

ECO-Center needs analysis in Bulgaria

National report

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1. Current environmental status and sustainable development in Bulgaria

1.1. Basic data about current environmental status

Currently large part of the territory of Bulgaria (a total of 111 900 km²) is relatively non-spoiled. The reasons for this fact are multifaceted. They are grounded in the low population density (7.2 mln. people), the main part of the inhabitants concentrated in the large urban areas on the one hand, and the scarce part of the land used for infrastructural purposes, on the other.

In fact, significant part of the territory of Bulgaria is a land of great ecological value: old-growth forests, preserved in their natural state; mountains with preserved natural biodiversity (Rila, Pirin, Eastern Rodopi), the Black Sea coastal forest regions, etc.

Although after the Second World War Bulgaria had faced serious environmental problems resulting in generation of hot spots of contaminated sites, during the last two decades the country has unified its economic, legislative and social efforts to combat the harmful consequences for its environment due to economics relying on heavy industry, low efficiency in use of energy and raw materials, and outdated and highly polluting technologies. The main issues are concentrated on air pollution from industrial emissions, energy sector, water quality (filtering effluents into rivers to diminish concentrations of untreated sewage heavy metals, and detergents), waste management with focus on proper industrial waste disposal, nature conservation to preserve depleted natural forest cover and soil quality.

In accordance with the data of the National Statistical Institute¹ for 2014 the emissions of pollutants in the air are (in thousand tons) 46 242 for CO₂, 345 for CO, 194 for sulphur oxides and 119 for nitrogen oxides. The generated waste from economic activity was 159 743 321 tons, among which 146 316 438 tones are non-dangerous and 13 426 882 tones – dangerous, and the total municipal wastes generated are 3 135 thousands tones.

For the purposes of pollution prevention of sea waters and the Danube river the collected solid wastes, liquid waste and ballast were 18 418 tones.

In 2014 the protected natural scenery area is 584 587 ha. It includes reserves, natural landmarks, protected areas, national parks, natural parks, maintained reserves, people's parks and historic sites. The expenditures on protection and restoration of the environment for 2013 cover 743 585 thousands leva (380 189 ths. EUR) for acquisition of tangible and intangible fixed assets with ecological use, and 1 355 321 thousands leva (692 946 ths. EUR) for

maintenance of tangible fixed assets with ecological use and activities on protection and restoration of the environment.

The availability and movement of the tangible fixed assets with ecological use in 2013 indicate 5.9 mln. leva (3.0 mln. EUR), of which 1.3 mln. leva for waste, 2.3 mln. leva for waste water, 1.6 mln. leva for air, 79 831 ths. leva for protection and remediation of soil, groundwater and surface water, 4 511 ths. leva for protection of biodiversity and natural scenery, 253 492 ths. leva for monitoring and control equipment.

1.2. Bulgarian environmental policies

The established constitutional and statutory principles on environmental protection form the basis of environmental policy in Bulgaria. In particular Article 15 of the Bulgarian Constitution stipulates that *“the Republic of Bulgaria shall ensure the protection and reproduction of the environment, the maintenance and diversity of wildlife, and the rational utilisation of the minerals and the resources of the country.”*²

The situation ascribed in 3.1 comprises a challenge for environmental management in Bulgaria after 1989, demanding development and accomplishment of environmental measures as well as implementation of environmental policy and investments for environmental improvement. Several were the important steps that have been taken towards environmental improvement:

- Establishment of basic legislation and regulatory framework to progress with the enactment of draft legislation;
- Development of a national environmental strategy for reducing the pollution burden, conserving nature;
- Enhancement of institutional capacity through mobilising resources from government, enterprises and households and integrating of environmental concerns into the economic reform process;
- Strengthening international assistance for cost-effectively enhancement of environmental performance.

Following the above general rule, the principles upon which environmental protection is based are stipulated in Environment Protection Act from 2002 (last amended in 2014)³. These are:

- Maintenance and conservation of biodiversity in conformity with the natural biogeographic characteristics of Bulgaria;
- Monitoring and control over environmental status;
- Monitoring, control and management of harmful factors damaging the environment;
- Prevention and limitation of pollution;
- Establishment and management of the National Environmental Monitoring System;
- Development of environmental strategies, programmes and plans;
- Management of environmental protection activities on international, state and regional level.

The State policy on environmental protection is to be integrated into respective sector policies - transport, industry, agriculture, tourism, construction and others, as well as into regional policies for economic and social development. This policy is to be implemented by the competent bodies of the executive power: the Ministry of the Environment and Waters, the Executive Agency on Environmental Protection, the Regional Inspectorate on Environment and Waters, the basin departments, the national park departments, the district governors, and municipal authorities. The structure and competencies of these bodies that administer and enforce environmental law are documented in The Environment Protection Act.

1.3. The obstacles and constraints in environment protection

The achievement of the strategic goals stipulated in the Environment Protection Act is a tough task, since large and diverse economic, financial and human resources are involved. There are bottleneck steps and potential risks at the level of both regulation and implementation. The implementation is much more complicated due as well to the variety of the scale of certain projects and the specificities of the various business sectors concerned.

When speaking for environmental protection in respect to prevention of pollution of water, air and soil, and to protection of flora and fauna, we have to keep in mind that for large scale developments stringent environmental requirements have to be applied. These are major infrastructure projects for which it is obligatory all plans and respective programmes to be evaluated from environmental point of view. This is a multidirectional and long-lasting process and can provoke disturbances between the national (EU) environmental policies implementation and business activities.

Another potential problem arises from the necessity for environmental impact evaluation of

large development, such as energy and chemical industry. The evaluation process requires an increasing attention (and respective resources) in regards to environmental protection, since the global importance of these branches of economy. On-going overview of environmental compliance on national and regional level is necessary.

The requirements of environmental legislation are mandatory for all sectors of economic activities. The environmental law compliance is a key factor in the process of structuring investments in Bulgaria. They are basic elements of real estate projects, development and operation of production facilities, renewable energy power plants, landfills etc., which investors might propose and develop. The implementation of such projects in the context of environmental protection is connected with the application of an effective environmental management plan. There are potential risks for realization of such a plan, since it is not easy to avoid duplication of activities related to permissions, monitoring, controlling and sanctions by different institutions in general of the country. Although, it is the necessary to conduct due diligence in order to avoid possible environment compliance issues, the above mentioned activities are in general time and resources consuming, thus they apparently need optimization. Therefore, prior to the outset of a contemplated real estate project outside the regulated urban territories the investor needs to check whether the project falls within the borders of special environmentally protected territories such as sanitary zones around water resources, the Natura 2000⁴ network of protected zones developed in accordance with priority activities of National Action Plan for Biodiversity Conservation /2005-2010/^{5,6}, etc.

