



## Towards a European qualification for Solid Waste Facilities' Managers - SWFM-QF

The SWFM-QF project has been funded in the framework of Lifelong Learning Programme under the action of LEONARDO DA VINCI Multilateral Projects for Development of innovation. (Grant Agreement reference no 2012-3351/001-001 signed on 12/09/2012).

### SWFM-QF partners:

-  [SIGMA Consultants Ltd. \(Sigma\)](#)
-  [Hellenic Federation of Environmental Protection Companies \(PASEPPE\)](#)
-  [Saxon Education Company for Environmental Protection and Chemical Occupations Dresden Ltd. \(SBG-DD\)](#)
-  [Research Institute for Vocational Education & Training \(F-BB\)](#)
-  [SINERGIE Società Consortile a responsabilità limitata \(SINERGIE\)](#)
-  [Szent Istvan University \(SZIE\)](#)
-  [Association of Environmental Enterprises \(KSZGYSZ\)](#)
-  [Trust Waste Management Limited \(TWML\)](#)
-  [Institute of Environmental Protection - National Research Institute \(IEP-NRI\)](#)
-  [Polish Chamber of Commerce \(PCC\)](#)
-  [Kaunas University of Technology - Institute of Environmental Engineering \(KTU- APINI\)](#)
-  [Alytus Region Waste Management Center \(ARWMC\)](#)
-  [Bulgarian Industrial Association \(BIA\)](#)

## This ISSUE

1. How to develop suitable units of learning outcome for waste facility managers?
2. Progress of the project
3. NQF - UK
4. SWFM-QF Dresden meeting
5. Next planned actions

## Towards a European qualification for Solid Waste Facilities' Managers - SWFM-QF

### 1. How to develop suitable units of learning outcome for waste facility managers?

The development of units of learning outcome requires an algorithm, by the use of ECVET (European Credit System for Vocational Education and Training), to describe the underlying competences. The ECVET levels are oriented towards the European Qualification Framework (EQF). The Saxon Education Company (SBG) has an experience in developing of learning outcomes for chemical operators (Pile-UP project). The initial steps of the applied algorithm could be therefore adapted to SWFM-QF.

#### The basic steps include

1. Set an understanding of the relevant competences: In the EQF, learning outcomes are defined in terms of knowledge, skills and competences. Learning outcomes can be listed in a catalogue of units. A unit is defined as a set of knowledge, skills and competences, which constitutes a part of a qualification. A unit, as i.e. the smallest part of a qualification, can be assessed, validated and possibly certified. Units of learning outcome should be: legible and understandable, built up and organized in a coherent way as well as to be assessable.

2. Analysis order means: Comparison of the national curricula to sample them together in a job competence profile. This profile should be divided in the several main competences, which have to be described in detail.

3. Structuring approach for units of learning outcomes: The best way to describe the competences is to analyze the underlying work tasks with regard to knowledge and skills. This is followed by the definition of exemplary tasks, which can be assessed, whether an increase of competence has occurred. The structuring approach requires continuous discussion with practitioners, trainees and teachers.

4. Confirmation of the structure of units of learning outcomes: The verification of defined units of learning outcomes is done by talks, semi-structures interviews and a workplace analysis as well as through the work with practitioners, trainees and teachers.

5. Completion of defined units of learning outcome.

Essential for creating relevant units of learning outcomes for managers of waste management facilities (EQF-Level 6), with regard to the underlying competences, is the focus on relevant work tasks for certain material streams (paper, glass etc.), which can be assessed and therefore transferred by the help of ECVET to all participating member countries.



Co-funded by the Lifelong Learning Programme of the European Union

"This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein."

## Towards a European qualification for Solid Waste Facilities' Managers - SWFM-QF

The SWFM-QF project has been funded in the framework of Lifelong Learning Programme under the action of LEONARDO DA VINCI Multilateral Projects for Development of innovation. (Grant Agreement reference no 2012-3351/001-001 signed on 12/09/2012).

### SWFM-QF partners:

-  [SIGMA Consultants Ltd. \(Sigma\)](#)
-  [Hellenic Federation of Environmental Protection Companies \(PASEPPE\)](#)
-  [Saxon Education Company for Environmental Protection and Chemical Occupations Dresden Ltd. \(SBG-DD\)](#)
-  [Research Institute for Vocational Education & Training \(F-BB\)](#)
-  [SINERGIE Società Consortile a responsabilità limitata \(SINERGIE\)](#)
-  [Szent Istvan University \(SZIE\)](#)
-  [Association of Environmental Enterprises \(KSZGYSZ\)](#)
-  [Trust Waste Management Limited \(TWML\)](#)
-  [Institute of Environmental Protection - National Research Institute \(IEP-NRI\)](#)
-  [Polish Chamber of Commerce \(PCC\)](#)
-  [Kaunas University of Technology - Institute of Environmental Engineering \(KTU- APINI\)](#)
-  [Alytus Region Waste Management Center \(ARWMC\)](#)
-  [Bulgarian Industrial Association \(BIA\)](#)

## 2. Progress of the project

During the last six months, several tasks of the SWFM-QF project have started and been concluded and other are in progress.

