Friedrich Ebert Foundation
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Analyses

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Green Opportunities for Bulgaria

- Finding pathways to a green economy is both a global and European opportunity for overcoming the international economic problems, and this pursuit is accompanied by a much friendlier attitude to the exhausted natural environment. It is thus that economic profit will be able to meet the demand for both a higher employment rate and proper environmental protection at the same time.

- As far as Bulgaria is concerned in particular, the pathway to a green economy is not a luxury. The green economy is rather a necessity, as the country avails of specific local opportunities for implementing different environmentally-friendly approaches.

- The sparing consumption of raw materials, the reasonable management of agriculture, and the modern attitude to waste management can prove to be highly profitable.

- The technology-aided economy can be environmentally-friendly as long as it never stops the process of analyzing and inventing.

- The environmentally sustainable employment brings about a higher level of social responsibility.

- Remote territories also offer economic opportunities.

- What business needs is the guidance and support of the government, in order to be able to step on the road leading to a more prospective destination.

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CONTENTS

1. Emergence and Scope of the Green Economy

What has been observed in the period after 2008 is the focused elaboration of management policies and business concepts intended for green economic development, not only on the European continent, but on a global scale as well. Two tendencies, which are considered to be relatively independent from each other, underlie this development.

The first such tendency is the succession of financial and economic crises on the territory of some of the most developed economic regions on the planet. The systematic and intensive emergence of these crises, as well as the growing losses they have incurred, which are both considerable in size and global in scope, are an unmistakable and durable sign that the economic models (the so-called "business as usual" concepts), which until recently were considered to be the leading models in the developed world, have proved to be depleted. For its part, this necessitates the elaboration of new approaches and concepts of economic development, which must take into account, manage, and even avail of the existing global challenges.

The second tendency is the gradual depletion of a number of planetary resources, which either take too long to renew or are altogether non-renewable in their nature. What merits special mention here is the fact that some of these resources play the role of structure-determining factors for the functioning of both modern societies and national economies. The list of such resources, though far from being exhaustive, includes: the declining volumes of extracted fossil fuels and other underground resources and their subsequent appreciation, the progressive land degradation and irreversible desertification, the salination and other damages to the humus layer on earth, the gradual depletion of the available biological diversity and the planetary gene pools, the increasing rate of climatic fluctuations and the damage they incur. Particular attention has been focused of late on the growing problems with the so-called eco-systemic services, the cost of which would be exorbitantly high, should Nature prove incapable of providing them for free (just a single characteristic example to this effect merits mention here, namely: the pollination of useful crops in the absence of viable bee families – a phenomenon that has been observed increasingly more frequently both in Europe and throughout the world).

The systematic and intensive emergence of all these crises and problem-laden processes, as well as the growing losses they have so far incurred, which are substantial in terms of their magnitude and global in terms of their scope, are a clear and sustainable signal for the depletion of the leading economic models of "business as usual" thus far. This is the reason why qualitatively new approaches and concepts for economic development have to be worked out, capable of taking stock of these global challenges, of managing them, and even genuinely taking advantage of them.

Over the past few years certain governments have been focusing their attention on the tendencies described above. After the 2008 financial crisis, a number of countries on the American, European, and Asian continents launched programs of their own for recovery from the crisis, which include some "green" elements among the incentives and reforms they envisage. This in particular is a leading theme for the member countries and the policies of the European Union. The development of the EU energy sector, the EU global competitiveness, the provision of stable employment, the unfolding cohesion, agricultur-

* This publication was prepared with the valuable assistance of the following consultants: Evgenia Borissova, Illian Illiev, and Genadiy Kondarev.

al, and regional policies are only some of the topics subject to consideration and they put on the agenda the issues of finding a more sustainable, more environmentally-friendly, more cost-effective and beneficial direction for the development of the Union.

The parliamentary faction of the European Greens at the European Parliament, together with their trans-European partnership network, is playing a specific leading role in this important process. They have declared their stance for a comprehensive economic policy of both the EU institutions and the member countries, which should encourage the environmentally-friendly industries and enterprises to pursue the path of a green modernization of their economies, providing them with a lucid vision, directions, and concrete incentives. In their opinion, the EU should take the leading role in the implementation of the reforms focused on the environmental modernization and the intensive creation of green jobs. At the same time, they point out that "even the green economic growth may prove harmful, if it contributes only to the relentlessly high levels of consuming natural resources". In order to avoid such an adverse development, what we need are structural reforms of the economic models, which must specifically encompass the elimination and reform of the currently prevailing unsustainable economic relations, centering these efforts on the sound basis of a medium- and long-range political orientation, so that the desired result could be achieved.

In 2009, a profound framework analysis and detailed guidelines to this effect were published in the so-called "Green New Treaty for Europe" (GNT). This publication was made available by the Institute for Climate, Energy, and the Environment in Wuppertal, having been commissioned by the parliamentary faction of the European Greens. The GNT defines the course towards an environmentally-friendly modernization of the European economy by means of "targeted governmental investments in activities securing goods and services meant to measure, prevent, limit, minimize, or correct the environmental damage inflicted on water, air, and soil. The GNT is also meant to provide solutions to problems connected with the management of waste, noise, and the ecological systems at large. This includes innovations in cleaner technologies, products, and services, which reduce the environmental hazards and minimize pollution and the exploitation of resources".[1]

Together with the specific peculiarities described above, the environmentally-friendly economic policy of the European Union and each of its member countries will obviously have to meet the inevitable uniform requirements addressed to any other type of economic policy. These requirements include:

- Ensuring economic profitability and viability;
- An effective contribution to the local and global competitiveness;
- The capacity to secure both sustainable employment and stimulating labor remunerations.

2. Does Bulgaria Need Green Opportunities?

On the basis of the framework definitions and requirements outlined in the section above, each EU member country, each business sector, and each individual company must establish and implement specific, autonomous, and locally oriented business strategies and tactics of its own. It would be unrealistic to expect that the Green New Treaty for Europe initiative could be some sort of a modern centralization of the national and sector-specific economic policies, some kind of a "taking the individual managerial and economic entities by the hand". To run each individual

[1] Green New Course for Europe. Towards a Green Modernization in the Face of the Crisis, Institute for the Climate, Environment, and Energy in Wuppertal, p. 12, 2010.

business means to take individual business risks, whereby the environmentally-friendly approaches envisaged by the GNT will make no exception to this rule. Both the profits and the costs of every such business will depend on the managerial and economic decisions made by these entities and they will continue to make profits and incur losses "on their own behalf and at their own expense". The Bulgarian managers and entrepreneurs have to pay special attention to this fact in view of the characteristic and markedly low level of managerial and entrepreneurial culture in this country. This situation has been revealed by a number of targeted surveys and by the empirical indicators they have produced on precisely these issues in Bulgaria[2] [3] [4], as well as by numerous other studies.

