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## EXECUTIVE SUMMARY

Currently there is no unified approach to healthcare waste management NOS and VET across the EU Member States. Different member states have differing approaches to this subject area and some of these approaches are linked to waste management site permitting and inspection regulations however there is a lack of VET in regard to healthcare waste management within the healthcare facility and most member states are focused on the activities in the waste management industry and, therefore, out-with healthcare facility.

In order to underpin the work done at waste management facilities for the treatment and disposal of healthcare waste it is imperative that the healthcare facility producing that waste adopts high standards of waste management particularly in areas of waste segregation. Even in what are considered technically advanced member states the issue of healthcare waste management is still a challenging area within the overall field of waste management.

In a fact sheet published in October 2011 the World Health Organisation stated that – “To reduce the burden of disease, health-care waste needs sound management, including alternatives to incineration”. This trend further distances the hospital itself from the waste it produces and it is imperative that the hospital has a qualified waste manager to provide a credible interface with the industry partner. This is a two-way communication process and the industry sector also needs a credible partner at the healthcare facility in order to ensure that the system operates effectively and safely between both parties. This developed training programme and qualifications could ensure that the healthcare facilities have a properly trained member of their workforce who is able to ensure that, despite the function being sub-contracted, the internal hospital waste management system is a suitable and smooth interface for the waste contractor to conduct business with. This is not always the case and it is important that a unified approach to the NOS and VET is provided.

The aim of the project was to evaluate the job role of a healthcare waste manager and develop a vocational educational training programme based on the work activities and current best practice of EU healthcare waste managers, taking into account best available technology applications in the healthcare waste management sector. In the above regard the project set the following objectives:

- *Conduct an assessment of the healthcare waste management NOS and VET in the member states represented by the consortium and provide a report on each member state and its activities in the above regard. There are 12 states represented of which 10 are EU Member States*
- *Prepare a comparative analysis report of the finding in 9 of the 12 member states and on the basis of this develop the framework for the National Occupational Standard.*
- *Develop a National Occupational Standard for the post of healthcare waste manager in a healthcare facility.*
- *Develop a Vocational Educational Training Programme in line with the requirements of the national occupational standard.*
- *Develop an e-learning platform for the NOS*
- *Develop an EU wide network for dissemination and support of the project outputs*

In regard to the actions required to ensure that the aims and objectives are met the project has undertaken the following actions:

- *Partner organisations each established a stakeholder network*
- *9 partners conducted an analysis of the healthcare waste management qualifications framework in their own country*
- *9 partners identified a number of key healthcare facilities within their country through which they undertook several assessments (e.g. practices, skills and competencies) and conducted an analysis of the roles of healthcare waste managers, where the role exists, within those key healthcare facilities.*
- *Any training provision already available and undertaken by existing healthcare waste managers were identified*
- *The waste management arrangements at the key healthcare facilities in terms of onsite practices and waste management service provision were identified.*
- *Each partner produced an assessment report from the above activities.*
- *A comparative report developed from the findings of the country assessments was developed.*
- *A list of proposed units was developed and the network provided feedback. From the feedback results, a final unit list was created.*
- *National Occupational Standards and qualification units were developed for the identified healthcare waste manager functions.*
- *The partners produced training modules for the vocational educational training programme in support of the EUHCWM qualification*
- *External Evaluation of the proposed NOS and training package was conducted and EV reports generated for each of the participating partner countries.*
- *The qualification units and training modules prepared by the consortium partners were amended to reflect the results of the external evaluation.*
- *Dissemination of project outputs through a variety of outlets, including media coverage and workshops*
- *Development of an e-learning platform for the new qualification*
- *The development of an implementation plan*

The implementation process proposed is a two stage process whereby those member states where the qualification could be placed immediately onto the public register, the UK only at this stage within the partnership, will go ahead and place it on the public register.

Those member states who are not in a position to adopt the qualification at this time will work with the International Solid Waste Association in regard to the provision of a formal training programme administered by the International Solid Waste Association. This will be piloted in one EU member state in 2017. At the moment the EU member state identified has been Croatia.

In addition to the above and to try and improve the recognition of healthcare waste managers across the EU it is proposed to establish an EU professional association for healthcare waste managers. This was muted at the Informative Event in the UK and there was broad support for such a professional body. The UK partner will further explore this possibility in 2017.