All the necessary handbooks (Quality, Communication and Dissemination) and work plans were prepared and distributed to all partners working groups in order all of them to work on an agreed timetable and on a consistent manner.

During this period, the most important tasks that have been concluded are:

a) the elaboration of two surveys in 8 European countries (Greece, Germany, Italy, Hungary, UK, Poland, Lithuania and Bulgaria), resulting in two separate reports, one for each survey.

The first survey is focused on the assessment of the nature, content and regulation of qualifications for Solid Waste Facilities Managers. The existing National Qualifications Frameworks (NQF) were examined along with the training needs of the professionals occupied in this sector. In the same survey the status of the industrial waste management labor market, in each European country, was investigated, as well as the working conditions, the value of qualifications and the status of Waste Management profession in industry and in society.

The second survey assessed the existing national VET systems on the professions of Waste Management in industry. The learning procedures through which the identified qualifications are acquired were mapped. Any formal and informal training was taken into consideration. Information like the structure and content of the VET programs, their learning outcomes, acquired knowledge and their cost were documented.

Each survey was conducted via the compilation of a structured questionnaire which was circulated and answered by the foreseen in the project target groups (VET organizations, Waste Management Facilities, Authorities, etc).

b) the formation of the SWFM-QF Network. The network counts already more than 120 members from all project's participating countries. Invitations for more members to join the network will continue to be sent to interested stakeholders, till the end of the project's lifetime.

c) the launch and operation of the SWFM-QF website <http://www.swfm-qf.eu/main/>

The website is fully operational from January 2013. The website incorporates the Communication and Knowledge Exchange tool. The tool is used a) for communication reasons among the Network members and for uploading and sharing valuable information on vocational training for solid waste management issues, both from project partners but also from other interested entities.

d) An Informative Leaflet was issued and translated to all partners' native languages.

## 3. NQF- UK

Vocational education and training within the waste management sector in the UK is fairly well established. Within the four countries; Scotland, England, Northern Ireland and Wales, there is a system for developing, delivering and regulating vocational qualifications.

In recent years, there has been a change in the way we approach terminology; "waste" is now seen as a "resource". This is mainly in response to recent changes in political, social, economic, legal and environmental drivers. As a result of these drivers, the waste management sector has become a lot more attractive. Viewing waste as a resource, and valuing environmental commitments, has encouraged the development of recycling plants, composting facilities, anaerobic digestion sites, refuse derived fuel plants (RDFs), etc., which all divert waste from landfill, and generate an income at the same time.

Due to this progression, new national occupational standards have been developed for the waste industry and as a consequence new qualifications have also been developed (e.g. resource management qualifications).



Co-funded by the Lifelong Learning Programme of the European Union

**"This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein."**


## Towards a European qualification for Solid Waste Facilities' Managers - SWFM-QF


The SWFM-QF project has been funded in the framework of Lifelong Learning Programme under the action of LEONARDO DA VINCI Multilateral Projects for Development of innovation.


(Grant Agreement reference no 2012-3351/001-001 signed on 12/09/2012).


### SWFM-QF partners:

 [SIGMA Consultants Ltd. \(Sigma\)](#)


 [Hellenic Federation of Environmental Protection Companies \(PASEPPE\)](#)


 [Saxon Education Company for Environmental Protection and Chemical Occupations Dresden Ltd. \(SBG-DD\)](#)


 [Research Institute for Vocational Education & Training \(F-BB\)](#)


 [SINERGIE Societa Consortile a responsabilita limitata \(SINERGIE\)](#)


 [Szent Istvan University \(SZIE\)](#)

 [Association of Environmental Enterprises \(KSZGYSZ\)](#)

 [Trust Waste Management Limited \(TWML\)](#)

 [Institute of Environmental Protection - National Research Institute \(IEP-NRI\)](#)

 [Polish Chamber of Commerce \(PCC\)](#)

 [Kaunas University of Technology - Institute of Environmental Engineering \(KTU- APINI\)](#)

 [Alytus Region Waste Management Center](#)

This has resulted in these new waste management qualifications becoming more diversified and this is reflective of the range of technologies and practices involved in the modern waste management industry.

In order to keep pace with the ever changing waste industry, the vocational training and educational system in the UK has also evolved.

The suite of waste management qualifications have expanded, and individual awards have been tailored to suit specific activities; e.g. anaerobic digestion, composting, landfill management, hazardous waste incineration, recycling, etc.

Each of the four countries have their own system for delivering qualifications for the waste and recycling industry, with the main differences in each country being in the qualifications framework structure and also who the awarding/regulatory bodies are. A summary of the vocational qualification development and delivery is outlined below.

