

D.T3.2.4 PROTOCOL FOR ENERGY GUARDIANS SKILLS RECOGNITIONS AMONG COUNTRIES IN THE FRAME OF EU QUALIFICATION FRAMEWORK

Version 01
28.02.2019

Prepared by PP4 KSSENA and PP2 CertiMaC





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1. Abstract

The European Qualifications Framework (EQF) acts as a translation device to make national qualifications more readable across Europe, promoting workers and learners mobility between countries and facilitating their lifelong learning. The EQF aims to relate different countries national qualifications systems to a common European reference framework. Individuals and employers will be able to use the EQF to better understand and compare the qualifications levels of different countries and different education and training systems.

The core element of the EQF is a set of eight reference levels describing what a learner knows, understands and is able to do, their ‘learning outcomes’ regardless of the system where a particular qualification was acquired. The EQF reference levels therefore shift the focus away from the traditional approach, which emphasises learning inputs (length of a learning experience, type of institution). Shifting the focus to learning outcomes:

- supports a better match between the needs of the labour market (for knowledge, skills and competences) and education and training provisions;
- facilitates the validation of non-formal and informal learning;
- facilitates the transfer and use of qualifications across different countries and education and training systems.

As an instrument for the promotion of lifelong learning, the EQF encompasses general and adult education, vocational education and training, as well as higher education. The eight levels cover the entire span of qualifications from those achieved at the end of compulsory education to those awarded at the highest level of academic and professional or vocational education and training.



2. About the European qualification framework

The proposal for the European Qualifications Framework was launched by the European Commission in September 2006. This recommendation outlines an overarching framework to be set up in Europe to facilitate comparison of qualifications levels in order to promote geographical and labour market mobility as well as lifelong learning. The core of the framework consists of 8 qualifications levels described through learning outcomes (knowledge, skills and competence). Countries were invited to relate their national qualifications levels to the neutral reference established by the EQF.

Knowledge, skills and competence

There are many different possibilities for structuring and constituting the results of learning processes. After the discussions between technical experts from all countries involved in the development of the EQF it was agreed to use the distinction between knowledge, skills and competence (KSC) as basis of the framework, because it is the most established way for categorising learning outcomes.

The EQF's differentiation between knowledge, skills and competence can therefore be seen as a pragmatic agreement between the various, widespread approaches and does not oblige countries to do the same. National or sectoral frameworks or systems may require different approaches, taking into account specific traditions and needs.

The KSC differentiation of learning outcomes helps to clearly construct descriptors and to more easily classify the levels of qualifications. Nevertheless, these three categories (KSC) should not be read in isolation from each other, but they should be collectively perceived. Thus, to grasp the characteristics of one level requires also 'horizontal reading', to read one level means that the whole line (all three columns) must be read all the way across. Similarities may exist between the categories (e.g. the column 'competence' includes certain skills; the column 'skills' also contains certain forms of knowledge) but this is in the nature of things.

Presentation of the EQF descriptors in a table with three columns should facilitate understanding of the EQF and the assignment of qualifications. If the table format results in contradictory interpretations, the columns should be seen as of secondary importance. Consequently, this means, that one should simply read the whole line (knowledge, skills and competence) and judge - all in all - in which of the levels the group of qualifications fits best. This way of reading the descriptors will help to establish 'the centre of gravity' of the qualification in question and thus make it possible to decide where to place it in relation to the EQF. This illustrates that due to the diversity of qualifications at national and sector level there will never be a perfect or absolute fit to the EQF levels - the principle of best fit has to be applied instead.



3. EQF levels

	Knowledge	Skills	Responsibility and autonomy
	<i>In the context of EQF, knowledge is described as theoretical and/or factual.</i>	<i>In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).</i>	<i>In the context of the EQF responsibility and autonomy is described as the ability of the learner to apply knowledge and skills autonomously and with responsibility.</i>
Level 1 The learning outcomes relevant to Level 1 are	Basic general knowledge	Basic skills required to carry out simple tasks	Work or study under direct supervision in a structured context
Level 2 The learning outcomes relevant to Level 2 are	Basic factual knowledge of a field of work or study	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools	Work or study under supervision with some autonomy
Level 3 The learning outcomes relevant to Level 3 are	Knowledge of facts, principles, processes and general concepts, in a field of work or study	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	Take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems
Level 4 The learning outcomes relevant to Level 4 are	Factual and theoretical knowledge in broad contexts within a field of work or study	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities



Level 5 ^[1] The learning outcomes relevant to Level 5 are	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others
Level 6 ^[2] The learning outcomes relevant to Level 6 are	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups
Level 7 ^[3] The learning outcomes relevant to Level 7 are	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research Critical awareness of knowledge issues in a field and at the interface between different fields	Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields	Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams
Level 8 ^[4] The learning outcomes relevant to Level 8 are	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields	The most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice	Demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research

Compatibility with the Framework for Qualifications of the European Higher Education Area

The Framework for Qualifications of the European Higher Education Area provides descriptors for three cycles agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process. Each cycle descriptor offers a generic statement of typical expectations of achievements and abilities associated with qualifications that represent the end of that cycle.

1. The descriptor for the short cycle developed by the Joint Quality Initiative as part of the Bologna process, (within or linked to the first cycle), corresponds to the learning outcomes for EQF level 5.
2. The descriptor for the first cycle corresponds to the learning outcomes for EQF level 6.
3. The descriptor for the second cycle corresponds to the learning outcomes for EQF level 7.
4. The descriptor for the third cycle corresponds to the learning outcomes for EQF level 8.



4. Energy guardian skill recognitions among countries in the frame of EQF in Energy@school project

This deliverable is a technical document that is describing a common version of O.T3.1 Training programme developed and delivered for capacity raising of Senior energy guardian towards EE management valid at EU level according to the European Qualification Framework. National trainings that were developed within the Energy@school project have been analysed to draw a parallel with the EQF.

In the AF it was planned that training programmes for capacity building are for school energy managers, experts and post-graduated. In the first stages of the project development partners has realized that the reality of the target groups are mostly school staff, maintenance workers and municipalities energy managers, which were set in the teams of Senior energy managers. That is why during the training implementation, partners have tested the trainings with different content and durations based on their target groups.

The aim of the Common versions of the Trainings is therefore to set the basis for a structured training that can be customized and transferred outside the project boundaries and participants, a training that can be of full reference for any other school and Municipality that is willing to implement the role of Energy Guardians in their environment.

For these reasons, it has been decided to implement the tests/experimentations done and it has been defined that the **EQF Level to be aimed by tailored training is achieved LEVEL 4.**

All the training contents developed during the project have therefore been fine-tuned and organised in a training formally structured according to the EQF rules. Following the training, any European school and Municipality will ensure to train very-skilled Senior Energy Guardians.



5. Evaluation of EQF in participating countries

In the following tables we have gathered the data from each partner that has implemented trainings in their schools. Each partner has translated and customized both parts of trainings to their own needs. In the table below the used methodology for implementing training is represented. Based on chosen methodology, hours of training and European qualification framework in each country each partner was asked to assess the estimated level achieved.

PP1 - ITALY	
Implemented Vocational energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Meetings with the energy efficiency expert (practical theoretical meetings with laboratories and simulations)
	<i>Self-study</i>
Implemented Continuous energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Meetings with the energy efficiency expert (practical theoretical meetings with laboratories and simulations)
	<i>Self-study</i>
Country: ITALY	
Level 1	<i>Final licensing diploma of the first cycle of education.</i>
Level 2	<i>Certification of the basic skills acquired as a result of fulfilling the education obligation.</i>
Level 3	<i>Certificate of professional operator qualification.</i>
Level 4	<i>Professional technical diploma, high school diploma, technical education diploma, vocational education diploma, Higher technical specialization certificate.</i>
Level 5	<i>Higher technical diploma.</i>
Level 6	<i>Degree, I level academic diploma.</i>
Level 7	<i>Master's degree, II level academic diploma, I level master's degree, academic specialization diploma, postgraduate diploma or master's degree (I).</i>
Level 8	<i>Research doctorate, academic diploma in research training, specialization diploma, second level university master's degree, academic specialization diploma (II), postgraduate diploma or master's degree (II).</i>



PP3 - POLAND	
Implemented Vocational energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Study tour x 2
	Conference
Implemented Continuous energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Self-study
Country: POLAND	
Level 1	<i>Basic education with lower educational criteria</i>
Level 2	<i>Basic education - Primary school</i>
Level 3	<i>Secondary comprehensive or vocational education (4 or 5 years)</i>
Level 4	<i>Professional/ Academic bachelor's degree (3 years)</i>
Level 5	<i>Master's degree (5 years or only 2 years after bachelor's degree)</i>
Level 6	<i>Doctorate</i>