There is also another well substantiated reason for the Bulgarian institutions and businesses to get committed to their local specific approaches for utilizing new and environmentally-friendly economic opportunities. The different sectors of the national economy, and the Bulgarian economy as a whole, are ranking almost at the bottom of the index rating scale measuring the economic development of the EU member states. The pursuit of a conservative, compilatory, and imitative strategy (with almost no intensive innovations and the lack of any financial back-up for investments in such innovations) has limited the country's resources, thus making it impossible for it to improve its current situation and move forward from a purely quantitative point of view. Such a strategy is incapable of changing the current situation in the country in qualitative terms either. This is the reason why the entire responsibility for the "green" present and future of the country is lying on the shoulders of Bulgarian business, no matter how undesirable this fact seems to be for Bulgarian businessmen at this particular point in time. The Bulgarian Republican Budget (characterized by a high degree of centralized income redistribution from a European point of view) should in its turn take a profound stock of the situation and address its supportive role in this process with such a serious measure of social responsibility as it has never done before.

Last but not least, the current specific local peculiarities in this country would pose an insurmountable barrier to each mechanically introduced and non-adapted business strategy, which happens to have failed to take these peculiarities into consideration. What is meant here is not so much the geographic and climatic location of Bulgaria as the inherited current situation of the sector-specific structure of the national economy and the entrepreneurial models of doing business. This is especially true with respect to the intensity and success-rate in the area of research and development of innovations, and the topical trends both in the area of vocational training and on the Bulgarian labor market as well.[5]

3. Jobs for Sustainable Raw-Material Consumption

There are two major framework concepts about the sustainability of raw-material consumption. The first one refers to effecting primary extraction activities. This concept is rather restrictive – it refers to instituting restrictions, to the evaluation of the overall effects of extraction, and to exercising a stricter control over their practical realization. This concept offers no suggestions about solving the issue concerning the scarcity of raw-material resources; it rather refers to the manner

[2] Genov, Yulian, Culture as a major determining factor of productivity and the opportunity for prosperity, 2002.
[3] Matilda Alexandrova, The entrepreneurial orientation within the context of the national cultural environment, Economic Alternatives, a periodical publication of the University for National and World Economy, Sofia, issue No.3, 2005.
[4] Bulgaria in the international indices and what is the proper policy for ensuring prosperity and freedom, Institute for Market Economy, 2009

[5] Measures for Improving the Business Environment in Bulgaria, Institute for Market Economy, 2010

of their current appropriation and utilization. At the same time, however, it has a potential for new jobs creation, mainly at the stages of providing additional environmentally-friendly qualifications (in terms of hiring vocational and other trainers), as well as recruiting controlling and managerial personnel for internal corporate and public control functions (both locally and on a national level), capable of performing these activities.

The second concept refers to the large-scale replacement of new raw-material extraction by activities focused on recycling and utilization of resources, which have already been used. It has several merits, such as: it solves the problem with the scarcity of resources; it offers a potential for alleviating the pressure on the natural territories, which thus far have been used for dumping grounds and storage of unprocessed or processed waste; and last but not least – it opens up significant opportunities for new business ventures and the potential for creating a considerable number of jobs in connection with the great variety of aspects and activities underlying its overall implementation. This concept is subject to a more detailed treatment in the fourth section of the study.

3.1 Sustainable Agriculture

Agriculture is a sector of the economy, which at the time being has a substantial and increasingly growing share in the country's employment on a national scale.[6] Its is a key source of a number of primary raw materials and agricultural staples, which make the raw material input to numerous sectors of the national economy, such as the light industry (e.g. cosmetics, leather processing, alcoholic beverage distillation, etc.), the food-processing industry, the textile industry, and many other industries. On the other hand, agricultural practices have a direct bearing on the utilization of natural resources and thus become a determining factor for the sustainability of their consumption.

There are a number of sustainable agricultural practices, which are also characterized by their high value added. Their introduction in this country is a specific opportunity for the start-up of new business activities (offering job opportunities for the unemployed), or for the diversification of existing lines of business. The low cost of agricultural land in this country and the availability of large areas of uncultivated agricultural lands are additional conditions conducive to encouraging such processes and activities to take place. On the other hand, the shortage of capital, the high cost of borrowed investment capital, and the relatively slower cycles of capital turnover (i.e. getting returns from the investments made) are all barriers to initiating such business ventures in Bulgaria.

Some of these opportunities are connected with the expansion of cultivating and harvesting some traditional crops for the country, which at the same time are high yield crops as well, among which mushroom cultivation and bee breeding occupy the leading positions. The upside of these agricultural activities is that they take place in a clean environment, without deploying aggressive chemical agents. Their excellent health-related properties are a yet another upside, as they are appropriate consumer produce for children and young people, for adults and the elderly, and for people of deteriorated health alike.

What is also gaining popularity in the country at present is the paid provision of eco-systemic services. At different places the practice of "renting" bee families has emerged among crop growers in the periods

[6] According to data from the Annual Report about the situation and development of the Agricultural Sector in Bulgaria (Agriculture Report 2010), the overall number of the employed on labor contracts in 2009 was 2,404, 633, while the same number in 2008 was 2,466,852. The public sector employees in 2009 were 603,207, out of which 14,142 were employed in agriculture, forestry, and fisheries. In 2008, the number of the employed in the same public sectors was lower – 11,765.

when their respective crops need pollination, and this practice significantly increases the average crop yields. The further publicity of such results and achievements over time could gradually increase the demand for such services to a significant extent and will thus increase the attractiveness of this agricultural subsector as well.

Another such eco-systemic service is the enhancement of soil productivity. It is perfectly possible for soil productivity to rise without employing any aggressive fertilizers. This can happen at the expense of composting organic waste, using manure, and employing other such practices. A new method has also been gaining popularity of late, namely: the breeding of red Californian worms, which produce bio-humus. This product is obtained from the biological activity of these worms, which feed on organic waste. Having been processed in the intestines of the worms, this waste gets modified in a very favorable way. The major food of worms is manure, although they can feed on other types of organic waste as well. Various kinds of manure can be used to the purpose, but the quality of bio-humus will vary depending on the manure worms have been fed on.