A subject to a number of specific environmental requirements is the production and commercial facilities. They should operate in a way that ensures lack of pollution prior, during and after processing of products. However, for each particular type of operations specific environmental requirements might apply, which makes the procedure for complying with environmental requirements virtually individual. In addition, the production facilities should ensure the handling of hazardous waste as per the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. The commercial facilities (e.g. stores) on the other hand should respect special rules for handling packaging waste pursuant to the Waste Management Act from 2003 (last amended in 2012)⁷. And last, but not least - separate waste collection, recycling and re-use of packaging waste should be considered by identification labels on the packagings of products pointing out the ways for their recycling.

Nowadays, Bulgaria needs development of environmentally compliant landfills and waste

management plants as per Council Directive 99/31/EC of 26 April 1999 (the Landfill Directive)⁸. Investments in this area are usually considerable and long-term ones, therefore this sector is heavily regulated in order to prevent or reduce the adverse effects of the landfill on the environment and human health.

1.4 Green production policies

The green production policy can be thought in two ways. First, efforts concentrated on the production of green products, especially those used in renewable energy systems and clean technologies devices. Second, implementing practices for ‘greening’ the production, *i.e.* manufacturing of goods while reducing pollution and waste, minimizing the harmful effect on the environment, reuse, reduce and recycling wastes and diminishing harmful emissions.

Bulgarian state policy on green production in the context of environmental protection comprises bidirectional actions: integration into respective sector policies - transport, industry, agriculture, tourism, construction, etc. and integration into the policies for economic and social development at regional level. Both actions are implemented by competent executive bodies. These bodies execute the enforcement of the national policy through administrative mechanisms established in the legislation. Thus, they execute preventive, current and follow-up control on the components of the environment and the factors which influence them.

1.4.1 Waste management

In the last few years, progress has been achieved in preparing a legal framework and in increasing institutional capacity for waste management. Waste Management Act, promulgated in State Gazette No. 53 of 13.07.2012, became effective on 13.07.2012⁷. It lays down measures and control mechanisms to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use. The Act provides a comprehensive framework for municipal, industrial and hazardous waste management, including the waste hierarchy principle and regulatory systems. The Waste Management Act defines “waste” as any substance, object or part thereof, which the holder discards or intends or is required to discard, and which belongs to at least one of the six categories listed in the

Act.

The management of hazardous waste involves additional duties and controls. Decrees on hazardous waste management and on waste import have been adopted as well as standards for landfills. Reporting of hazardous waste generation and management, which began a decade ago, provides a basis for sufficient control. Thus, all operations on hazardous waste treatment are subject to licensing. The holders of hazardous waste have to designate a responsible person and to create organisation for safe hazardous waste management; to ensure periodical training of the personnel, etc.

The future perspectives in development of waste management strategies at national level include implementation of the following main trends:

- strengthening hazardous waste management;
- fully implement and enforce a tracking system and permits for management;
- improve hazardous waste disposal by better monitoring;
- promote projects for treatment and disposal facilities;
- encouraging recycling of household and industrial waste;
- raising awareness of industry concerning waste management to encourage efficient implementation of regulations and good housekeeping practices through better information and training programmes;
- identification of major risks posed by soil contamination and develop cost-effective programmes to reduce them.

1.4.2 Energy management

Bulgarian National Energy Strategy till 2020⁹ reflects the political vision of the Government of European Development of Bulgaria pursuant to the up-to-date European energy policy framework and the global trends in the development of energy technologies.

It is concentrated on several priority directions:

- Overcoming of the negative climate changes;
- Reduction of the economy's energy intensiveness and energy efficiency improvement;
- Promotion of the economic growth and employment, thus providing reliable and affordable energy for the consumers.

Following the adoption of the climate and energy package in December 2008 (The United Nations Framework Convention on Climate Change/Kyoto Protocol)¹⁰, the country agreed to

increase greenhouse gas emissions by maximum 20 % compared to 2005 levels in non-ETS sectors (e.g. buildings, road transport, and farming). Furthermore, Bulgaria has committed to achieving by 2020 a share of energy from renewable sources in gross final energy consumption of 16 % (9 % in 2005).

The country has met its Kyoto Protocol commitments. Greenhouse gas emissions are decreased in 2008-2012 by more than 30 % compared to base year levels, achieving more than the targeted reduction of 8 %. The share of electricity production from renewable of gross electricity consumption is 11.2 % (in 2006), thus surpassing the 2010 target. However, besides the permanent decreasing trend Bulgaria still has the highest energy intensity in the EU.

Projects on energy efficiency and development of renewable energy infrastructure are being financed through Cohesion Policy funds. They include introducing innovative, energy-saving technologies and equipment; upgrading energy management and improving heat and energy properties of buildings; and using energy-saving materials and products. Renewable energy sources are promoted by building, renewing or refurbishing equipment for the use of renewables, and introducing production technologies using equipment for energy generation from renewables, including combined power and heat generation.

The future trends in energy management are focused on:

- improvement of the integration of environmental concerns in energy policies: reduction of power sector emissions;
- development and implementation of strategies to improve energy efficiency, and promote the substitution of cleaner fuels by households;

1.4.3 Water management

Bulgaria has strengthened water management efforts in recent years and designated substantial financial resources to these efforts. Currently, the monitoring and information systems for ambient water quality are well functioning and provide a stable basis for policy development. Improvements in the water quality of polluted rivers have been done. Progress has been made in increasing water conservation and pollution prevention approaches in industry and livestock production. Comprehensive work has been done for improvement of the legislative framework: The Water Act, promulgated in State Gazette No. 67/27.07.1999, effective since 28.01.2000, and last amended and supplemented on 14.10.2011¹¹, is

establishing the integrated national water policy stressing sustainability. This Act regulates the ownership and management of waters within the territory of the Republic of Bulgaria as a national indivisible natural resource and the ownership of the water development systems and facilities. The objective of this Act is to ensure integrated water management in the interest of society and for protection of public health.

