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External Evaluation Report



Towards a European qualification for Solid Waste Facilities' Managers

Author: Zdravko Georgiev, M.Sc. (Tech., Env.), Ph.D



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Table of Contents

1. Executive summary	3
2. Introduction	4
3. Description of the evaluation process	6
4. Results	9
5. Conclusions	16

1. Executive summary

Towards a European qualification for Solid Waste Facilities' Managers (SWFM-QF) project has been funded in the framework of Lifelong Learning Programme (LLP) with support from the European Commission. The project aims at developing a European qualification and training framework to address the needs of facilities managers in the waste management industry. SWFM-QF corresponds to the demand situation by developing a European qualification framework so to address the needs of facilities managers in the waste management industry.

The objectives and outcomes clearly fall within the targeted scope of the LLP – to enhance the cooperation between universities and enterprises by way of work placements and thus contributing to the knowledge triangle and the Lisbon process.

Sustainability of the project and its results are ensured by developing a range of standardized profiles suitable for the different levels of SWFM qualifications. Thus the diversified structure of the VET in different EU countries will be aligned with EQF and ECVET initiatives. The partners have already contacted VET centers and discussed with them possibilities to develop training programs based on the content of the Info-Training toolkit. Exploitation Plan Handbook (D7.1) and the final conference in September will also contribute to the sustainability of the project outcomes. The developed info-training toolkit provides relevant structure and materials of training courses to be used in the VET system of the EU member states to meet the needs for quality of the qualification of the solid waste facility managers.

2. Introduction

Brief overview of the report

The author of this evaluation report was approached by the project partner Bulgarian Industrial Association, on behalf of the partnership carrying out the SWFM-QF Project and asked to review the project as external evaluator. SWFM-QF is a project funded and carried out in the framework of the Lifelong Learning Programme of the European Union for a period of two years (01.11.2012 – 31.10.2014).

The present external evaluation report was commissioned three months prior to the end of the project. The objectives of the evaluation are to assess as to whether the project's activities and products ("deliverables") are in line with the aims and objectives outlined in the original application which forms an integral part of the grant agreement with the EU/EACEA. Linked to that this evaluation seeks to assess as to whether all pertinent project activities have been realised according to project plan. Finally, the author aims to conclude with a feedback on the outputs ("deliverables") and recommendations on potential improvements.

General information about the evaluation method

The evaluation report will thus seek more closely to:

- analyse to what extent the project has followed the activities in line with the objectives and aims outlined in the original project proposal.
- assess the acceptability of the deliverables with regards to content and correspondence to project and programme objectives.
- assess, more specifically, with regards to the deliverables their relevance, the quality of achievements, the quality of presentation of achievements and the layout/editing.
- conclude by evaluating the acceptability of the project's results and by giving recommendations on potential improvements

The evaluation of SWFM-QF Project is a formative evaluation. It takes place during the project to guide future development at the finalization stage. The following criteria are used:

- national & EU relevance,

- consistency of the training material developed – content, logic, materials used,
- EQF/ECVET relevance, mapping to EQF/NQF,
- Impact, dissemination and exploitation, sustainability of the results.

In order to carry out the evaluation the author was given full access to all relevant external and internal documents on the corresponding project website. Documentation comprises above all relevant documents and progress reports. Several e-mails were exchanged with the project partner BIA on clarification on some organizational issues.

Information about the evaluator

The author Zdravko Georgiev has more than 10 years professional experience of research and consultancy in energy and environmental issues. After graduation in process control and automation and environmental protection and sustainable development, he has several specializations in UNIDO, UNEP, Helsinki University of Technology, University of Burgos and Technical University - Sofia in the areas of process control optimization, energy efficiency and renewable energy sources, environmental standards, and energy auditing. Over the years Zdravko Georgiev has been involved as expert, key expert or project manager in more than 15 international projects in the areas of energy planning, technical and economic feasibility studies, analyses and other activities in the fields of energy efficiency, renewable energy sources and environmental protection.

Structure of the report

The present report is structured in five sections, including summary and introduction. Section 3 presents the contexts in which the external evaluator had to operate and the evaluation process. This will be followed in Section 4 by the evaluation findings whereby a distinction will be made between the methodology followed, the process of conducting the project and the results of the project. Finally in Section 5 some final remarks and recommendations will be presented.