PP5 - CROATIA	
Implemented Vocational energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Lecture
Implemented Continuous energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Lecture
Country: CROATIA	
Level 1	Primary education certificate - eight years
Level 2	Vocational training certificate
Level 3	Upper secondary VET certificate - two years / Upper secondary VET certificate - one year
Level 4.1	Upper secondary VET - three years
Level 4.2	Upper secondary general education school leaving certificate Upper secondary VET certificate - four years / Upper secondary VET certificate - five years
Level 5	Professional higher education diploma - short cycle VET post-secondary development and training certificate Master craftsman diploma
Level 6	Bachelor diploma - undergraduate university studies Professional bachelor diploma - undergraduate professional studies
Level 7.1	Master diploma - graduate university studies Professional master diploma - specialist graduate professional studies
Level 7.2	Post-master specialist university studies
Level 8.1	Postgraduate research master of science diploma
Level 8.2	Doctoral diploma

link: http://www.cedefop.europa.eu/files/4163_en.pdf



PP7 - HUNGARY	
Implemented Vocational energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Lecture
	Self-study
Implemented Continuous energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Lecture
	Practical lesson
	Self-study
Country: HUNGARY	
Level 1	<i>Primary school, 1-4 classes</i>
Level 2	<i>Primary school, 5-8 classes</i>
Level 3	<i>Secondary school 9-11, classes</i>
Level 4	<i>Secondary school 12. class, Graduation exam</i>
Level 5	<i>Higher education, BA level (university and college)</i>
Level 6	<i>Master's degree (university)</i>
Level 7	<i>Researcher level</i>
Level 8	<i>Doctoral level</i>



PP8 - HUNGARY	
Implemented Vocational energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	lecture
	joint conversation
Implemented Continuous energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	lecture
	joint conversation
Country: HUNGARY	
Level 1	<i>Basic education with lower educational criteria</i>
Level 2	<i>Basic education - Primary school</i>
Level 3	<i>Short upper secondary vocational education</i>
Level 4	<i>Short-cycle higher vocational education</i>
Level 5	<i>Professional / Academic bachelor's degree</i>
Level 6	<i>Master's degree</i>
Level 7	<i>Research Master's degree</i>
Level 8	<i>Doctorate</i>



PP9 - GERMANY	
Implemented Vocational energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Lecture (Presentation based on the provided training material D.T3.2.1)
Implemented Continuous energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Lecture (Presentation based on D.T3.2.2)
Country: GERMANY	
Level 1	<i>Pre-vocational basic qualification</i>
Level 2	<i>Introductory qualification (chamber certificate)</i>
Level 3	<i>Short upper secondary vocational education</i>
Level 4	<i>Short-cycle higher vocational education</i>
Level 5	<i>Advanced vocational qualification</i>
Level 6	<i>Bachelor's degree</i>
Level 7	<i>Master's degree</i>
Level 8	<i>Doctorate</i>



PP10 - AUSTRIA	
Implemented Vocational energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Lecture (Trainig Schulamt)
	Self-study (Schulungsunterlagen/based on provided training material DT3.2.1)
Implemented Continuous energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Lectures in single sessions per school (based on DT3.2.2 “Weiterführende Schulung” and “Handbuch zum Siemens Navigator”)
	Telephone inquiries
Country: AUSTRIA	
Level 1	<i>Pre-vocational basic qualification</i>
Level 2	<i>Introductory qualification (chamber certificate)</i>
Level 3	<i>Short upper secondary vocational education</i>
Level 4	<i>Short-cycle higher vocational education</i>
Level 5	<i>Advanced vocational qualification</i>
Level 6	<i>Bachelor's degree</i>
Level 7	<i>Master's degree</i>
Level 8	<i>Doctorate</i>



PP12 - SLOVENIA	
Implemented Vocational energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Lecture
	Self-study
Implemented Continuous energy guardian training programme	
USED METHODOLOGY (lecture; e-learning; self-study; etc.)	Lecture
	Self-study
Country: SLOVENIA	
Level 1	Basic education with lower educational criteria
Level 2	Basic education - Primary school
Level 3	Short upper secondary vocational education
Level 4	Short-cycle higher vocational education
Level 5	Professional / Academic bachelor's degree
Level 6	Master's degree
Level 7	Research Master's degree
Level 8	Doctorate