The future efforts for implementation of the Water Act provisions into practice foresee:

- focusing on river basin management and implementation of water supply infrastructure projects;
- encouragement of water conservation and pollution prevention by industry and agriculture through regulatory and pricing approaches and by fostering best management practices;
- further development and implementation of a permit system for industrial and municipal discharges;
- executing of price reform for water supply, with attention to metering and collection practices, and implementation of water effluent charge;
- renovation/building of waste water treatment plants.

1.4.4. Air pollution management

The 1992 Environmental Strategy and its updates identified air pollution as the country's most important environmental problem and an area for priority measures. Such measures are consequently implemented resulting in significantly improved air quality monitoring system. The law for air purity has been promulgated in State Gazette No. 45/28.05.1996, effective since 29.06.1996, and last amended and supplemented on 21.12.2012¹².

Several highly polluting industrial plants have made investments to control air pollution introducing low-lead-content and lead-free gasolines. Emissions from large industrial facilities remain major problems, and those from residential/commercial sector use of low-quality solid fuels. Motor vehicle emissions are also a concern, especially in the big cities. Thus, the integration of air pollution concerns in industry, energy and transport policies is crucial for implementation of the Environmental Strategy concerning air pollution, and the Regional Environmental Inspectorates have an important role in its effective enforcement.

Future consideration must be given to the following main issues:

- improve enforcement of minding pollution requirements through better monitoring

- and reporting systems, higher fines, the introduction of permits;
- review the cost-effectiveness of emission standards for power stations;
 - improve the integration of environmental concerns in energy policies;
 - continue efforts to promote the use of lead-free gasoline and strengthen measures to control motor vehicle pollution through;
 - encourage development of local air pollution plans, especially in hot spots, through wide consultation among local and national authorities, the general public and major polluters.

2. Focus on environmental adult education: good practices in Bulgaria

2.1. Brief historical overview of environmental education

The development of Environmental Education (EE) at global scale is subjected to UN summits (First United Nations Conference on Human environment in Stockholm 1972¹³, the 1992 Earth Summit in Rio de Janeiro¹³ and the 2002 Earth Summit in Johannesburg¹⁴), which marked out the global strategies for human-nature interactions.

In Bulgaria three main periods in EE advancement can be outlined, which reflect the international milestones mentioned above. The first period (before 1972) is characterized mainly by EE at school level (in- and out-of-school activities) with emphasis on practical and labour activities. The second period encompasses the two decades after 1972 and comprises elaboration of new curricula and textbooks in science education and implementation of EE at University level. A system of EE from nursery to postgraduate and lifelong education was developed in 1984 and its introduction at various educational stages has immediately started. During the third period (1992 – at present) state educational standards, including EE standards, were created. Currently, EE is accomplished both in school subjects and in University courses through the development of updated and restructured curricula, educational technologies for trainee-centered interactive learning, incorporation of environmental education aspects in the activities of NGOs and communities on ecology. EE courses and specializations at the colleges and universities were established. EE research has started there too.

Nowadays, the education for sustainable development is a government policy implemented through the integrated activities of the Ministry of Education and Science ,the Ministry of

Environment and Water, the Ministry of Labour and Social Policy.

2.2. Formal/non-formal environmental education (incl. adult education): legal basis; responsible organizations; training settings and systems; tendencies and problems

2.2.1. Structure of Environmental Education in Bulgaria

Higher education in Bulgaria

Legal framework:

- The Constitution of the Republic of Bulgaria (1991)
- Law of National Education
- Higher Education Act (1995)
- Government Ordinance on the State Classifier of the fields of study and subject fields (2002)
- Government Ordinance on the State Requirements for the degree qualifications of Bachelor, Master and Specialist (in specific professional field) (2002)
- Government Ordinance on the State Requirements for the content of the documents issued by higher education institutions (1997)

Coordinating bodies:

- The National Assembly
- The Council of Ministers
- The Ministry of Education and Science
- The National Evaluation and Accreditation Agency (NEAA)
- The National Information Center for Academic Recognition and Mobility
- The Center for Control and Assessment of the Quality in Education
- Rectors' Conference of the Republic of Bulgaria

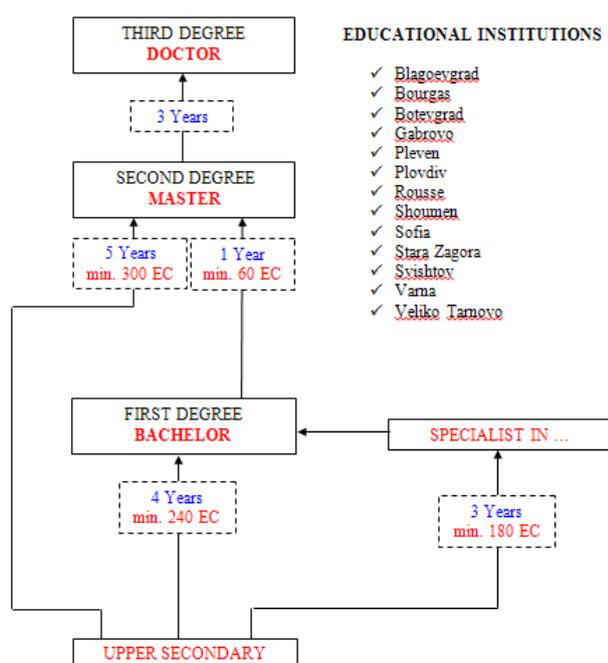
Higher education institutions:

There are 37 public (25 universities, 11 specialized higher schools and 1 self-contained college) and 14 private higher schools (5 universities, 2 specialized higher schools and 7 self-contained colleges). according to the State Register of the Accredited Higher Schools in Bulgaria¹⁶:

Types of higher education institutions:

- Higher Education College (non-university higher education institution)
- University
- Equivalent to Universities Specialized Higher Education Institution/Technical University
- Academy

Degree structure (per 1995 law):



Vocational Education and Training in Bulgaria

Vocational Education and Training is a national priority. It aims at providing equal approach to education, high quality of lifelong learning and establishing of connection between education and realization at labour market.