3. Description of the evaluation process

Overview of the external evaluation process

The purpose of the external evaluation of SWFM-QF project is to validate the project products, their relevance and EU and national level and sustainability in terms of acceptance and applicability and EQF/NQF. Evaluation is made at the final stage of the project and the information will be used for final review of the project outcomes and, if necessary, improvement of the materials and the way of their presentation. The report is for internal needs of the project consortium.

i. Evaluation context

The evaluation context concerns two interrelated sets of factors that have bearing on the accuracy, credibility and usefulness of evaluation results :

- Social, political, economic, demographic and institutional factors, both internal and external, that have bearing on how and why the initiative produces the results (positive and negative) that it does and the sustainability of results. This set of factors is from a more general perspective, at EU and national level and is related with waste management and life-long learning policies in Europe and the member states.
- Methods and technologies for waste management and utilization with relevance to vocational education and training and EU and national qualification. These factors are on technological level and concerns practicalities related to the operation.

Examining the internal and external factors within which the project is being implemented helps explain why the project has been implemented the way it has and why certain outputs or outcomes have been achieved and others have not. Assessing the initiative context may also point to factors that impede the attainment of anticipated outputs or outcomes, or make it difficult to measure the attainment of intended outputs or outcomes or the contribution of outputs to outcomes. In addition, understanding the political, cultural and institutional setting of the evaluation can provide essential clues for how best to design and conduct the evaluation to ensure the impartiality, credibility and usefulness of evaluation results.

ii. Evaluation scope

Evaluation covers the activities implemented under SWFM-QF project at European level. It includes the deliverables produced with focus on the developed Qualification Framework and Training Toolkit for the Solid Waste Facility Managers. Policy and legislation framework, as well as available technologies for solid waste management were taken into account for the evaluation.

iii. Evaluation process

Criteria used in the evaluation process

The following criteria are used for evaluation of SWFM-QF project:

- National & EU relevance – project deliverables were compared with the EU and national policy in the area of solid waste management.
- Consistency of the training material developed – the structure and content of the info-training toolkit was checked in order to evaluate if the materials are logic and understandable for the trainers and trainees and the proposed material to be used are relevant to the content.
- EQF/ECVET relevance, mapping to EQF/NQF – relevance with the EQF and ECVET was also considered in the evaluation process as the main objective of the SWFM-QF project is to provide a common framework and modules for VET centres.

The impact, dissemination and exploitation, and sustainability of the results were also considered in the evaluation process.

Preparation works

In order to ensure a fair evaluation of each part of the qualification/training material the evaluator get full access to the material developed. All preliminary results were discussed with the project partner Bulgarian Industrial Association.

The evaluator declares that the evaluation process is:

- **Valid** – evaluation is done by an experienced professional;
- **Authentic** – the process is based on materials available on the project web page and is developed for the concrete content and deliverables using the common evaluation practices;
- **Reliable** - the process is based on evaluation against accepted by the contractor criteria;

- **Consistent** – developed materials and deliverables were checked carefully against the evaluation criteria. The observations are described in details and summarised in point 4 of the report.
- **Sufficient** – the process covers all material developed and included in the assignment.

Outcome/findings of the evaluation process

The general outcomes of the evaluation process are that the materials and deliverables developed for the qualification framework and info-training toolkit are in line with the project objectives and corresponds to the EU and national policies for solid waste management.

4. Results

a. Evaluation of Technical qualifications

i. Qualification framework

One of the main project outcomes is development of a harmonized qualification framework for solid waste facility managers. The qualification framework was divided into two categories: common and technical qualifications, which corresponds to the principles of facility management. The identified qualifications are presented in the form of a matrix according to EQF level 6 knowledge, skills and competences descriptors, supporting to their recognition and adoption across the European Union countries.

In order to fulfill the needs of for managers occupied in different types of solid waste management facilities, the technical qualifications are divided into the following categories:

- Anaerobic Digestion
- Composting
- Landfill site
- Recycling
- Thermal Treatment
- Transfer Stations

The categories cover the main facilities in the solid waste management and processed used in practice.

The methodology used to compile the SWFM Harmonised Qualifications Framework was based on the methodology implemented for the development of a Professional Profile.

Suggestions:

Two different terms were used for the points given for the subtasks developed: “weighting” and “assessment criteria”. Actually these are maximum points awarded. It is good to unify the terms and to use: “weighting” of “points” or other relevant term.