Another group of opportunities for sustainable and profitable agriculture is connected with growing crops, plants and animal species that have been outside the typical crops of the plant growing practices and the animal breeding practices in this country. What can be grown and bred in this category of agricultural practices is: ostrich breeding, eel breeding, truffle growing, olive growing, sesame and poppy growing for the bread-processing industry, etc. The development of sea-shell farms and the possible construction of artificial sea rifts in this connection is another example of a simbiosis between business initiatives and practices enhancing the environment. A number of these species and crops require relatively little effort to breed and grow respectively, and they are perfectly suitable for the Bulgarian climatic, soil, and other environmental conditions. Some of them are more demanding to breed and grow, but the value added from their market realization far exceeds the average for this country. An additional bonus to undertaking such kinds of agricultural activity is that their local market realization (on a seasonal basis or round the whole year) can become an attractive point for visitors who are tempted to try hand-made bakery products, to buy locally manufactured souvenirs or home-made cosmetic products.

Additional untapped opportunities also exist in the area of processing and the market realization of wool, which is a traditional agricultural product in this country. Wool is an insufficiently exploited product, despite its indisputable properties to retain the warmth of the human body, to balance temperature differences and provide additional warmth in cold weather, to permit human skin to breathe, to imbibe liquids in quantities exceeding one third of its own weight, leaving no sense of humidity at all in people wearing woolen garments. Wool is not electro-statically charged and this is the reason why it attracts almost no dirt and unpleasant odors. Besides, it is almost crease-proof and crumple-free. These properties can be used for the development and market realization of specialized product lines for people with sensitive skin who need special care because of the ailments or diseases they suffer from. These products can be highly varied – from mattresses, various kinds of blankets, clothing, toys, etc. designed for young and old people alike.

The development of forestry is another opportunity for profitability, which is combined with concern for the environment. Forests provide both renewable raw materials and bio-diversity. They also regulate water flows and provide other eco-systemic services. This sector of the economy provides energy, soft-wood, hardwood, wood-fiber, wood-pulp,

etc. Thanks to wood we have quality furniture. But what is most important is that forests and forestry help for the preservation of biodiversity. Afforestation and reforestation are major tools in the combat humanity is waging against the current climatic changes. A method, which enjoys little popularity in Bulgaria, however, is the so-called agro-forestry. This symbiotic method combines growing trees and bushes together with agricultural crops and/or livestock breeding. In this way, agricultural and forestry technologies are combined, in order to create a diversified, productive, profitable, healthy and sustainable method of land utilization. Other opportunities closely connected with forestry refer to afforestation with rapidly growing ligneous and bush-like species suitable to serve the purposes of the furniture manufacturing industry, suitable for the manufacturing of pellets, but also suitable for energy generation, which ensure additional income to the farmers who grow them.

3.2 Alternative Energy Sources

A significant aspect of the sustainable raw-material consumption refers to the utilization of energy sources. This consumption is associated with a number of problems inherent in the issue about the scarcity of resources (e.g. the gradual depletion of the global fossil fuel reserves, mainly of crude oil and coal), problems connected with health issues (e.g. the occurrence of chronic diseases on a mass scale), environmental issues (e.g. hazardous emissions in the environment, damaging the bio-diversity and entire habitats), political issues (e.g. dependence on imports from foreign countries), etc. The situation of the energy sector in Bulgaria fully coincides with the problems described above. Moreover, the national economy and the households in this country rank last in terms of energy efficiency in the entire European Union, which significantly appreciates the energy expenditures of the country and seriously depreciates the competitiveness of Bulgarian products and produce.

This situation necessitates that a long-term restructuring of the energy sector be carried out to the purpose of its rehabilitation. One of the aspects of such restructuring is the massive boost of the energy effectiveness of Bulgarian enterprises and households. A special priority should be the introduction of public initiatives for a wide-scale sanation of the housing stock in the country, the poor energy efficiency indicators of which contribute to a large part of the losses the economy is currently generating. Such a development will lend a considerable assistance to the labor market as well, inasmuch as the sanation and rehabilitation works are labor-intensive. In specific terms, such a rehabilitation effort will make it possible for construction workers to be recruited out of the large number of construction workers made redundant. They were released from work in result of the sharp drop in the demand for construction services over the last two years. Besides, the reduced overall consumption of energy resources will have a positive impact on the overall quantity of the national greenhouse emissions, and – last but not least – it will positively impact the efforts of the Bulgarian government to meet successfully the EU requirements for the greenhouse emission quotas allocated to this country. What can also be expected is that this process will affect favorably the incidence and acuteness of respiratory and allergic diseases (on the basis of the concept and empirical studies based on the methodology for assessing the external impacts in the energy sector carried out in other European countries, called ExternE)[7].

A yet another green opportunity for the Bulgarian energy sector is to enlarge the share of the Hydroelectric Power Plants/Stations in the overall local electricity generation. In specific terms this means a large-scale commissioning of smaller HPP installations for household purposes, the urban and other populat-

[7] http://www.externe.info/

ed areas included. Such a development will make it possible for some part of the national households to become self-sufficient as far as electricity is concerned, and this will relieve the overall demand for electricity supply services. The very transfer of the hydroelectric plants or stations from their current natural territories to urbanized territories will diminish the level of the current and future anthropogenic pressure exerted on the natural environment. On the other hand, this will also bring about a decrease in the need for long-distance electricity transmission, which – for its part – will diminish the substantial losses long-distance transmission currently incurs. The implementation of such micro-projects is also labor-intensive and has the potential of seriously relieving the labor market from a large number of unemployed who currently live on unemployment benefits.

Another good opportunity to add value in the energy sector is connected with the prospect of Bulgarian investors to enter the distribution and assembly of elements and technological modules generating renewable energy. With time they can set up their own production facilities for renewable energy generation. At present, this market is highly deficient on a global scale. Thus, the entry of national sub-contractors and manufacturers on this market will eventually result in the creation of a new and extremely prospective sector of the national economy capable of offering new employment of a higher quality for the workforce from the energy sector. At the same time, the prospective investors should take into consideration and overcome the high requirements for starting up such enterprises on a global scale, as far as the available investment capital is concerned, alongside the high technological level of production lines and – last but not least – the high qualification level of their personnel. And yet, these potential obstacles do not render such a development impossible and non-prospective. An indicative case in point is the mass production of modern and technologically state-of the-art metallurgical and industrial products in the rural provinces of China, which are marked by a very low literacy level and extremely poor living standards.

4. Jobs for Sustainable Processing Industries

4.1 Technological Green Jobs

An opportunity for modern and more sustainable development of the Bulgarian economy is the implementation of the approach called "Cradle to Cradle". This is an economical and environmentally friendly business concept, which has put its stakes on a closed cycle of product utilization. The concept is based on several major aspects, the most important of which are: the products must be profitable for any given business, healthy for the consumer, and environmentally-friendly for Nature and the generations to come.

What is typical about this type of products is that they are manufactured in such a way that after consumers can no longer use them, they become an input resource for a new manufacturing cycle. Companies such as Phillips and Nike have already taken this idea aboard. The first certificates for goods manufactured in compliance with the "cradle to cradle" concept were issued as early as in 2005. Supplement No. 2 to this study offers more information on this approach.