Legal framework:

According to the Constitution of the Republic of Bulgaria, the state creates conditions for organization and conduct of vocational education and training. The legal framework encompasses the following acts:

- The Constitution of the Republic of Bulgaria (1991)
- Public Education Act (1991)
- The Act for Educational Level, Educational Minimum and Curriculum State Educational Requirements /Standards/
- Vocational Education and Training Act (1999)
- Recognition of Vocational Qualification Act (2008)
- The Labour Code (2001)
- The Employment Promotion Act (EPA) (2006)
- The law for recognition of professional qualifications
- The Law on culture protection and development (1999)
- Cultural Centres Act (1996)
- The Crafts Law (2001)
- National Lifelong Learning Strategy 2014-2020
- National strategy for Continuing Education 2011–2015

In respect to adult education, the laws of greatest importance are: Civil education law, Vocational education law (1999), Law for protection of the unemployed and advancement of employment (1997), Associations Act or “Non-Profit Making Legal Persons Act” (2001), Cultural Centres Act (1996). In the last decade, Bulgaria has adopted various strategies, action plans and programmes in the broader field of adult education. In retrospect, the first official document related to ALE and signed by the Bulgarian government was the Convention on Technical and Vocational Education, proposed by UNESCO¹⁷ and signed in Paris in 1989.

Coordinating bodies:

- The National Assembly
- The Council of Ministers
- The Ministry of Labour and Social Policy
- The Ministry of Education and Science
- The National Evaluation and Accreditation Agency (NEAA)

- National Employment Agency (EA)
- National Agency for Vocational Education and Training (NAVET)

The Ministry of Labour and Social Policy and the Ministry for Education and Science are both responsible for adult education and training, which can be considered as Initial / Continuous Vocational Education and Training (I/CVET). These institutions develop and coordinate the state policy on adult training, create conditions for the assessment and recognition of knowledge, skills and competences acquired through non-formal training and informal learning and identify, analyze and forecast the condition, the development and the needs of training for adults.

Institutions in Vocational Education and Training System

- Vocational schools
- Vocational gymnasiums
- Vocational classes in the primary and secondary schools; evening schools
- Vocational collages
- Art and sport schools
- Vocational training centers
- Centers for qualification of teachers and trainers
- Public and municipal centres for information, professional guidance and counseling
- Non-government organizations which provide non-formal trainings in various fields.

Initial VET (IVET) for persons over the age of 16 is organized in vocational training centers, vocational colleges, vocational schools, vocational gymnasiums, art schools and sport schools. Equal access to IVET is guaranteed by common access requirements for state-owned and municipal VET schools.

Continuing VET (CVET) in Bulgaria is defined as training to be delivered to persons over 16 years, which are no longer in the formal education system. It addresses either employed or unemployed. CVET is organized through courses in vocational gymnasiums, art schools, sport schools, vocational training centers and vocational colleges.

At **formal education level** EE in Bulgaria is organized in compliance with the Higher Education Law and the state requirements for accreditation of the speciality 'Ecology and Environmental Protection'. It is performed through Bachelor (predominantly) and Master

degree programmes, the latter being oriented towards the general scientific and training fields of the relevant university offering them.

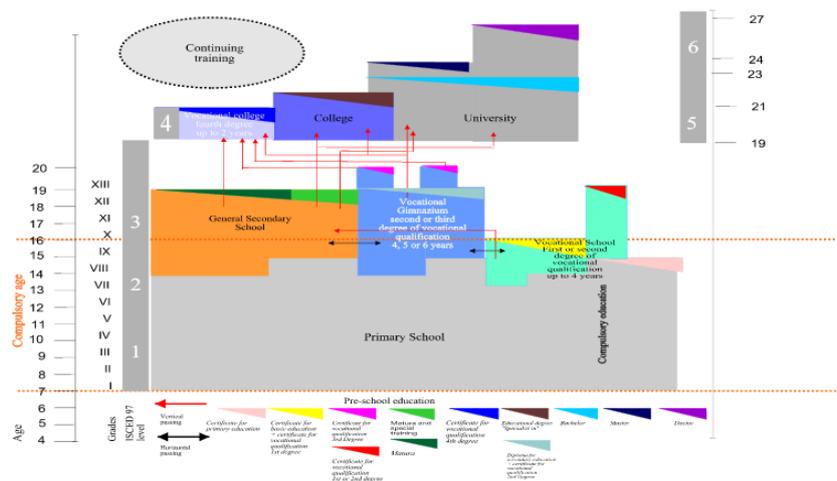
However, several Bulgarian universities have their own open-education, or continuing education centres, in which EE is offered:

- The School of Distance, Online and Continuing Education in New Bulgarian University¹⁸ offers education in programmes and courses for qualification and requalification, master classes, and preparatory courses for admission. The Centre also devises courses and programmes on demand.
- The Centre “Open and Continuing Education (COCE)” at the University of Architecture, Civil Engineering and Geodesy¹⁹ in Sofia organizes open and continuing education courses for professionals and students in new areas of science and environmental friendly technologies.
- The Centre of Continuing Education at the Agricultural University – Plovdiv²⁰ provides lifelong learning possibilities for graduates, students, and other specialists to acquire key competencies in the areas of agriculture and ecology, economics and tourism.

The non government sector, private companies and NGOs, foundations and associations offer distance courses in different areas, including environmental protection, that aim to reach various target groups. The list of best practices includes:

- Licensed Vocational Training Centres (CPOs)
- In-service training, most often in larger enterprises
- German-Bulgarian Vocational Training Centres²¹ in operation since 1995/1996.
- Innovative Teachers Network, with more than 20 000 Bulgarian teachers.
- Znanie Association²²
- NGO "House of science and technology"²³ working within the socio economic field, through training, organizing and conducting language training, computer courses, and professional and administrative courses.
- Partners Bulgaria Foundation²⁴: supported by the United States Agency for International Development
- Second Chance Project²⁵ for Adult Literacy funded by the PHARE “Social Integration” programme and implemented by the Institute for International Cooperation of the German Adult Education Association

Structure of VET



Source: Ministry of education, youth and science - Bulgaria <https://www.mon.bg>

(C)VET targets

The VET teachers/trainers competence requirements are changing. They are becoming more directly involved in curriculum planning, often in cooperation with enterprises in its development and design. As in most European countries, in Bulgaria this process is decentralized and to support VET teachers in exploiting the opportunities of their new role in more decentralized VET system, the following measures are necessary: focusing of VET teachers/trainers efforts towards work places; integrating their knowledge into curriculum development grounded on well-developed relations with relevant enterprises; development of clearer professional profiles of VET teachers/trainers that have to take care for their own professional development.

The company trainers are developing good partnership with training settings. The application of modern didactic principles in work-place settings is a mission for all enterprises that seek to maintain sufficient inflow of well-trained workforce. There are gaps and challenges to be bridged through establishment of close professional relationships with VET teachers; encouragement of company trainers to strengthen their pedagogical and didactic competences in order to increase the attractiveness of VET.