## EUHCWM Project - Project Review

The EU-HCWM project aimed to provide a unified approach to the development of National Occupational Standards and Vocational Educational Training Programmes for Healthcare Waste Management across EU Member States, through the development of a new healthcare waste management qualification framework, and e-learning platform.

The new qualification framework developed during the project duration, will enable the EU labour force in the sector to gain a standardised set of skills regardless of the member state in which they undertook the vocational training programme. This will ensure that future health-care waste managers will have genuine EU educational currency and therefore enabling greater mobility within the EU for this specific labour force.

The key outputs from the project activities were;

- National Occupation Standards for Healthcare Waste Manager; Healthcare Waste Manager at a Treatment Centre and Healthcare Waste Manager at a Healthcare Waste Logistic Centre.
- The development of three vocational training qualifications in the roles of Healthcare Waste Manager; Healthcare Waste Manager at a Treatment Centre and Healthcare Waste Manager at a Healthcare Waste Logistic Centre.
- The development of associated training materials for the three training programmes required to underpin the above qualifications.
- The development of an e-learning platform to deliver the qualifications and the training programme.
- An EU wide professional network of waste and healthcare professionals has been established.

The project has a strong team, comprising of 12 partners, representing 11 European countries and two pan European industry associations, as well as membership from a Regional Environment Network. In addition, through the inclusion of the International Solid Waste Association, the project has managed to reach a truly global audience in respect of waste management professionals

The partnership group represents a broad range of stakeholders with a high level of technical expertise from both the state and private healthcare sectors.

The project partnership includes stakeholder's representative of industry and professional bodies from both healthcare waste management and healthcare providers. There is also a strong representation from the vocational education & training sector.

The strength of the partnership is reflected in the blend of the team in regard to the technical representation and in terms of the presence of serious multiplier organisations with pan European agendas.

Currently there is no formal or unified pan European approach to the development of National Occupational Standards or to Vocational Educational Qualifications in relation to healthcare waste management. Individual member states have different approaches to this subject area.

In some cases the approach to vocational qualifications in the waste management industry is linked to the national waste management site permitting and inspection regulations. This however normally relates to waste managers who are managing regulated waste management facilities and it does not normally apply to the management of waste within a healthcare facility.

In certain Member States there tends to be a focus on the waste management activities and, not therefore, at healthcare facilities themselves. In order to compliment and underpin the efforts made in

implementing vocational qualifications in the waste industry it is imperative that the healthcare facility itself, which is after all producing the waste, adopts high standards of waste management particularly in relation to waste segregation.

In a fact sheet published in October 2011 the World Health Organisation stated that –

*“To reduce the burden of disease, health-care waste needs sound management, including alternatives to incineration”.*

Through their Duty of Care the hospital itself needs to take responsibility for the waste it produces and how that waste is managed either by its own internal waste management service or by a sub contracted service provider. That responsibility is not limited to the hospital site itself and where waste is sent off site for treatment or disposal the healthcare facility should ensure that this is done in line with national legislation.

Good healthcare waste management is one way in which a healthcare facility can demonstrate that it is a safe place for patients and visitors. The healthcare facility should therefore have a qualified environment/waste manager to provide a internal focal point for the waste management system at the hospital and to be a credible interface with their waste industry partner in the case of sub-contracted service provision. This is a two way communication process and the waste industry also needs a credible management representative working with the healthcare facility in order to ensure that the system operates in full compliance with waste management legislation from the point of generation to the final point of disposal.