The economic advantages from the implementation of this approach include not only the reduced business costs for the purchase of raw materials, but also the emergence of new sources of income for the business entities. It is not impossible to expect the growth of an entirely new business sector, the predominant occupation of which would be the recycling of components from used consumer products that have been manufactured along the lines of the "cradle to cradle" method of production.

The specific areas, in which there is a considerable potential for similar initiatives, encompass the entire sector of the light industry, textiles included, the products of the municipal industry, the products for the recreation industry, gardening and other tools and appliances, as well as many others. The implementation of such an approach can assist the processes of adding value at the expense of encompassing an increasingly larger number of degrees of raw-material processing, alongside the development of vertical clusters and other types of business partnerships. The effective implementation of this approach could bring about a substantial business restructuring and increased employment rate accompanied by a leap in the profitability of the enterprises involved in this process (according to certain expert assessments and depending on the specific situation in individual businesses, the rise of profitability can range from 20% to three times and even more).

4.2 Recycling instead of Extracting Industries

The priorities in the modern policies concerning waste management are first and foremost the reduction of the quantity of generated waste and then – in a descending order – the second or repeated use of such waste (for instance along the lines of the "cradle to cradle" approach) in activities such as recycling, energy generation, and composting. As stated above, the second use and waste recycling in their capacity of substitutes for raw material and other types of input extraction have significant merits, including their contribution to the solution of the global issue concerning the scarcity of resources, and contribute to the alleviation of the technological pressure exerted on the natural territories, which thus far have been used to dump and store unprocessed or processed waste.

Another consideration in this respect are the substantial opportunities for new business ventures and the potential creation of a significant number of new jobs connected with the great variety of aspects involved in the implementation of this approach. Certain surveys indicate that waste separation and the processing of the so-called "waste components" of household and industrial waste can ensure up to ten times[8] more jobs in comparison with the practice of waste dumping and incineration.

The approaches described above imply the existence of quite a number of newly-emerging market niches, which still remain insufficiently addressed by the world business community. In turn, this opens up an opportunity for Bulgarian businesses to develop and implement strategies of their own for a relatively early inclusion in the establishment of a global economy dealing with the second use of waste materials (the so-called "Blue Ocean" strategies).[9] Such an anticipatory development, the nature of which is both leap-like and accelerated, presents a major opportunity to introduce qualitative changes in the competitiveness of the individual sectors of every national economy and in the Bulgarian economy as a whole, which has never experienced such a development in its entire economic history so far.

Apart from the fact that such a transformation will bring about some handsome gains, the Bulgarian economy (as well as the global economy for that matter) is facing the categorical impossibility not to accept the challenges of transformation. The leading and inevitable prerequisites for the need to undertake such a transformation are three:

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[8] Towards a green economy: Pathways to sustainable development and poverty eradication; UNEP, 2011

[9] The "Blue Ocean" Strategy, R. Mauborgne, W. Chan Kim, 2009, The ***Blue Ocean*** Strategy Institute. The Blue ocean metaphor denotes all the industries not in existence today—the unknown market space, untainted by competition. In blue oceans, demand is created rather than fought over. There is ample opportunity for growth that is both profitable and rapid. In blue oceans, competition is irrelevant because the rules of the game are waiting to be set. The Blue ocean is an analogy to describe the wider, deeper potential of the market space that is not yet explored.

- the growing depletion of natural resources and the increasingly more difficult access to them, which appreciates the cost of resources;
- the growth of the markets for waste raw materials brought about by the rising demand for business services in the area of waste management and recycling;
- The progressive emergence of newer and increasingly more effective waste management technologies and approaches.

Thus far, the public and managerial motivation for "going green" in the waste management sector has been based mainly on considerations about protecting the environment and public health, the significance of which continues to rank high. Recently, however, these arguments have also been gaining support by economic considerations (such as opportunities for creating jobs, new entrepreneurial ventures, and profitability). These considerations are currently deliberated within the context of waste management activities, now that the situation has been strongly exacerbated by the complicate crisis situation in Bulgaria, the European Union, and the global economy at large.

The specific business opportunities, which exist within the above mentioned framework, refer to the transition from traditional practices such as waste dumping and incineration (to the exclusion of incineration meant to generate heat and electricity) to the practices of reducing waste generation altogether, the expansion of the possibilities to reuse waste products, and their more intensive recycling. This is the so-called "Three "Rs" approach" referring to the first letter "r" of the words "reduce, reuse, and recycle". A leading international method for strategic business programming is the approach focused on the optimization of the integrated solid waste management (ISWM), which is treated in greater detail in Supplement No. 1 to this study.

Additional opportunities for business initiatives and simultaneous opportunities for creating new jobs, which offer both better work conditions and a better pay, also encompass the logistical aspects involved with the expansion of the corporate activity in the waste management sector of the economy. Some of the immediately feasible options in this connection include the application of the modern information technologies for the activities of tracing and directing the existing waste flows by means of geographical information systems (GIS), global positioning systems (GPS), management information systems (MIS), etc.

What merits special mention here is the fact that the workforce and especially the innovative entrepreneurs in the waste management sector will significantly help to find the solution of some of the global environmental issues, such as the mitigation of climatic change, the protection of the non-renewable soil resources, and the overall reduction of the various kinds of pollution. In this connection namely the target group of hired or self-employed workers in the three above mentioned areas should be jointly considered to be an "agent of change", as these people are an important and indispensable condition for the success of every economic and managerial initiative in this sphere. The social value added and the potential of this category of the employed should also become subject to a detailed managerial assessment, as it deserves adequate support and incentives.

5. Sustainable Employment and Social Responsibility

Together with the immediate economic benefits enumerated above and associated with "green" business strategies (such as higher corporate profitability and increased employment), a yet another positive feature is the disposition of entrepreneurs to aid the development of specific local communities and target groups. Different organizational ap-

proaches – for instance setting up cooperatives, local initiative groups, and other forms of social clustering – are very appropriate for the realization of "green" strategies. They also help resolve local limitations and challenges, thus increasing local accessibility and raising the quality of available public goods. Self-employment, lowering household expenditures on overhead costs, and the autonomous provision of public services, which municipalities are obliged to provide, but the access to which is restricted, are just some of the concrete manifestations of similar initiatives and they enjoy wide popularity in the more developed EU member states. The solidarity principle, so characteristic for all the policies pursued by the EU, makes it commendable to specifically recruit poor and vulnerable people or target groups in risk, together with their representative organizations, for participation in these initiatives. The section below makes a more detailed survey of the opportunities for implementing such approaches, which are very promising for the local communities in Bulgaria as well.