VET managers are responsible to ensure that VET teachers/trainers are aware of the opportunities and challenges of education. VET managers have to understand the new and

emerging requirements for VET teachers and establish the necessary conditions to maintain their central role in curriculum development, to encourage teamwork and working relationships with company trainers. Common CVET of VET teachers and company trainers should be organized to promote cooperation and establishment of shared approaches and methods.

The social partners' interaction with the VET system. The provision of good (C)VET is dependent on interaction with social partners and integration of theory, practice of work-based learning, company needs, requirements and perspectives into learning.

Involvement of VET policy makers at EU/national level. The trend in (C)VET is towards increasing decentralization in respect to efficient adaptation to changes in employers' needs for skills and competences. Meanwhile, the structural economic development implies appearance of new skills and competence requirements.

Tendencies and problems of adult education

Bulgaria has already accepted a concept for the development of a national programme for adult education. This concept was developed, yet not fully implemented, by the Ministry of Education and Science, the Ministry of Labour and Social Policy, the Ministry of Justice and Legal Integration in Europe, universities, the Federation of Societies for Spreading of Knowledge, Federation of Scientific and Technical Unions, Chamber of Trade, trade unions and vocational schools.

The concept creates conditions for the establishment of the national system for adult education in cooperation with social partners with the following aims:

- Establishment of social and economic reforms corresponding to the opportunities for adult education in Bulgaria;
- Raising the educational level of the population;
- Extension of access to different educational forms for adults;
- Co-operation with social partners at the national, regional and local level;
- Extension of public support for adult education.

Since lifelong learning is one of the channels through which adult education; adult studying and learning throughout life can be widespread, a wide variety of existing educational possibilities is presenting to the wide audience with special emphasis on informative and non-

formal learning. Moreover, the public attention is drawn on questions concerning educational problems by the motto *'The education is for every person'*, and, finally, the exchange of ideas and the partnership between experts, NGOs, and ministries is encouraged.

The concept is linked with the important strategic documents at national level covering the School and Pre-School Education Development, Strategy for Introducing ICT in the Bulgarian Schools, the National Further Vocational Training Strategy, the Employment Strategy, as well as the Human Resources Development Operative Programme (2007-2013), the draft of the Adult Training Strategy, developed under PHARE project in 2006, aims at development of adult training as an element of lifelong learning and assistance to promote the effective functioning of adult vocational training system²⁶.

3. Development of innovative solutions for education of adult training providers: EQF/NQF introduction

A distinctive feature of Bulgaria's lifelong learning strategy is its comprehensive approach to encompass all areas of learning: from pre-school education and training to continuing adult training.

The innovative solutions for training of providers of adult education encompass development and enrichment of a system for career guidance through offering conditions for adoption of career planning skills in adults. Here, encouragement of the access of „non-conventional” trainees and adults through alternative forms of lifelong learning at the universities is also foreseen to ensure opportunities for non-formal and informal learning that offers personal and professional progress.

3.1. EQF – NQF interrelation

3.1.1 Bulgarian national qualifications framework for lifelong learning (BQF)

The Bulgarian national qualifications framework for lifelong learning (BQF) was officially launched with Decision No 96 of 02/02/2012 of the council of ministers. Further, in 2013 BQF was referenced to the European qualifications framework (EQF) and self-certified against the qualifications framework of the European higher education area (QF-EHEA)²⁷.

BQF is considered as an important national priority and mandatory precondition for

implementing the EQF. Hence it is included as a pillar of Bulgarian government educational policy in the programme for European development of Bulgaria (2009-13).

The BQF is a comprehensive, nine-level framework (incl. a preparatory level 0). It encompasses qualifications from all levels and subsystems of formal education and training, i.e. pre-primary, primary and secondary general education, vocational education and training (VET) and higher education.

3.1.2 Development and introduction of BQF

In the context of BQF development the efforts of the educational policy makers in Bulgaria were concentrated on two objectives:

- to make the levels of the national education system more transparent and clear to comprehend, and hence – to make mobility and recognition of qualifications easier
- to implement of set of tools to describe them in terms of learning outcomes.

The specific aims addressed by BQF development are to:

- develop a device with a translation and bridging function;
- encourage mobility in both education and labour market;
- stimulate adoption of learning-outcomes based qualifications;
- support validation of prior learning, including non-formal and informal learning;
- strengthen orientation towards a lifelong learning approach;
- increase cooperation between stakeholders.

Apart from offering transparency, the NQF is seen as an important tool supporting national reforms and needs, for example, setting up a system for validating non-formal learning, improving education quality, modernising curricula and strengthening provider accountability. The BQF aims to play an important role in supporting lifelong learning and in promoting participation of adults in learning in Bulgaria.

3.1.3. Prospects for implementation of BQF

BQF's implementation is coordinated by Bulgarian Ministry of Education and Science with an NCP appointed at the international and European cooperation directorate in this ministry.

The actual implementation of BQF is preceded by a currently going on referencing process

that will result in issue of new qualification certificates, diplomas and EUROPASS documents coherent to the relevant BQF level and linked to the corresponding EQF level. At present, this is foreseen for the 2015/16 school year, accompanied by the necessary legislative changes.²⁷

An important goal of BQF implementation is to assure support to lifelong learning. Since BQF encompasses all educational stages: from pre-primary to doctoral, it can be regarded as a comprehensive framework. However, it must be pointed out that at present it is restricted to the qualifications awarded upon completion of formal education and training. In addition, levels 6 to 8 are restricted to qualifications adopted by higher education. These restrictions impose the future prospects for BQF development in the light of its establishment as a lifelong learning supporting instrument that facilitates the access, progression and participation (especially of adult learners) in education including outside the formal education system.

3.1.4 BQF structure

The BQF comprises eight levels with an additional preparatory level (the so called NQF level 'zero', encompassing pre-school education.

For description of these levels the EQF and QF-EHEA descriptors have been taken into consideration. The levels descriptors differentiated between personal and professional competences and cover:

- knowledge, both theoretical and factual;
- skills, both cognitive and practical;
- wider competences.

The qualification levels are Learning-outcomes-based. The anticipated learning outcomes for a defined qualification level reflect the legal documents that govern the various national subsystems of education and training on the one hand and the approved educational requirements about content of the learning material in general education, and VET.

To emphasize on the important role of learning outcomes in planning education, in 2011, a draft model of a new VET standard (the State educational requirement for acquisition of vocational qualifications for professions) was elaborated in compliance with the principles and the characteristics of EQF and ECVET. It is linked to the structuring of the learning outcomes into units and is an obligatory prerequisite for setting up a validation system and updating VET curricula. These latter are important priorities of Bulgarian educational policy.