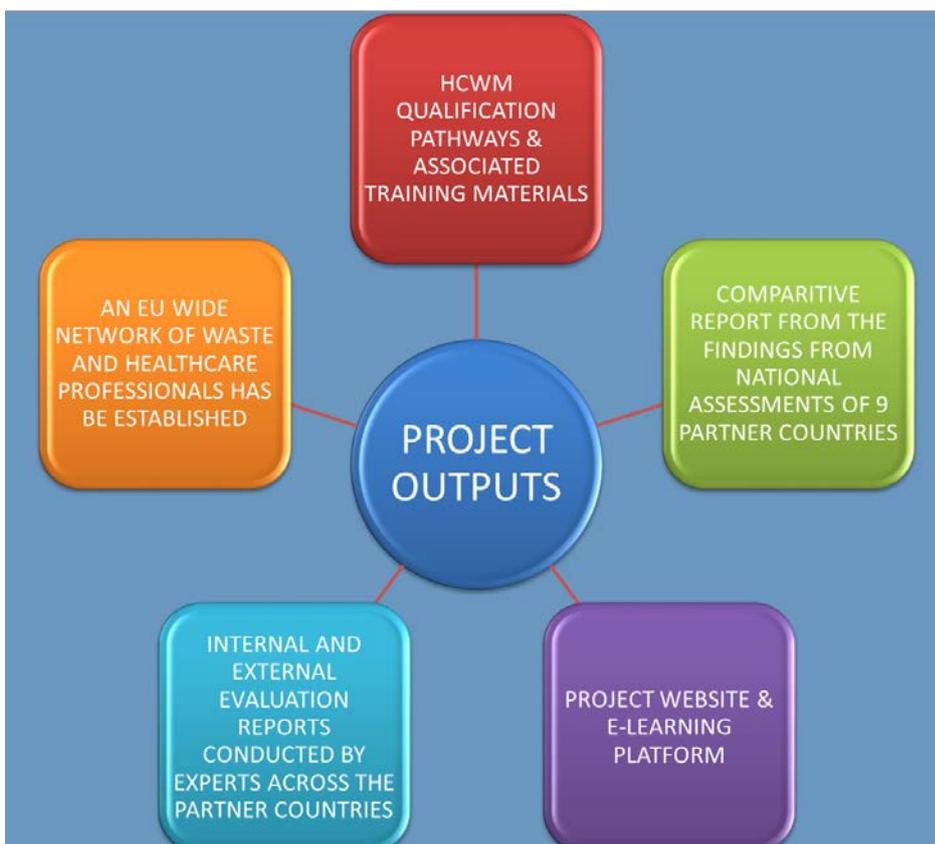
The training programme and qualifications developed by the project could be a mechanism through which the healthcare facilities have a properly trained member of their workforce. This ensures that, whether the healthcare waste management function is sub contracted or managed internally, they have a responsible person managing the process and keeping that facility compliant. In this regard therefore it is important that a unified approach to VET is provided across the EU.

One of the key project aims was to evaluate the job role of a healthcare waste manager and develop a vocational educational qualification with an associated training programme based on the work activities and current best practice of EU healthcare waste managers, taking into account best available technology applications in the healthcare waste management sector.

**Figure 1: Project Activities**



**Figure 2: Project Outputs**



## Vocational Qualification Units

One of the key milestones of the project was the completion of the vocational units for the new qualification of Healthcare Waste Manager. At the beginning of the project a first draft of the units list for the new qualification was developed and this was then put out to consultation with key stakeholders in the different project partner member states, through our partner multiplier organisations. The consultation process lasted two or three months and involved the distribution of 1000's of internal evaluation questionnaires through the project partner professional networks, the project website and at the informative workshops. It has been a difficult task balancing the interests and views of so many valid contributions from the industry and hopefully we have managed to get the balance right. What we have ended up with are three distinct qualifications involving three distinct pathways, mapped from the healthcare waste management suite of vocational education units and which reflect key roles in the healthcare waste management sector:

1. Healthcare Waste Manager at a Healthcare Facility
2. Healthcare Waste Manager at a Healthcare Waste Treatment Facility
3. Healthcare Waste Manager at Healthcare Waste Transport Operations

The pathways are shown on the following page. The units in blue text are optional units within the qualification pathway while black plain text denotes mandatory units.

