being very abstract and not applicable to the present social and economic situation in the country. Giving those words true meaning for Bulgarian business will be even a harder task considering the economic recession, and the long period of transition which Bulgaria and Bulgarian business experienced within the past 20 years. The lack of access to resources,

products, goods and even welfare have made people think more for having a new car rather than clean environment. This way of thinking has reflected even in the way people manage and develop their business, particularly SMEs, which provide for more than 95% of the economy in the country.

But in recent years the situation is beginning to change and with the 2007 accession in the EU Bulgarian SMEs have started to develop in more of a “European” way, where being “green” means being successful. The improvement of the welfare and incomes of households made people turn more to the quality of life and quality of environment around them. This provides prospects and a good incentive for businesses to start rethinking their business models and strategies.

All the necessary ingredients for this “rethinking” to take place are already emplaced. Therefore it is necessary to raise the environmental awareness of entrepreneurs and managers and to encourage them to engage in environmentally responsible practices and operations. This is one of the main objectives of the GoGreen project which is a 24 month initiative co-funded by the European Commission, under the Directorate Education and Culture. It is implemented by eleven partners from Greece, Italy, Spain, Romania, Bulgaria and Turkey.

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