3.1.5 BQF for validation of non-formal and informal learning – referencing to NQF/EQF

As stated by Bulgarian Ministry of Education and Science (2013) a major aim of the BQF is to support validation of prior learning, including non-formal and informal. At present Bulgaria has not developed yet an overall national strategy/policy on validation of non-formal learning. However, in the VET sector, the amended VET Act²⁸ (July, 2014) regulates the opportunities for validation and recognition of non-formal and informal learning. The general procedure for validation, as well as a manual for its implementation has been recently developed within the project ‘System for validation of non-formal acquired knowledge, skills and competences’ implemented by the Ministry of Education and Science in cooperation with the National Agency for Vocational Education and Training, other relevant ministries and social partners. Within this projects over 1000 consultants on the validation procedure have been trained and the manual will be tested in more than 200 vocational gymnasiums.

Bulgaria has delivered a joint referencing report in early 2013, referencing the BQF to the EQF and the QF-EHEA²⁹. The Level correspondence between the BQF and the EQF is presented in Figure 1.

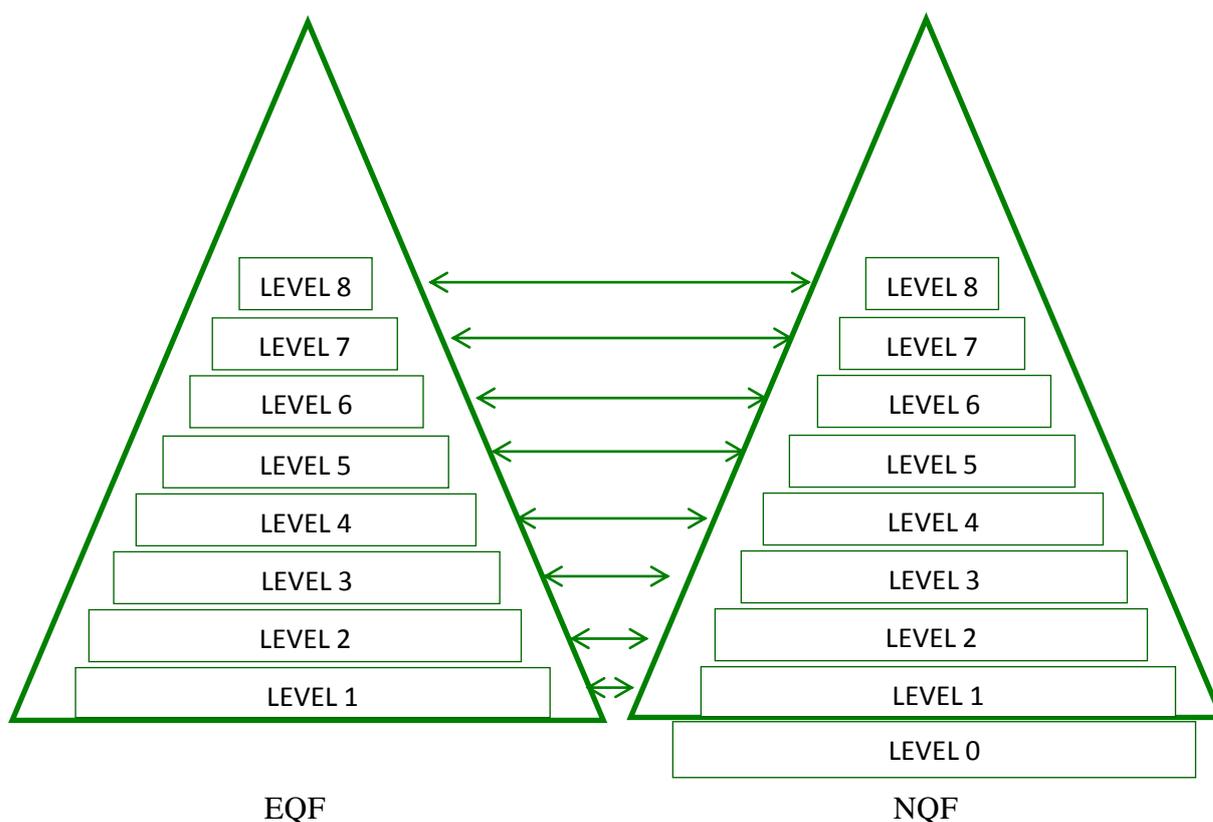


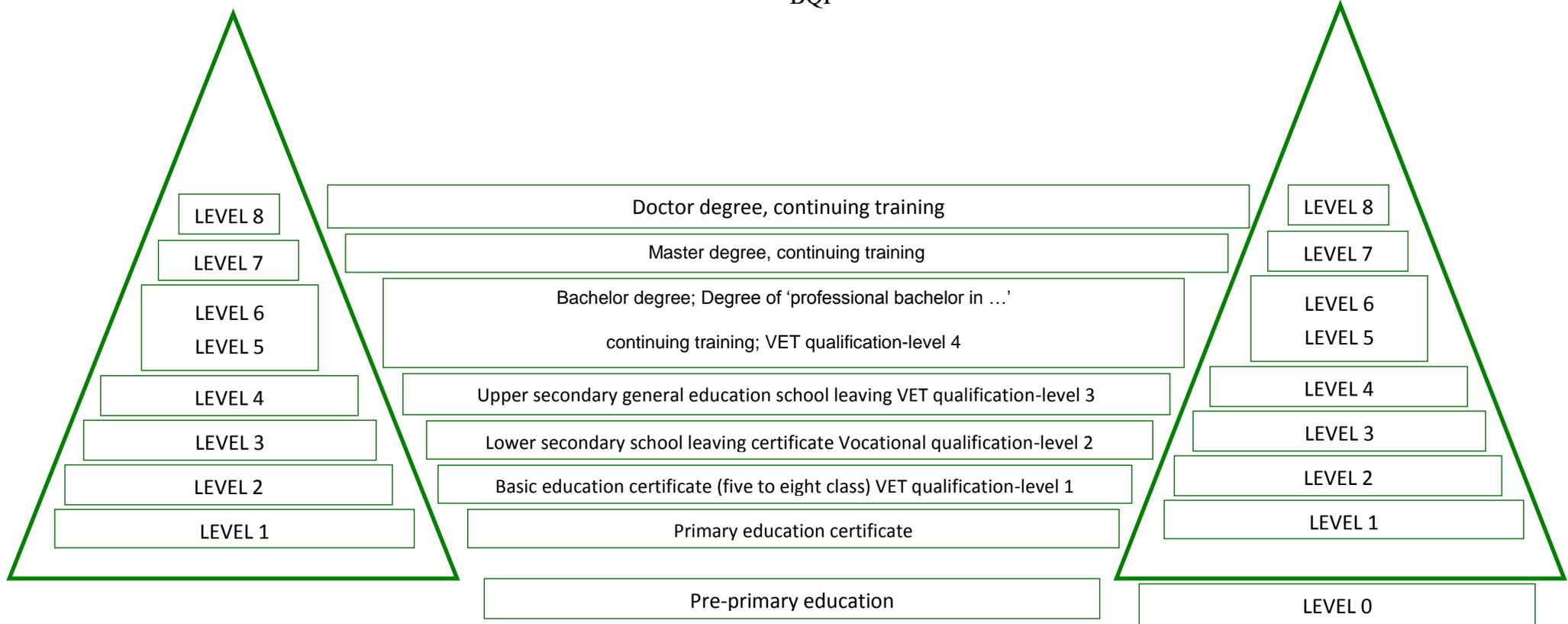
Figure 1 Referencing of BQF to EQF levels.

