



DRIVERS FOR ENGAGING AND SUPPORTING ECVET – BULGARIAN EXPERIENCE

Ministry of Education, Youth and Science

Thessaloniki, 30 - 31. 05. 2011



MAIN NATIONAL GOALS FOR THE ECVET IMPLEMENTATION IN BULGARIA

- **To reform the existing VET system. To build up a coherent national VET system comprising all EU-instruments (EQF, ECVET, ECTS, EQARF, Europass)**
- **To enhance the transnational VET mobility of the individuals**

EXISTING PREREQUISITES FOR ECVET IMPLEMENTATION IN THE NATIONAL VET-SYSTEM

- **8 levels of the draft NQF**
 - The National VET system has 4 levels which are compatible to the EQF-levels;
- **The List of professions**
 - Each qualification from the List has its definite level – I, II, III or IV and definite vocational area, with the respective codes
- **The National VET Standards** are learning outcomes oriented since 2007
- Each qualification is divided in competences and each competence could be specific for the particular qualification or common for several qualifications;
- In the VET Standards the competences are structured in two groups:
 - **General professional competences**
 - **Specific competences for the specialization**
- The assessment of the learning outcomes achieved is made on the basis of **criteria and indicators for assessment**, which are a part of the **National Examination Program** for the acquisition of a vocational qualification for a profession



VET- Standards – key element of the VET reform

A basis for:

- The elaboration of a revised framework curriculum for each qualification
- The LO-oriented training programmes
- The application of modular learning outcomes oriented teaching and training methodologies
- The application of mechanisms for validation of NIL

Learning outcomes in the VET-Standards (current situation)

Competence	Learning Outcomes - the trainee should be able to: (on the basis of the Bloom taxonomy)
General professional competences C1 - Cn	1.1. 1.2. n.1.
Specific competences for the specialization C1 - Cn	1.1. 1.2. n.1. n.2.

Learning outcomes - THE PROPOSED NEW FRAMEWORK FOR UNITS

Name of the Unit:	Credit points:	Validity:
Name of the qualification:	NQF – level:	EQF – level:
Learning outcomes: ■ knowledge	■ skills	■ competence
Assessment criteria and procedures:		

A Unit for the Qualification: Technician of power equipment and installations - Gas engineering

Name of the Unit : Work with devices for control and regulation of the parameters of the gas	Credit points: Under consideration	Validity:
Name of the qualification: Technician of power equipment and installations - Gas engineering	NQF – level: Third degree	EQF – level:
Learning outcomes: ■ knowledge	■ skills	■ competence

Learning outcomes

Knowledge

Explain:

the requirements for mounting/dismounting of the devices for measuring pressure;

the requirements for mounting/dismounting of the devices for measuring temperature as well as thermo-protecting equipment and thermo regulators;

the requirements for mounting of the regulators and the valves regulating the flow of the gas;

the requirements for mounting of the gauges of the gas;

the graphical symbols of the devices for control and measuring.

Skills

Independently mount/dismount and choose/connect:

the devices for measuring pressure;

the devices for measuring temperature as well as thermo-protecting equipment and thermo regulators;

the regulators and the valves regulating the flow of the gas;

the gauges of the gas.

Competence

1. The ability to mount/dismount the devices for control and regulation of the parameters of the gas in compliance with the technological and normative requirements for healthy and safe working environment, anti-fire safety, safety of the installations and environmental protection.

Describe:

the principle of work, construction and application of the different devices for measuring pressure;

the principle of work, construction and application of the different devices for measuring temperature as well as thermo-protecting equipment, thermo regulators and temperature scales;

the principle of work, construction and operation requirements of regulators and the valves regulating the flow of the gas;

the principle of work, construction and function of the different types of gauges and their accessory equipment;

technological order for testing the gas installation for solidity and bleeding.

Demonstrate :

correct work with the devices for measuring pressure;

correct work with the devices for measuring temperature as well as thermo-protecting equipment and thermo regulators ;

adjustment of gas regulators and the valves regulating the flow of the gas;

testing of gas installation for solidity and bleeding.

Find out:

failures in gas regulators and the valves regulating the flow of the gas.

Repair:

basic elements of regulators and gas valves regulating the flow of the gas.

2. Ability to service qualitatively the devices for control and regulation of the gas in compliance with the technological and normative requirements for healthy and safe working environment, anti-fire safety, safety of the installations and environmental protection.

**Assessment
procedures**

**Theoretical
test for
knowledge
assessment**

Assessment criteria **List and define:** the types of pressure, units for their measuring and the relations between them; different types of temperature scales; the methods for reading the consumption of the gas; the method for correcting the spent quantity of gas. **Describe:** the principle of work, construction and application of the different devices for measuring pressure; the principle of work, construction and application of the different devices for measuring temperature as well as thermo-protecting equipment, thermo regulators and temperature scales; the principle of work, construction and operation requirements of regulators and the valves regulating the flow of the gas; the principle of work, construction and function of the different types of gauges and their accessory equipment; technological order for testing the gas installation for solidity and bleeding. **Explain:** the requirements for mounting/dismounting of the devices for measuring pressure; the requirements for mounting/dismounting of the devices for measuring temperature as well as thermo-protecting equipment and thermo regulators; the requirements for mounting of the regulators and the valves regulating the flow of the gas; the requirements for mounting of the gauges of the gas; the graphical symbols of the devices for control and measuring. **Analyze:** the relations between the basic thermodynamic parameters of the gas; the reasons for the loss of pressure in the installation.

**Practical
task for
skills
assessment**

Independently mount/dismount and choose/connect:

the devices for measuring pressure;
the devices for measuring temperature as well as thermo-protecting equipment and thermo regulators;
the regulators and the valves regulating the flow of the gas;
the gauges of the gas.