5.1 Green Approaches to Creating Local Social Value Added

The principal conditions for binding green business approaches with local needs and challenges are two altogether, namely:

- The ability to envisage needs and engage members of the local communities for the implementation of planned initiatives;
- The presence of local initiative and the ability to mobilize resources (human, financial, organizational, etc.).

These conditions are indispensable inasmuch as such local initiatives as a rule are not especially attractive for external investors, mainly because of their low corporate value added. This situation, coupled with the passive centralized territorial policy in the area of business and employment, and the possible lack of local initiative, results in the absence of such local approaches and the failure to obtain the expected benefits from them (and actually, this has been the grim overall state of affairs in Bulgaria so far).

A wide area conducive to the implementation of such local initiatives is the organized focusing on the provision of goods and services, which can bring value added without any harmful affect on the environment. Suitable for similar initiatives are the sectors of crafts, and tourist and recreational services. There is a rich database of good practices evolved as a result of implementing such initiatives, as well as funds earmarked from the centralized budget of the European Union and its structural funds, which can be used to co-finance the said initiatives (worth mentioning among which are the policies and programs for the development of rural areas, social entrepreneurship, and the social policy measures).

The service provided in such a way can be directed not only to the traditional consumer sectors, but also to providing the necessary local services. In this case the providing organizations can apply for targeted subsidies or grants-in aid from the national budget in their capacity of providers of such services. Caregiving to sick, ailing, or elderly people is such a form of subsidized activity, which is provided in this country, too. Its provision, however, is in quite a limited scope at present.

A specific manner of applying such approaches can be the establishment of Local Initiative Groups (the so-called LIGs, following the pattern of the "Leader" approach within the framework of the EU policy for rural area development), which function in remote territories and in hard to access peripheral settlements. This would facilitate their capacity of being self-sufficient and act autonomously by providing the necessary public services, thus preserving the local communities themselves. Since 2007, when Bulgaria acceded to the European Union as a full-fledged member state,

the country has been given the right to avail of the targeted funding from the EU Common Agricultural Policy in order to set up and organize the activities of such Local Initiative Groups. Unfortunately, however, the necessary organizational conditions required for the provision of such funding are channeled through the responsible Ministry of Agriculture and Foods with huge delays. It was as late as the summer of 2011 that the first LIG strategies for the period of 2007 – 2013 were considered and approved. This means that the "fortunate" rural municipalities will have to implement these strategies within the 2 remaining years before the deadline of the funded program period elapses. In the majority of other member states approval for these strategies is obtained within the first 3 to 6 months after the launch of the respective program period.

5.2 Social Inclusion and Livelihood for Marginal Social Groups

One of the aspects underlying the provision of social value added is the possibility to ensure prerequisites, which make it possible for the homeless or other marginal groups in a given settlement to get involved with organized activities concerning waste collection and separation. On one hand, waste management in Bulgaria is a markedly labor-intensive process where a shortage of workforce persistently exists and which – unlike other sectors of the economy – does not raise any special qualification demands upon recruiting employees. On the other hand, such an employment will certainly provide personal incomes to the homeless in the particular settlement, which will alleviate to some extent their problems with the cost of their own living. What should also be considered is the partial public subsidizing of waste management companies, whereby corporate salaries and wages could rise or, by means of in-kind remuneration, the work conditions could improve with free canteen food or with the provision of free municipal hostels, which would be a further incentive for the hired target groups. The process of preliminary consultations and the ongoing publicity and promotion of such initiatives among their local target groups is especially important for their eventual success or failure.

5.3 Development of Household Photovoltaic Installations in Urban and Rural Areas

Another specific opportunity with a high value added, both in terms of meeting local needs and its contribution to sustainable development, is the encouragement and the significant advance in the area of installing household photovoltaic installations on a mass scale in urbanized territories and other settlements. The energy potential that can be ensured in such a way is truly huge – according to some expert assessments, the limit for the expected solar energy generated in result of the implementation of photovoltaic installations for Bulgaria alone is comparable with the capacity of the "Kozloduy" Nuclear Power Plant. At the same time, the revenues from the sale of such energy will be distributed among a large number of small energy producers exploiting Hydroelectric Power Plants (HPPs) without the intermediation of big investment companies and other dealers. This will boost the energy efficiency on the national level as well, inasmuch as the physical and financial losses in the process of energy transmission will be much lower than the average for the national electricity transmission network, because the electricity generation facilities and the major electricity consumption areas are concentrated in the cities and regional centers, which are also the biggest electricity users. The installation of the photovoltaic panels themselves would be in no way detrimental to the local environment, unlike the current domination of similar installations outside the urbanized territories. Last but not least, in this way the value added will circumvent the big investors, i.e. they will be deprived of the value added they charge, and what merits

mention here is the fact that many of these investors are foreign companies or offices with off-shore registrations, and the ownership and origin of their invested capitals remain obscure to date.

This micro-HPP approach seems nominally quite feasible now. However, a number of barriers exist, which hamper its practical implementation. The cumbersome and vague legislative provisions, the unmanageability and unpredictability of the local municipal administrations and the authorized electricity transmission companies, as well as the prevailing deficit of photovoltaic panels on the domestic market and the need for certain initial investments, have proven to be actually insurmountable for 100 percent of the Bulgarian households at the time being. A practical example of such an odyssey is outlined in Supplement No. 3 to this study.

What should be done from a systematic point of view is a further search for workable solutions (on the level of the individual municipality) for the storage of the energy generated mainly in the daytime, so that it could be used during the evening peak of electricity consumption (using, for instance, local installations of the Pump Accumulation Hydroelectric Power Plants (PAHPPs).[10] The open-minded attitude of the local authorities to this issue and the concrete entrepreneurship and partnership networks they manage to secure have a decisive role for the practical implementation of this approach.

6. Governmental Support for Green Jobs

The initiative and – in an equal measure – the ingenuity of business organizations and local communities are the key factor, which determines whether (or not) the above mentioned approaches to sustainable business development can actually take place. There are concrete steps, however, which both the national central authorities and the local authorities can take at their own discretion, in order to tilt the weighing scale in one or another direction. There are also concrete indispensable tasks, which the authorities are obliged to fulfill, in order to improve the quality of the policies they are pursuing within the context of the international and European standards. This section of the study describes these preliminary conditions, which the members of the government, the National Assembly, and the party leaderships have to ensure together with the mayors and the municipal councilors in Bulgaria.