Qualification 1: <i>Managing Healthcare Waste at a Healthcare Facility</i>	
No	Unit Title
1	Complying with Waste Management Legislation
2	<a href="#">Understanding Waste Management in the Environmental Management System</a>
3	<a href="#">Contribute to the selection of personnel for activities</a>
4	<a href="#">Create effective working relationships</a>
5	Conducting an Internal waste management audit and pre-acceptance auditing at a healthcare facility
6	Ensure protection of the environment at healthcare facilities, treatment or transport operations
7	Developing Healthcare Waste Management Policy and Plan Documents
8	<a href="#">Climate Change Adaptation Auditing &amp; Reporting at a Healthcare Facility</a>
9	<a href="#">Manage a budget to Supporting the efficient use of resources</a>
10	Contribute to the development of tender/bid documentation, selection of, implement and manage, sub contracted services
11	Preparing for and Delivering In-house Healthcare Waste Management Training
12	Implementing a Waste Management Plan, Record Keeping and Reporting
13	Implementing a Waste Minimisation Programme, including the sorting and storage of recycled materials, at a healthcare facility
14	Sharps Waste Management and Biosecurity at a Healthcare Facility
15	Manage the collection of hazardous and non-hazardous waste from a healthcare facility
16	Manage the movement, sorting and storage of hazardous and non-hazardous waste
17	Manage improvements to waste management operations/practices at a healthcare facility, treatment centre or transport operations
18	<a href="#">Effectively Manage Environmental Incidents and Emergencies</a>
19	Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility/healthcare treatment facility
20	Managing Waste Transportation operations for the transfer of hazardous and non- hazardous healthcare waste at a healthcare facility (Dangerous Goods Safety Adviser)
21	<a href="#">Review the performance of teams and individuals</a>
22	<a href="#">Prepare an Installation with an Environment Permit for an Inspection Visit (Permit Holder)</a>
23	<a href="#">Manage the reception of infectious wastes at a healthcare waste treatment facility</a>
24	<a href="#">Manage site operations for the treatment of infectious healthcare waste at a healthcare facility/healthcare waste treatment facility</a>
25	<a href="#">Manage the disposal of outputs and residues from infectious healthcare waste treatment operations or, healthcare waste transfer operations, at a healthcare facility</a>
26	<a href="#">Manage maintenance and other engineering operations at a healthcare facility, infectious healthcare waste treatment facility or during healthcare waste transport operations</a>

<b>Qualification 2: <i>Managing Healthcare Waste Treatment Operations – Infectious Waste</i></b>	
No.	Unit Title
1	Complying with Waste Management Legislation
2	<a href="#">Understanding Waste Management in the Environmental Management System</a>
3	<a href="#">Contribute to the selection of personnel for activities</a>
4	<a href="#">Create effective working relationships</a>
6	Ensure protection of the environment at healthcare facilities, treatment or transport operations
8	<a href="#">Climate Change Adaptation Auditing &amp; Reporting at a Healthcare Facility</a>
9	Manage a budget to Supporting the efficient use of resources
10	Contribute to the development of tender/bid documentation, selection of, implement and manage, sub contracted services
11	Preparing for and Delivering In-house Healthcare Waste Management Training
14	Sharps Waste Management and Biosecurity at a Healthcare Facility
17	Manage improvements to waste management operations/practices at a healthcare facility, treatment centre or transport operations
18	Effectively Manage Environmental Incidents and Emergencies
19	Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility/healthcare treatment facility
21	<a href="#">Review the performance of teams and individuals</a>
22	Prepare an Installation with an Environment Permit for an Inspection Visit (Permit Holder)
23	Manage the reception of infectious wastes at a healthcare waste treatment facility
24	Manage site operations for the treatment of infectious healthcare waste at a healthcare facility/healthcare waste treatment facility
25	Manage the disposal of outputs and residues from infectious healthcare waste treatment operations or, healthcare waste transfer operations, at a healthcare facility
26	Manage maintenance and other engineering operations at a healthcare facility, infectious healthcare waste treatment facility or during healthcare waste transport operations

<b>Qualification 3: <i>Managing Healthcare Waste Transport Operations</i></b>	
No.	Unit Title
1	Complying with Waste Management Legislation
3	<a href="#">Contribute to the selection of personnel for activities</a>
4	<a href="#">Create effective working relationships</a>
6	Ensure protection of the environment at healthcare facilities, treatment or transport operations
8	<a href="#">Climate Change Adaptation Auditing &amp; Reporting at a Healthcare Facility</a>
9	Manage a budget to Supporting the efficient use of resources
10	Contribute to the development of tender/bid documentation, selection of, implement and manage, sub contracted services
11	Preparing for and Delivering In-house Healthcare Waste Management Training
14	Sharps Waste Management and Biosecurity at a Healthcare Facility
15	Manage the collection of hazardous and non-hazardous waste from a healthcare facility
17	Manage improvements to waste management operations/practices at a healthcare facility, treatment centre or transport operations
18	Effectively Manage Environmental Incidents and Emergencies
20	Managing Waste Transportation operations for the transfer of hazardous and non- hazardous healthcare waste at a healthcare facility (Dangerous Goods Safety Adviser)
21	<a href="#">Review the performance of teams and individuals</a>
26	Manage maintenance and other engineering operations at a healthcare facility, infectious healthcare waste treatment facility or during healthcare waste transport operations
27	Monitor the procedures to control risks to health and safety during healthcare waste transport operations