Demonstrate : correct work with the devices for measuring pressure;
correct work with the devices for measuring temperature as well as thermo-protecting equipment and thermo regulators ;
adjustment of gas regulators and the valves regulating the flow of the gas;
testing of gas installation for solidity and bleeding.

Find out: failures in gas regulators and the valves regulating the flow of the gas.

Repair: basic elements of regulators and gas valves regulating the flow of the gas.

Report on:

the pressure of the gas in the installation;
the temperature of the gas in the installation;
the indications of the gauge.

Fill in: the indications of the devices in standard reports or a technological card.

Calculate: the corrected quantity of spent gas.

Present graphically: the relations between the basic thermodynamic parameters.

Compare: the read parameters with tables and diagrams for the admissible values.

Change: the parameters of the gas in case of need.



IMPORTANT NATIONAL INITIATIVES

- In 2010 proposals were made from the MEYS for updating the VET Act in order to create the necessary conditions for the implementation of ECVET in regard to the final and interim project results
- Setting a Working Group on a national level for the preparation of a proposal for updating the existing “Framework for the development of the VET-Standards”
- A **National Framework Agreement** for VET-cooperation between the relevant ministries, the six nationally represented employers’ organizations and the trade unions was signed in 2009



VET providers

- Secondary Vocational Schools
- Training Centers for adult training

Functions concerning ECVET implementation:

- Participation in the process of elaborating the new VET-Standards (designing the qualifications in “ULO”, elaboration of assessment criteria for the units, elaboration of “units of learning outcomes” for mobility)
- Carrying out the assessment processes and procedures
- Participation in the validation processes and procedures
- Awarding qualifications
- Creating partnerships and organizing the mobilities of students and teachers
- Concluding MoUs and LA



Drivers for engaging and supporting the ECVET implementation

- increased learners' motivation for LLL through encouraging their individual learning pathways and opportunities for the accumulation of credits
- reducing the drop-out rates
- improving the quality of LO-based training through better links between theoretical and practical learning
- Higher efficiency of VET, promoting its relevance to the business requirements through a closer cooperation between the VET providers and the business in the curriculum design and in the learners' assessment
- creating a permeability between the VET and HE systems



Difficulties and obstacles

- the introduction of the “learning outcome-based curricula” and training programmes requires a new design and new teaching approaches
- the necessity of trainings for teachers and trainers in the new forms of learning outcomes oriented methods of teaching and training - independent and integrated learning, project work, group work, peer learning and action learning, development of critical thinking
- need for a close cooperation between school teachers and practitioners in companies
- individual organization of the training process
- overcoming foreign language barriers in mobility activities
- the need for an improvement of the administrative and financial capacity



PROJECT ACTIVITIES FOR THE ECVET IMPLEMENTATION

- **The “CREDCHEM” project “Development and testing of a credit transfer system to improve mobility within the chemicals sector” with the leading role of Germany and partners from Italy, Czech Republic and Slovakia focuses on qualifications in the chemical industry**
- **The “Be-TWIN” project, testing a joint ECVET-ECTS implementation.**



Creation of the national model of a new VET-Standard

- **The Project “EU-Integration of Southeast Europe. Implementation of the European Qualification Framework in TVET“, coordinated by *InWent* - Capacity Building, Magdeburg, Germany, with the financial support of the Federal Ministry of Economic Cooperation and Development, Germany**



INWENT- PROJECT RESULTS

- Elaborated ULO for the qualification “Electrician”, the qualification “Gas technician” and the qualification “Baker”. Description of LO in terms of knowledge, skills and competences
- Elaborated assessment procedures and criteria for the units
- Training of 30 teachers – authors of VET-Standards from 10 different vocational areas on the methodology for defining LO and describing them as NSK

Involvement of business representatives

The Project “EU-Integration of Southeast Europe II. EU Integration of economic and labour markets by TVET“, coordinated by GIZ (former *InWent*), Magdeburg, Germany, with the financial support of the Federal Ministry of Economic Cooperation and Development, Germany. Beneficiaries: large and technologically advanced companies and enterprises

Project activities:

- Further development of VET- Standards based on the ECVET-principles
- Training needs assessment in companies
- Design and production of company-based LO-oriented modular training packages for the qualifications “Electrician”, “Gas technician” and “Baker”
- Design of demand driven modular trainings



DRIVERS AND ADDED VALUE FOR COMPANIES/ENTERPRISES

- Enhanced transparency of the NSK in the new VET-Standards
- The LO description in the certificates and the diplomas makes them more understandable for all employers
- Opportunity for the right parameters (NSK) of qualified employees to be clearly defined by the employers for every qualification in respect to the current level of the dynamic technical and technological processes through the involvement of business practitioners in:
 - the VET-Standard development process
 - the designing of the LO and the Units and their regular upgrading
 - the defining of the assessment methods and criteria
 - the learning outcome-based curricula design
 - the external assessment of LO acquired
- Reduced necessity for implementing an additional in-company/in-plant training of graduates



LLL Programme

Project: RAISING OF NATIONAL AWARENESS AND POLICY COHERENCE IN THE FIELD OF EDUCATION AND TRAINING

The project is being realized with the financial support of the EC and co-financed by the Ministry of Labour and Social Policy.

Project partners: MEYS, NAVET, social partners at national, regional and local level

Project activities:

- informing and discussing the referent framework ET 2020, EQARF, ECVET, the national priorities in LLL Strategy and the synergy in their implementation
- Development and dissemination of information materials
- Implementation of three round tables for dialogue on the problems in three regional country centers for exchange of information and good practices between all stakeholders in the process of organizing, implementing and certifying the VET
- Development of recommendations for future activities in policy development and implementation regarding the Bulgarian VET



Thank you!

i.taneva@mon.bg