6.1 Administrative Alleviations

Some of the green business practices outlined in this study thus far are actually quite feasible, even some of them have already been implemented in this country. However, the administrative provisions governing them, plus the requirements and procedures they have to go through remain cumbersome and this is what currently hinders their further development on a broader scale. The start-up of new farms, the modernization of the waste management sector, and the autonomous hydroelectric generation are specific examples for such prospective activities. And while the HPPs and agriculture require updated and simplified national legislative acts and respective secondary legislation, the activities and procedures envisaging "greener" waste management practices could be stimulated by decisions and acts on the level of local authorities, coupled with broader partnership initiatives involving enterprising citizens and organizations, the house-keepers of condominiums, as well as other representatives of the local communities, who can join hands in ventures such as household on-site composting, socially oriented entrepreneurship, targeted business incubators, etc.

[10] A Pump Accumulation Hydroelectric Power Plant (PAHPP) functions on the principle of generating potential energy within the periods of low electricity consumption by using the energy generated at such times to pump up sufficient volumes of water in reservoirs located on a higher altitude than the hydroturbines themselves, which start to generate electricity at peak consumption time.

6.2 Investment Capital Extending Facilities

The available financial resources are the decisive barrier, which each newly starting-up enterprise faces. What the government must do is to accompany its commitments signed on paper and its promises for more sustainable public policies with a tangible improvement of the financial back-up for these start-up businesses, coupled with an appropriate management of the budget flows for many years to come. However, with a view to the omnipresent and perpetual "budget restrictions", which exist everywhere in the world, this stage should be preceded by a responsible process of elaborating government priorities for the most promising and indispensable types of activities, so that they can truly deserve respective support. What is necessary in this connection is training civil and municipal servants in governance and management practices on a broad scale concerning the various kinds of sustainable and modern business policies and good practices, financial good policies and practices included, and the manner in which they can be encouraged. Another, even greater need, encompasses the improvement of the national process of making inventories of local needs and initiatives, which should be made public and properly funded within the framework of the existing process of local planning and national programming, and, if need be, within the framework of newly instituted such processes. Such a form of planning could be, for instance, not the provision of new capital resources, but rather the practice of pursuing a differentiated policy of taxation and imposing other taxes and levies, including the practice of implementing "a green tax", which exists in many other countries.

6.3 Vocational and Entrepreneurial Training and Assistance

Carrying out new business activities in conditions of an increasingly keener competition, on both the national and international level, makes it imperative that in order to succeed business entities must acquire various new skills and be subjected to intensive training to this end. To some degree, business entities can rely on the existing market of private professional training centers and entrepreneurial skill schools. If the necessary training, however, has to be carried out on a mass scale, if the green business alternatives are to be disseminated on territories outside the big city hubs, where people are rather isolated from the necessary financial and business resources, where they even lack sufficient information and communication resources, then what the country and business needs is the involvement of the government institutions and the national programs for vocational and entrepreneurial training, which must make it an urgent priority to take these initiatives upon themselves. It will be highly appropriate for them to formulate and calibrate these initiatives from a financial point of view, but what is even more urgent for the competent institutions before they launch the said initiatives is to precede them by targeted surveys and broader analyses aimed at determining the most prospective international markets, subject matters, and sub-sectors of the economy on one hand, and the needed specialized knowledge and skills, which will be lent such state support, on the other.

Additionally, the new entrepreneurs will need subsequent state-funded orientation and support after they have launched such green businesses as well. The provision of basic or more specialized skills in the area of design and marketing of consumer products, in the area of organizing production facilities and actual manufacturing or processing, and in the area of financial management as well, could significantly increase the number and scope of such business ventures and greatly improve the coefficient of their economic survival or livability rate.

6.4 Research, Development, and Implementation

A specific and extremely significant aspect connected with the broader penetration of modern "greener" businesses, products, and services in this country is connected with the activities necessary for the preparation and implementation of the new innovative methods and practices in the individual sectors of the economy. The research, development, and implementation of new products and the processes involved with their manufacturing are of extreme importance. This has been laid down in a number of international documents, including the document of the European Commission entitled "The Community Strategic Guidelines for Cohesion" [11], "The 7th Framework Program for Research", and many others.

The responsibility for undertaking such initiatives in Bulgaria is of a mixed nature. On one hand, the government institutions vested with the powers to lend support to business are the entities making decisions and pursuing policies on these matters precisely. At the same time, the government expenditures on science and innovations, though insufficient in comparison with the level of international spending on research and development, far outstrip the corporate expenditures in the same area. This is the reason why it is precisely the governmental institutions and the research and science institutes that should generate initiatives and specific ideas underlying the development of a greener national economy.

On the other hand, the existing branch- and sector-specific business organizations in this country must take the role of initiators and mediators of such initiatives by mobilizing the broad national networks of medium- and small-size entrepreneurs and by facilitating their connection, relationships and overall communication with appropriate development centers and the responsible governmental institutions, securing at the same time targeted guidelines and setting up permanent resources centers.

On top of the above enumerated consideration, what is also observed is a grave lack of opinions voiced by far-sighted marketing and analytical centers (the so-called think-tanks), which – on the basis of their profound knowledge of the global processes and the best winning practices – are capable of offering strategic and detailed ideas for the best possible options and orientations conducive for the focusing of such initiatives. These can be business formations or academic or research units, and even administrative divisions. The establishment of such participating entities and their being filled with appropriate contents is of a paramount importance for the introduction of the green economy in the Bulgarian business practices.

7. Supplements

Supplement 1: Integrated Management of Solid Waste (ISWM)

"Going green" in the sector of waste management requires the transformation of this sector's related activities from less desirable methods of waste processing and recycling to more environmentally-friendly methods. This means to make an effort to reduce the adverse impact of waste and increase its possible positive and even beneficial impact within the limits of rejecting the more harmful methods, such as incineration (not associated with energy generation), through various forms of waste dumping, finally reaching the level of the three "Rs", i.e. Reduce, Reuse, and Recycle. The strategy connected with this transition should focus on moving up in the said hierarchy on the basis of the internationally recognized approach, which consists in the optimization of the integrated solid waste management (ISWM).

[11] The Community Strategic Guidelines for Cohesion 2007-2013.

This strategic approaches requires that all sources of waste be properly managed by means of their separate collection, the practicing of the three "Rs", their waste-free and safe transportation, their secondary separation, processing, and – if need be – their dumping in an integrated way, which raises the efficiency of consuming the input resources for their initial manufacturing. The priority of this approach, however, should be focused on the prevention of creating excess waste and waste reduction at large. The approach includes a detailed description and prioritization of a wide range of possible operations prescribed for waste processing, which bring about results such as: partial conversion and recycling of waste products, local energy generation, which meets local needs, reduction of green-house emissions, etc. Alongside the generated profits and new "green' jobs, this approach leads to other specific and measurable benefits of a generally economic and public nature, which include the reduction of resource dependency on foreign countries, as far as specific categories of raw materials are concerned, and the improvement of the environment, alongside the enhancement of the overall health condition of the local communities.