THE ESTIMATED EQF LEVEL. ALL OF THE UNITS ARE ESTIMATED TO SIT AT EQF LEVELS 4, 5 & 6

QUALIFICATION UNIT TITLE IN TOTAL, 27 UNITS WERE DEVELOPED

THE LEARNING OUTCOMES ARE THE STATEMENTS DENOTING WHAT A CANDIDATE IS EXPECTED TO KNOW, UNDERSTAND AND BE ABLE TO DO ON COMPLETION OF THE UNIT

ASSESSMENT CRITERIA ARE USED BY THE ASSESSOR TO MAKE SURE THE CANDIDATE ACHIEVES THE ASSOCIATE LEARNING OUTCOMES

VARIOUS ASSESSMENT METHODS ARE USED BY THE ASSESSOR TO MAKE SURE THE CANDIDATE MEETS THE ASSESSMENT CRITERIA

ASSESSMENT METHODS FOR EACH ASSESSMENT CRITERIA HAVE BEEN SUGGESTED TO AID THE ASSESSOR

EQF Level: 5		Observation	Q&A	Simulation	Professional Discussion	Witness Testimony	Product Evidence	Reflective Account	Assessor Statement	Photographic Evidence	Practical Exercise
Learning Outcome	Assessment Criteria										
1. Implement systems to identify and deal with risks to the environment	1.1 implement and maintain quality assurance practices to deal safely with threats to the environment	x	x		x		x				
	1.2 implement monitoring and recording systems to check they are used correctly	x	x		x		x				
	1.3 implement a quality assurance system to protect the environment from harm which might be caused by healthcare waste segregation, collection, storage, transfer and/or treatment	x	x		x		x				

A Vocational Educational Training (VET) Programme has been developed in 5 key stages for the HCWM's course implementation. The key steps taken are outlined below;

1. Defining the knowledge and understanding requirements for each of the modules
2. Development of a draft individual training package for each of the modules
3. Dissemination of the training resources between the partners and external evaluators for review
4. Final review after the agreement and completion of the training materials
5. E-learning platform created for hosting the qualification units and training package



**EU**  


**HCWM**

## EU-HCWM

*“Developing an EU Standardised Approach to Vocational Educational Training Awards in Healthcare Waste Management”*

Project No. 541982-LLP-1-2013-1-UK-LEONARDO-LNW

### ***Vocational Training Programme in Healthcare Waste Management***

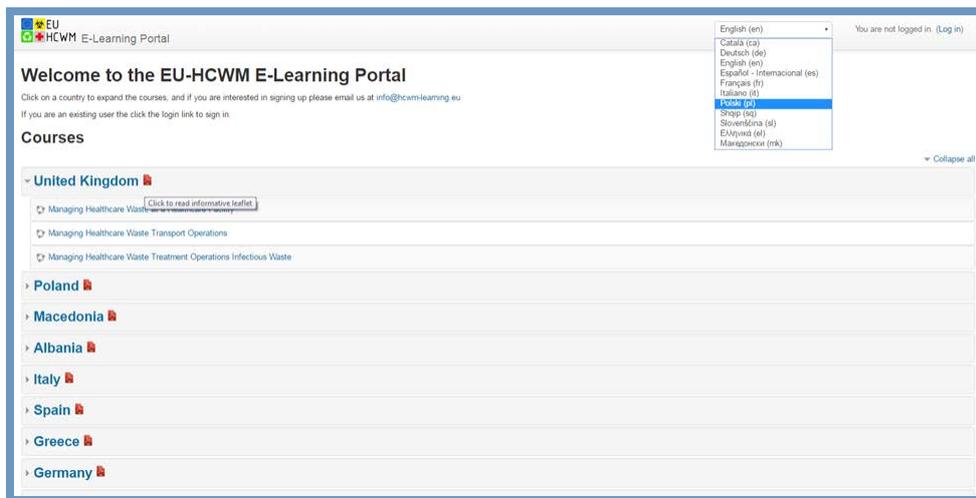
### ***Training Module 6: Ensure protection of the environment at healthcare facilities treating or transferring hazardous waste from a healthcare facility***

Funded by the EACEA  
with the support of the Lifelong Learning Programme of the European Union