Conclusions

The developed qualification frameworks are clear, consistent and contribute to a wider understanding of the roles and responsibilities, activities and tasks of waste managers in managing effectively and sustainably different solid waste management facilities.

ii. Knowledge, skills and competences

The proposed matrix includes the following elements:

Knowledge- assimilation of knowledge throughout learning

Skills - Ability to apply knowledge

Competencies - Measure of responsibility and autonomy; ability to use knowledge, skills, social abilities

For all learning outcomes the matrix describes different technical knowledge and corresponding skills and competences needed for the process operation.

iii. Learning outcomes

For all professional activities learning outcomes were defined to explain what should be the results for the trainees in terms of operational skills and competences for working on site. The outcomes give the core elements for the sustainable operation: proper planning, supervision, checking and improvements, implementation of measures in order to increase efficiency of the system and others, including implementation of innovations, optimization measures. Learning outcomes reflect to the current needs for energy and resource efficiency and preventive and proactive maintenance. They provide also skills for monitoring and analysis of data and applying best operational practices.

Recommendations

First professional activity in qualification „Recycling“: is „Monitoring energy consumption“. This activity could be given as horizontal activity valid for all professional qualifications, not only for management of recycling facilities.

Landfill site management qualification is very well described. Landfill closing and operation after closing is missing, although some of the monitoring activities cover this issues. This can be included in some of the modules or described as a separate professional activity.

Conclusions

More of the outcomes can be considered as advanced and it is difficult to be all included in details in a VET course. From the marketing point of view however this is good point and it will be up to the VET centers to highlight some of the learning outcomes of the modules.

iv. Info-training toolkit

The technical section includes 6 courses in the following topics:

- Anaerobic Digestion
- Composting
- Landfill site
- Recycling
- Thermal Treatment
- Transfer Stations

All courses have a short description of the concept, trainers' and trainees' requirements, technical facilities and infrastructure and structure and content.

Recommendations

The description of each of the courses is well presented as the only recommendation is for convenience to have it also as a single electronic file with logos of the project and the programme and disclaimer.

If possible the proposed course material should have also references for the source. Some of the links do not work properly and the reference could prevent problems for the users in case of changes in the location in some of linked documents.

Course Unit 1 for recycling "conduct energy management" is a horizontal topic and can be taken as a common technical course unit as it is applicable for all technologies.

Course description is missing in the recycling course structure and content. It is valuable to have this description as this is the only missing content in the matrix.

As a part of the info-training toolkit is included glossary as the list contains terms and their definitions frequently used either in the solid waste industry or specifically by Waste Management and apart from the definition translation into Bulgarian, Greek, German, Italian, Hungarian, Lithuanian and Polish languages. The evaluator finds this additional material very usefull as the only reccomendation is to

include the visualisation of the project (project and LLP logos) and the disclaimer as there are some terms that can be better translated. Sources of definitions could be also added at the end as references. Apart from the breakdown into categories, it is practical to have it also as a single electronic document (pdf file) for the use of more general professional and trainers.

Conclusions

Courses are divided into units which is convenient for practical implementation in VET system. For each of the units' course description is given, sub-units and course materials. Content corresponds to the EU waste management policy, legislation and plans and programs. All major processes and systems are mapped in the sub-units providing good framework for VET courses development in all EU member states.

b. Evaluation of Common qualifications

i. Qualification framework

The common qualifications are developed into 6 main qualification profiles:

- Environmental management
- Financial and contractual
- Health and safety
- Human resources
- New projects
- Operational management

The proposed structure covers the main activities and professional profiles which are common for all solid waste management technologies and facilities. Operational management highlights some common operational activities which are further specified in the technical qualifications according to the different technologies. This qualification is also related to the maintenance and common organizational issues not to the technology in the technical qualification which is considered by the author as a good decision and addition in the common framework.

Recommendations

Although the environmental management profile is very comprehensive, additional competence could be included for communication of the site operation to the general public and other stakeholders. Public relations can be part of the management work. It is now mentioned only as LO 12 in ULO OM-1 in operational management profile.

ii. Knowledge, skills and competencies

For all learning outcomes the matrix describes different the necessary knowledge and corresponding skills and competences needed for the solid waste management. These elements are well explained and relevant to the corresponding profiles.