Supplement 2: The Approach of „Cradle to Cradle"

From Cradle to Cradle is a business concept based on the desire for remaking the way things are done by establishing efficient and environmentally-friendly manufacturing methods, laying the emphasis on the closed-production cycle. Several major aspects underlie this concept, which include the following considerations: the products must be profitable for business, healthy for the consumers, environmentally-friendly, and offering protection to the generations to come. In short, the slogan of the method is: human health, environmental health and recyclability. What is typical for the products manufactured in compliance with this business method is that they are designed and manufactured in such a way that after the end of their life cycle they become an input for a new production cycle with a minimum of efforts.

The term "Cradle to Cradle" became popular in the 1970s, having been coined by Walter R. Stahel, a Swiss architect who has been very influential in developing the field of sustainability. The actual father of the concept is the German chemist Professor Dr. Michael Braungart. In 1987 he established his Internationale Umweltforschung GmbH, i.e. the Environmental Protection Encouragement Agency (EPEA) in Hamburg, in the capacity of an independent research institute, which works on finding solutions for manufacturing products of the new type. In 1996, together with the US architect William McDonough, the first MBDC "Cradle to Cradle" Consultancy (McDonough Braungart Design Chemistry) was set up in the United States. In 2002, the two of them published the book "From Cradle to Cradle: Remaking the Way We Do Things", which is something of a manifesto for this type of design and business activities. The BDC Consultancy and the EPEA Institute offer their services to industry, thus facilitating the efforts of business entities to apply the "Cradle to Cradle" concept. BDC and EPEA are independent from each other, but they share the same idea and work in "coopetition", i.e. the relationships they have involve both cooperation and competition between them.

The first certificates for products of the "cradle to cradle" type were issued in 2005. The method has gradually become popular in Europe, the USA, and China. The Chinese President Hu Jintao declared that "cradle to cradle" has become an official government policy for the country. The "cradle to cradle" approach has been developing extremely rapidly in the Netherlands. Shortly afterwards, Denmark and New Zealand followed suite, and currently many companies from the United States take it very seriously. In Europe countries such as

Germany, France, Switzerland, Austria, and Hungary are keen supporters of the "cradle to cradle" idea. The same refers to Asian countries such as Taiwan, China, and Korea. The approach is applied by international companies such as "Phillips", "Nike", "Ford", etc.

A demonstration of this method is the green roof of the "River Rouge" complex of the "Ford" Company in Michigan, which improves the quality of air by 40% by absorbing dust and decomposing hydrocarbons, saving the company at the same time $ 35 million per year for cleaning the environment round this industrial site.

Supplement 3: The practice of registering household photovoltaic installations in Bulgaria

Illian Illiev, Public Center for Environmental and Sustainable Development - Varna[12]

In 2007, the Public Center for Environmental and Sustainable Development launched a project entitled "Sunny roof for my home, too" with the financial aid of the "Eco-community" Foundation. The aim of the project was to study the procedure and opportunities for an owner of a family house in Bulgaria to invest in the purchase and installation of a photovoltaic system and its subsequent locking to the national electricity transmission grid to the purpose of selling the excess electric power generated by the photovoltaic installation.

What happened in practice is this:

First, we carried out some preliminary research of the situation on the photovoltaic systems market. According to the capacity of the roof, which we had planned to equip with a photovoltaic system, and the market prices of these systems, we decided that the most appropriate system would be constructed by six photovoltaic panels CYOCERA KC 130 GHT – 2 of a total nominal power of 1.04 kW and a PV inverter of the model Sunny Boy 1100 LV.

The overall retail cost of the system plus the assembly costs amounted to EUR 7170. According to information from the distributor, the life-cycle duration of the chosen photovoltaic system is 25 years, and our calculations showed that the buy-back period of the investment would be 15 years.

Second, before the photovoltaic system is assembled, the owner must obtain a Construction Permit in compliance with Art. 148 of the Territorial Development Act. This permit is called "Design Visa" and is granted by the Municipality, in which the house is located. To obtain this document, the home owner or a person duly authorized by him/her has to file in an application with the local administration. The Visa is issued by the Chief Architect of the municipality within a fortnight from the date of the application (as per Art. 140, paragraph 1 of the Territorial Development Act). As soon as this has been issued, a feasibility project is prepared by a licensed civil engineer, which in the particular case in point was actually an opinion, concerning the construction of the overall photovoltaic installation. Having filed in all necessary documents, the municipal authorities issued a "Construction Permit Category Six".

Third, the assembly of the system and its connection to the household electricity grid took us two days.

Fourth, the next step is filing an application for connection and permanent locking to the electricity transmission network of the distributor "E.ON Bulgaria Grids" JSC. This should be done in compliance with ORDINANCE 6 of 09.06.2004, which provides for the connection of electricity producers and users to the electricity transmission and distribution networks, and specifically with Section 3 of the Ordinance entitled "Connection of electric power plants owned by electric pow-

[12] Материалът е публикуван онлайн на www.fesbg.org

er producers to the electricity grid". Art. 50 (paragraph 1) says: "A written demand for examining the possibility for locking to the electricity grid shall be filed in with: (paragraph 2) the distribution utility company servicing the location of the electric power station, the total installed capacity of which is equal to or less than 5 MW".

In reply to our application, "E.ON Bulgaria Grids" JSC signed a preliminary contract with us for the forthcoming connection of an independent electric power producer. This contract gives both parties time, in which:

1. The Investor (Public Center for Environmental and Sustainable Development) shall prepare all necessary documents envisaged by the Bulgarian legislation. At this stage we had to prepare Protocols for Compliance with the norms of grounding and to prepare an investment project;
2. For its part, "E.ON Bulgaria Grids" JSC shall examine the possibilities for connection locking the installation to the grid.

It took the investor about a year's time to fulfill the technical part of this procedure. The obstacles here had nothing to do with the current legislation, but were rather provoked by the difficulties of finding consultants capable of preparing the required documentation. The licensed consultants in this country are few in number and they prefer to deal with electric power stations, the installed power of which exceeds 5 MW. Besides, there is no tariff for evaluating a consultant's work on facilities generating electric power of less than 5 MW and in practice the licensed consultants fulfill their orders at the same prices as they do for power stations of total power exceeding 5 MW.

Fifth, as soon as we presented the full set of necessary documents, a Contract for Connection locking the photovoltaic system to the electricity grid was concluded between the Investor and "E.ON Bulgaria Grids" JSC. From a technical point of view, the connection itself was done within the limits of a single work day.