In the BQF VET covers levels 2 to 5. It starts at the age of 13 and is placed at level 2, along with the basic education certificate (see Fig. 2). Levels 3 and 4 comprise lower and upper secondary stages and include the ‘second and third level of a vocational qualification, along with general education. Level 5 comprises VET only; the ‘fourth level’ of a vocational qualification is placed here. This is the most advanced (post-secondary) vocational qualification. The adult education within this frame encompasses levels 3 and higher.

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Fig. 2 Interrelations of BQF to EQF and NQF.

BQF





EQF



NQF

3.2. European Credits System vs. national grading systems

One of the main VET national priorities for Bulgaria is concentrated on improvement of the links between VET and the world of labour and on the support of integration in the VET system of less favoured groups (incl. adult learners). To reform the existing VET system a coherent national approach is developed comprising implementation of all EU-VET instruments: EQF, ECVET, ECTS, EQARF, Europass. Among them ECVET plays a key role since it enhances the transnational VET mobility of the individuals and encourages the active European citizenship.

The Renewed Employment Strategy 2008-2015 and National Action Plan on Employment 2012 postulate as its priority the creation of a system for accumulation and transfer of credits in vocational education and training, which will stimulate people to take part in and employers to organise training. Guidelines for Users of the European Credit Transfer System in Vocational Education and Training are also under development (ECVET Guidelines). They are directed at providers of vocational education and training.

There exist several important prerequisites and initiatives for ECVET implementation. They can be summarized as follows:

- launched NQF/BQF referencing the four VET levels to EQF levels 2 – 5
- published list of professions comprising all existing national qualifications with defined vocational areas, levels, and codes;
- specified learning outcomes-oriented national VET standards with specified criteria and indicators for assessment of the learning outcomes
- updated legal frame: amended and supplemented VET Act
- set up NCP for ECVET implementation - the NAVET

In the course of ECVET implementation several important considerations are taken into account:

- the need of transparency of assessment procedures, indicators and criteria
- the need of appropriate assessment procedures in the context of transnational mobility;
- the need to respect existing regulations/ requirements, i.e. national assessment systems;
- the need to equip units of learning outcomes with feasible assessment schemes

- the need of assessment that supports transparency and quality of learning outcomes descriptions

In 2011 a new revised model of a VET-standard based on ECVET principles was set out through revision of existing VET-standards from different vocational areas. The model was created using project results and discussed with social partners. It contains a set of units, each including learning outcomes described in knowledge, skills and competence, appointed NQF/EQF level and quality assurance assessment criteria. The new model will be applied for 20 pilot professions and will be the basis for new modular framework training curricula and modular training programmes for all qualifications in the IVET and CVET systems.

THE NEW MODEL OF “ULO” IN THE NATIONAL VET-STANDARDS

Name of the Unit :	NQF level:	EQF level:	Relative weight of the Unit (%):	Validity: (if applicable)	Name of the qualification:	
					NQF level:	EQF level:
Learning outcome 1:						
knowledge		skills		competences		
Learning outcome 2:						
knowledge		skills		competences		
Assessment criteria				Exam conditions		

3.3. Specific national strategies and programmes for clean environment / sustainable development

The national environmental protection policy of Republic of Bulgaria is postulated in the Environmental Protection Act³, promulgated in State Gazette No. 91/25.09.2002; last amended and effective 28.11.2014. This Act regulates the social relations with regard to environment protection, conservation of biological diversity, control and management of the factors damaging the environment, prevention and limitation of pollution. The Act stipulates the main principles of environment protection, namely sustainable development, prevention and reduction of pollution and risk to human health, public awareness, conservation, restoration and improvement of environmental quality, integration of environmental protection policies into the sectoral/regional economic and social development policies.

3.3.1. Strategies³⁰

- **NATIONAL ENVIRONMENTAL STRATEGY; NATIONAL ACTION PLAN 2009 – 2018.** CEE Bulgaria applies both strategic oriented (top-down) and action oriented (bottom-up) approaches in the development of its environmental policy documents. Thus the main national policy documents (i.e. environmental strategy and action plans and programs), concentrate on the following issues: environmental policy development, implementation mechanisms, institutional strengthening, improvement of legislative and regulatory framework, investment priorities and international cooperation. The main strategic objectives of Bulgarian national environmental strategy are concentrated on:

- Reduction and prevention the consequences of climate change;
- Provision of sufficient quantity and good quality of water;
- Assurance of healthy environment for better quality of life;
- Encouragement of sustainable consumption and production;
- Restriction and halting the loss of biodiversity;

- **NATIONAL STRATEGY FOR INTEGRATED DEVELOPMENT OF INFRASTRUCTURE OF BULGARIA AND OPERATIONAL IMPLEMENTATION PLAN (2006 - 2015).** The main objective is to establish a long-term framework for integrated development of the infrastructure. Special priority is given to infrastructure projects in the environmental sector.