Vocational qualifications are developed in line with National Occupational Standards and these awards are then mapped to the qualifications framework, appropriate to each country. There are "awarding bodies" for waste management vocational qualifications in the UK. These awarding bodies have "approved centres" located throughout the UK, and these centres can deliver the qualifications available from the awarding bodies provided that they meet the criteria relevant to award delivery.

Additionally, vocational qualifications, courses and training sessions can be delivered by other organisations, for example, the Chartered Institute of Waste Management (CIWM) in the UK has a range of waste management courses that can be delivered to the waste management sector. Approved centres (including colleges and universities) may develop their own training to deliver within the waste and recycling industry. This training can be accredited by the awarding bodies and is normally referred to customised awards where the award is developed specifically for a niche demand by industry. These customized awards can form part of the overarching vocational educational training framework where they can either be the property of an approved centre or made public for all

approved centres to utilise. Regardless of the awarding body, the approved centre or the type of vocational education training award there is a common process of candidate interface.

Candidates for the vocational educational training awards in the waste sector are required to formally register with an approved centre. The centres are the link between the candidate and the awarding body and it is the centre who in turn registers the candidate with the awarding body.

The candidate undertakes the award at his/her place of work and is assessed at the place of work by an assessor who may also act as a tutor to the candidate. Once the candidate has completed the award and collected the evidence required to prove competence in regard to the award activity then the assessor will carry out a formal assessment of the candidate at his/her place of work to determine whether the candidate has indeed meet the requirements of the award.

In this regard the candidate normally prepares an evidence portfolio which is formally assessed by the assessor and then in turn the assessor's decision is reviewed by an internal verifier both from the same approved centre.

In order that the activities of the centre and their decision making process is verified by the awarding body an external verifier is appointed to the centre by the awarding body and on an annual basis this external verifier reviews the activities and the candidate portfolios at the approved centre.

The candidate however is resulted through the awarding body and by the approved centre once the internal verification process is complete. The candidate normally receives their certificate for successful completion of the award about 2 to 3 weeks after award completion.

It is safe to say that the UK has a relatively complex and well-established vocational education & training system for the waste and recycling industry, and this article only touches the surface. There are a wide range of qualifications, courses and training sessions available, and it is likely that these will continue to expand as social, economic and environmental drivers place more pressure on the waste and recycling industry.



Co-funded by the Lifelong Learning Programme of the European Union

**"This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein."**


## Towards a European qualification for Solid Waste Facilities' Managers - SWFM-QF


The SWFM-QF project has been funded in the framework of Lifelong Learning Programme under the action of LEONARDO DA VINCI Multilateral Projects for Development of innovation.


(Grant Agreement reference no 2012-3351/001-001 signed on 12/09/2012).


### SWFM-QF partners:

 [SIGMA Consultants Ltd. \(Sigma\)](#)


 [Hellenic Federation of Environmental Protection Companies \(PASEPPE\)](#)


 [Saxon Education Company for Environmental Protection and Chemical Occupations Dresden Ltd. \(SBG-DD\)](#)


 [Research Institute for Vocational Education & Training \(F-BB\)](#)


 [SINERGIE Società Consortile a responsabilità limitata \(SINERGIE\)](#)


 [Szent Istvan University \(SZIE\)](#)

 [Association of Environmental Enterprises \(KSZGYSZ\)](#)

 [Trust Waste Management Limited \(TWML\)](#)

 [Institute of Environmental Protection - National Research Institute \(IEP-NRI\)](#)

 [Polish Chamber of Commerce \(PCC\)](#)

 [Kaunas University of Technology - Institute of Environmental Engineering \(KTU- APINI\)](#)

 [Alytus Region Waste Management Center](#)

### 4. SWFM-QF 2<sup>nd</sup> meeting

During the 17<sup>th</sup> and 18<sup>th</sup> of June the 2nd Coordination meeting was held in Dresden Germany. It was successfully organized by the Saxon Education Company for Environmental Protection and Chemical Occupations Dresden Ltd. During the meeting the project progress was presented and the next six months actions were planned.

Meeting's photos and presentations can be found at project's website: <http://www.swfm-qf.eu/main/?p=6756&lang=en>

### 5. Next planned actions

Shortly two reports based on the national surveys will be finished (mid July).

During September and October partners will organize informational workshops where project's results achieved so far will be presented.

Finally, the first issue of the Solid Waste Facilities Managers Competence Framework is expected to be ready till the end of November 2013. The partners from each country have selected one type of solid waste facility to prepare the technical competences (knowledge, skills, attitudes) a manager should acquire during her/his training.

Next Coordination meeting is foreseen for late November or Early December 2013. It will be held in Budapest, Hungary. It will be hosted by the Szent Istvan University (SZIE). The purpose of the 3<sup>rd</sup> Coordination Meeting will be the discussion of the project status in each participating country, the on-going and future activities, financial and administrative issues.



Co-funded by the Lifelong Learning Programme of the European Union

**"This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein."**