Sixth, this stage consists of submitting documents to "E.ON Bulgaria Sales" JSC, which are necessary for the conclusion of a contract for "E.ON" to be able to purchase of the electricity generated by our photovoltaic installation. At this stage it turned out that our documents contained an important omission. The Construction Permit issued by the Municipality was invalid, because it was issued for a category 6 site, whereas – according to the law – the photovoltaic power generator should be registered as a category 3 site (according to Art. 137, paragraph 3, of the Territorial Development Act, and Art. 6, paragraph 5, of Ordinance 1/2003 of the Ministry of Regional Development and Public Works).

This almost brought the process back to square one, as it was imperative now to apply for a new construction permit, this time for a category 3 site. According to the requirements of the Territorial Development Act, a construction site had to be "opened", a licensed construction supervision firm had to be hired, a geodesic photographic picture had to be taken, and a four-member commission with the Regional Directorate for National Construction Control had to be set up. Here we ran into another discrepancy in the Bulgarian legislation. It concerns the formation of the government fee we owed to the state for accepting the conclusions of the construction control team. The Territorial Development Act divides power generation plants and systems into facilities of installed power up to 30 MW and facilities of installed power above 30 MW, which runs contrary to the Power Generation Act, where the Hydroelectric Power Plants (HPPs) are divided into facilities of up to 5 MW and facilities exceeding 5 MW. This part of the process took us another year.

In the end, two years after the launch of the project, the investor managed to sign a Con-

tract for the Sale of Electric Power with "E.ON Bulgaria Sales" JSC, and the Company paid the investor for all the electric power generated by his photovoltaic system since the date the system was locked to the electricity transmission network of "E.ON Bulgaria Grids" JSC.

The assessment concerning the overall cost of the project, which we made after its closure, is as follows:

- Overall cost of the system – **EUR 7170** (according to the prices current at the beginning of 2008);
- Overall cost of the fees paid for construction permits issued by the Kaspichan municipality – **EUR 15**;
- Overall cost of the fees paid to "E.ON Bulgaria Grids" JSC – **EUR 34**;
- Overall cost of the fees paid to the Regional Directorate for National Construction Control – **EUR 500**;
- Overall cost of the fees paid to consultants (architectural blueprint, construction opinion, construction supervision) – **EUR 2000**;
- Overall cost of the investment – **EUR 9719**.
- Overall revenues per year – **EUR 300**. A profit tax of 10% is annually owed on this amount.

The **estimated buy-back period** for this investment is **32 years**.

If the electricity consumption of the investor were zero, the overall income would stand at about EUR 500, which could allow the investment to be repaid in roughly 20 years.

Note!

The calculations are made on the basis of official purchase prices for the sale of electricity generated by Hydroelectric Power Plants and Systems (HPPs), which for 2010 amounted to BGN 0.79289 / kWh. The overall cost of the investment does not include the possible future costs, connected with repair works, overhaul, change of parameters, or changing the ownership of the system. On an annual basis, the buy-back period of the investment will also be affected by the purchase prices of HPP generated electricity, which are currently fixed by the State Commission for Energy and Water Regulation.

Things, however, do not stop here. What the investor will regularly have to do on an annual basis is to file in written Demands for Licensing of the electric energy generated by his system. The licenses are issued by the State Commission for Energy and Water Regulation, which is highly likely to appreciate the amount of repaying the costs made for the purchase, assembly, and licensing of the photovoltaic system.

Further clarification: According to Art. 4, paragraph 1, of the "Ordinance for Issuing Certificates for the Origin of Electric Power Generated by Renewable Energy Sources", the producers of HPP electric power are subject to registration by submitting applications to the State Commission for Energy and Water Regulation within a month after the period, for which they need such a certificate, has elapsed (for the small HHPs this period is of a calendar year's duration, i.e. not later than the end of January of the particular year). In compliance with Article 7, paragraph 1, the State Commission for Energy and Water Regulation comes up with its decision within a 30-day period of time (this means not later than March 2nd). At this junction investors should make a comparison with the period (usually the month of January), which the Internal Revenue Agency announces as a period of a 5% personal tax allowance, if taxpayers file in their tax returns within this particular period of time.

Conclusions:

Given the calculations made above and the lack of any governmental policy for support and encouragement of the practice to generate electric power from renewable sources, the average Bulgarian who owns a family house will find it hard to accept the investment he has made by installing a small photovoltaic facility as profitable, if he relies on

repaying it only from the income he receives from selling electricity to the national transmission or distribution grid.

The additional appreciation of his investment is due to the lack of synchronicity between the various parliamentary acts and secondary legislation regulating this process. On top of wasting time, this also results in the payment of unnecessarily expensive fees.

Supplement 4: Literature

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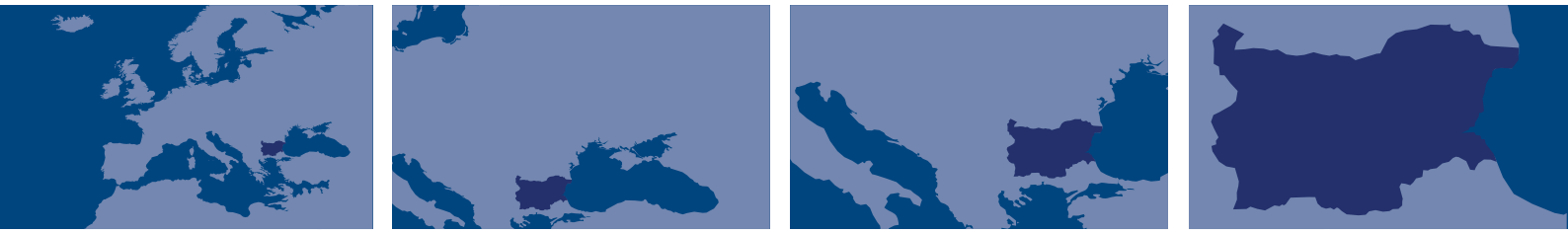
About the author:

Since 1998, Dragomir Konstantinov has worked as an expert in the area of common European policies and as a consultant to the national operational programs, including the policies on sustainable and integrated development. He has participated in a number of domestic and international projects concerning the sustainable development of Bulgaria. His participations include the following areas of expertise: participant in the teams for preliminary assessment of the national regional development strategy and the national plan for the development of the Southern Central Planning Region, leader of the Bulgarian team taking part in the "My Coast" Bulgarian – Dutch Project, participant in the elaboration and implementation of the sustainable alternative tourism concept, called "The Way of the Water" in the region of Veliko Turnovo and the river-bed of Yantra river, member of the teams for mid-term assessment of the Regional Development Strategy of the Plovdiv District and the 2007-2013 Transport Operational Program, etc. He has also participated in the elaboration of training materials and the training sessions connected with the UNDP "Rio Conventions" Project in the capacity of author and trainer. He is member of the Secretariat of the Civic Coalition for Sustainable Use of the EU Funds, and is one of the co-founders of the "Zelenika" Foundation.



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