- **ENERGY STRATEGY OF BULGARIA BY 2020 FOR RELIABLE, EFFICIENT AND CLEANER ENERGY.** The Energy Strategy is a fundamental document of the national energy policy that is approved by the Council of Ministers and the National Assembly of the Republic of Bulgaria. The National Energy Strategy till 2020 reflects the political vision of the Government of European Development of the country pursuant to the up-to-date European energy policy framework and the global trends in the development of energy technologies.
- **NATIONAL STRATEGY FOR BIODIVERSITY CONSERVATION (ADOPTED IN 2009, UPDATED IN 2010).** The main aim of the strategy is to provide strategic vision on collecting, analyzing and summarizing relevant scientific information to determine the purpose of conservation, to make recommendations and identify future steps necessary to protect the biodiversity in Bulgaria.
- **STRATEGY FOR DEVELOPMENT AND MANAGEMENT OF THE WATER SUPPLY AND SANITATION SECTOR IN THE REPUBLIC OF BULGARIA 2014 – 2023.** The strategy updates and sets out the main objectives and priorities for the Water Supply and Sanitation (WSS) sector in the Republic of Bulgaria, as proposes implementation and financing of policies to achieve these objectives within a ten year horizon. The strategy integrates the findings of consultations and intermediate analyses, including a regulatory review, public expenditure review, and strategic financing plan.

3.3.2. Programmes³⁰

- **NATIONAL ACTION PROGRAMME (NAP) FOR SUSTAINABLE LAND MANAGEMENT AND COMBATING DESERTIFICATION IN BULGARIA 2007 – 2013.** NAP is a basic instrument, through which the principles and objectives of the United Nations Convention to Combat Desertification (UNCCD) and the sustainable land management (SLM) are transformed to specific activities. Its main objective is the creation of a functional institutional frame for its implementation, clarification of the reasons contributing to the instability in land management and combat against desertification, and determination of the practical measures and needed resources for the implementation of the specific actions.
- **NATIONAL PROGRAMME FOR ACTION ON ENVIRONMENT AND HEALTH, 2008-2013.** This program reflects the main priorities of the European Action

Plan on Environment and Health 2004-2010, the Sixth Environment Action Plan 2001 - 2012, as well as the European Strategy for Sustainable Development.

• **NATIONAL PROGRAM TO REDUCE TOTAL ANNUAL EMISSIONS OF SULFUR DIOXIDE, NITROGEN OXIDES, VOLATILE ORGANIC COMPOUNDS AND AMMONIA IN AMBIENT AIR (2007 – 2018).** The program aims to reduce emissions of sulfur dioxide, nitrogen oxides, volatile organic compounds and ammonia into the air in the context of Directive 2001/81 / EC on national ceilings for atmospheric emissions of these substances.

3.3.3. Plans³⁰

• **NATIONAL WASTE MANAGING PLAN (NWMP) 2014 – 2020.** The NWMP plays a key role in achieving a resource-efficient and sustainable waste management, by improvement of waste prevention and its management, better use of resources, development of new markets and new jobs, and reduction of the harmful effects of waste on the environment. NWMP is based on the following principles: prevention, extended producer responsibility, precaution, self-sufficiency and proximity, public participation

• **NATIONAL STRATEGIC PLAN FOR DIVERSION OF BIODEGRADABLE WASTE GOING TO LANDFILL (2010-2020).** The aim of this action plan is to facilitate a gradual reduction of the amount of municipal biodegradable waste going to landfill.

3.4. Selection of key qualifications for adult learning providers in the field of clean environment

The lifelong learning concept in the LLL Strategy is based on two major groups of competencies; acquirable either simultaneously or separately. These are the groups of ‘professional competences’ and ‘key competencies’. The professional competencies are related to the professional knowledge, skills and aptitudes applicable to a particular field of economic activity. The key competencies include those basic skills an employee may need in a variety of situations (e.g. communication skills, skills for working with ICT, team working, self-training, etc.).

Since 2010 in Bulgaria both professional competencies/qualifications and key competencies for adult learners can be obtained through a "voucher system", run by the Ministry of Labour and Social Affairs. Bulgarian Employment Agency is also currently implementing three projects that promote the access to learning opportunities through the Human Resources Development programme's funds. These are the "Development", "Adaptability" and "I can" projects that are estimated to offer beneficial opportunities to more than 100 000 adult learners.

The professional development and the improvement of the quality of adult learning providers, is recognised as a priority at European level. However, at national level the competences needed to fulfil the professional tasks in adult learning are not yet clearly specified, primarily because of the multiplicity of the field. In the LLL Strategy 2014 – 2020³¹ development and implementation of those groups of competences is envisaged to satisfy both the EU requirements and the institutional and regional levels peculiarities.

The following set of exemplary key competences can be specified.

Key competences

- Communication in the mother tongue and foreign languages;
- Basic competences in mathematics, science and technology;
- Digital competence;
- Learning to learn;
- Social and civic competences;
- Sense of initiative and entrepreneurship;
- Cultural awareness and expression.

Professional competences

Those competences are split into two sub-groups: general and subject-specific. The general competences are relevant for carrying out activities in the adult learning sector, such as teaching, managing, counselling or administrative. The specific competences are necessary for performance of specific activities within a defined subject.

The main circle of general competences has to encompass for example:

General professional competences:

- Personal and interpersonal competence in communicating and collaborating adult learners;

- Competence in being aware of and responsible for adult learning;
- Competence in use of different learning methods, styles and techniques in working with adults;
- Competence in empowering and motivating adult learners to learn;

Subject specific professional competences:

Here, competences regarding the use of subject-related expertise and the available learning resources are included. In other words these are competences leading to development of expertise in a particular field.

4. National support evaluation in terms of innovation, success and sustainability of adult education

One of the main goals of the National Development Programme Bulgaria 2020 is to provide high level of skills, opportunities for innovations, adaptability to the changes in the character of work, and full social inclusion.

Bulgarian National Strategy for Lifelong Learning for the period 2014 – 2020 establishes a strategic lifelong learning framework on the basis of cooperative partnership among the business and various degrees and sectors of education, training, and research. The framework envisages joint efforts towards development of education and training adaptable to the needs of the labour market through preparation and implementation of curricula and career guidance practices at all levels of education, training and employment. At last, but not least equality of formal education and training, non-formal training, and informal learning is foreseen through introduction of a learning outcomes-based validation system.

Thus, its priorities are concentrated on innovation and sustainability of LLL in the following focal points:

- A step forward to a new educational approach and innovations in education and training;
- Increasing the quality of education and training;
- Ensuring the educational environment for equal access to lifelong learning and for active social inclusion and active citizen participation;
- Promoting education and training aligned to the needs of the economy and changes on the labour market.

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