Recommendations

Competences in ISO 14001 for environmental management and The EU Eco-Management and Audit Scheme (EMAS) can be also added in the environmental management profile.

Conclusions

The proposed matrices of knowledge, skills and competences provides a common frame for the development of the training units and modules in a VET course at national level. Together with the learning outcomes they can be used also for marketing purposes.

iii. Learning outcomes

Learning outcomes cover the needs for professional qualification in the common daily management activities. They are well presented and logically connected to the profile activities.

Recommendations

Learning outcomes are well defined as in some profiles they are too many and project partners could think how to combine some of them.

Conclusions

Some of the profiles look comprehensive due to the complexity of information and interdisciplinary of the solid waste management. Despite the complexity of the waste management the partners have managed to cover the main issues and aspects to be included as common competences in the

qualification framework. The common qualifications give all basic knowledge, skills and competences needed for the profession of solid waste manager.

iv. Info-training toolkit

The common training courses follow the structure of the common qualification framework. For each course a short description is given, followed by the content structure and requirements for the trainers, trainees and facilities.

- Environmental course focuses on environmental management, including all legal, organizational, and technological aspects. Use of sustainable business practices and ensuring staff compliance with organizational policies and procedures as well as monitoring and evaluation are critical for the normal operation activities, which are also covered.

Recommendations

Including basic knowledge in the The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001 environmental management standard would be beneficial for the course, including for marketing purposes.

- Financial & contractual management course is dedicated to aspects as budget management, managing contracts and monitoring their performance and risk management.

Recommendations

The specific aspects of green public procurement could be involved in the course unit 5 – performance indicators for some common systems, facilities and vehicles (lighting, HVAC systems, others).

- Health&safety course provide knowledge and skills on development, implementation and organization of H&S procedures. OHSAS 18001 is included as a standard management system.

Recommendations

Example how VET system is organized in Greece is included in the requirements for trainers and trainees from unemployed persons, which might be not relevant for the other countries. This information can be excluded. The proposed selection procedure based on family status and age (although giving only 15% weight) could be considered as discriminative and is not necessary for VET for professionals.

- Human resources management includes the main HR principles and covers all aspects in order to maximize employee performance and prevent problems based on relationship between workers.

Recommendations

Not identified

- New projects management – practical issues for project management are included, including strategic planning and implementation of new business plans. Instruments as cost benefit analysis, resource planning and others are also discussed.

Recommendations

Risk identification and risk management techniques could be included.

- Operational management – deals with operational strategy, effective planning and controlling activities and applying modern approaches. Some of the units as human resource management and finance management are covered by the other courses however the knowledge and skills provided corresponds to the main objectives of the course and the logic of the qualification framework.

Recommendations

Not identified

5. Conclusions

In general the representation of the project outcomes is clear and logical. On the project web site all interested stakeholders after registration in the network can easily find the matrices of the qualification frameworks and the info training toolkit.

Partners has ensured very good suitability of the qualification framework for solid waste facilities managers by including up to date knowledge, skills and competences and give sufficient flexibility at country level. The qualifications added to the trainee are advanced and correspond to the EU and national policy on solid waste management. Therefore it is expected that the proposed qualification framework will contribute to the quality of solid waste management professionals within the EU and cover the need of the national VET systems in the fast growing area of waste management. The proposed framework is common enough to be easily adopted to the needs and legislation requirements at the EU member states. The needed technical qualification for operating a contemporary waste management facility were successfully enriched with common qualifications (social, economical, environmental) needed for the daily activities of the relatively new profession solid waste manager.

The qualification structure is coherent and provide a clear matrix of knowledge, skills and competences for the big variety of professional activities. In some places the learning outcomes can be combined in order to reduce their number and make the structure similar for the different issues. As a conclusion the units/activities are fully appropriate for managers of a solid waste facility(EQF level 6 learners).

The developed training courses curriculum give a common framework and content structure for different modules and is based of the developed qualification framework. For this purpose the materials provided are sufficient and give a good base for the further development of such courses by VET centers in Europe. The curricula fully correspond to the professional activities and learning outcomes and are appropriate to the qualifications. The proposed structure and web site organization ensure easy access to the information and helps to the proper use of the materials.

The evaluator finds very positive the development of glossary with translation of the terms into the languages of the project partners. It will be good to have a list of abbreviations as well. The developed knowledge base is well structured and by the end of the project can be enriched with more materials.