## E:learning Portal

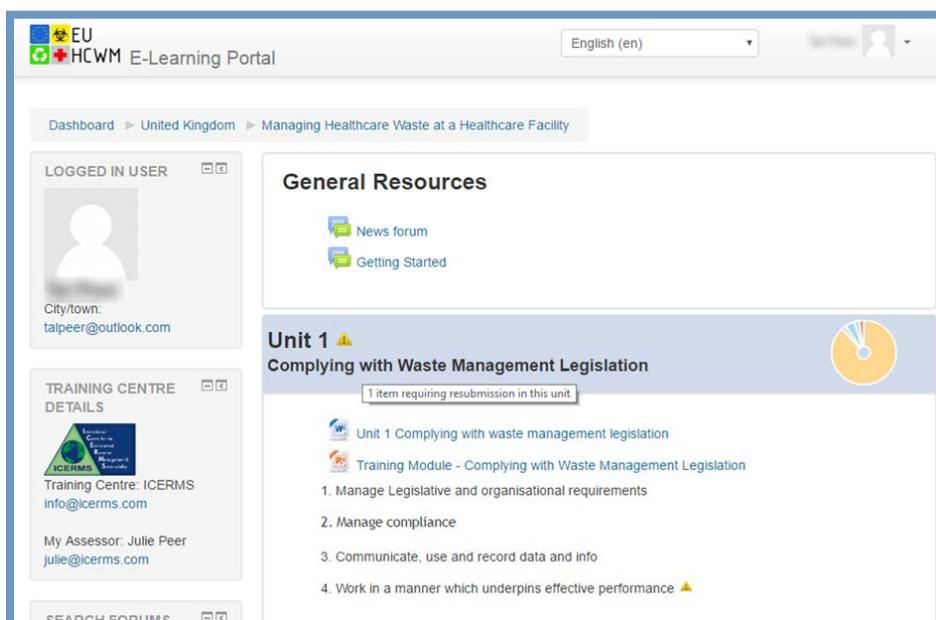
The EU-HCWM e-learning platform supports the HCWM award moving forward, by providing an online space where candidates undertaking the award can manage their portfolios, and the training centres can oversee all their candidates. The home page for the platform can be accessed by anyone without a login, and they will be able to view the pathways available in their country, read the informative leaflet, and contact the team to inquire further should they choose to do so. All three training pathway will be offered on the platform:

1. Managing Healthcare Waste at a Healthcare Facility
2. Managing Healthcare Waste Transport Operations
3. Managing Healthcare Waste Treatment Operations Infectious Waste



Once someone is a registered candidate of a centre, they are given a username and password which allows them to access the main portal, and they can then be added to the appropriate qualification pathway (s).

The user can then log in to their main dashboard and view the pathways they are enrolled in. This dashboard page also contains other useful features such as training centre contact info, message centre, forums, and events calendar. Users will even have their own file storage location should they need to keep documents relevant to their award on the platform. When the user selects their qualification pathway, they are then taken to the portfolio management screen.



The portfolio management screen allows users to see the entirety of their portfolio on one page, as well as the progress within each unit and section through various visual aids. The units and sections can then be expanded to view the individual evidence items to support the candidate's work which will each be at one of the following stages: not started, draft, submitted, approved, needs more work. The items are either submitted as text, or documents uploaded to the system. If the assessor in the training centre rejects the item, the candidate will be notified and can resubmit the item.

Once the pathway is completed, the portfolio will then be handed over to a verifier who will provide quality assurance for the assessment process. When the verifier has completed their task the candidate portfolio is complete and the candidate can receive their qualification.

The site is available in all 9 partner languages, and is responsive to allow it to be easily viewed on mobile devices such as phones and tablets. There are also plans to incorporate the professional networks into this site, creating a knowledge hub for healthcare waste management across Europe.

This e:learning portal has a number of advantages in terms of the assessor/trainer to candidate interface in that it will:

- Improve accessibility to the qualifications for candidates;
- Reduce the costs associated with undertaking the award;
- Create a more flexible learning environment for the candidate;
- Reduce the amount of time wasted by assessors travelling to and from candidates places of work

## Work Package 10 – Implementation Planning and Network Development

### **WHAT?**

Extending existing national professional networks to include the member and accession states where we do not have partners.

### **WHO?**

Target members –

- Healthcare Waste Managers / Supervisors (State or Private Sector)
- Environment Managers in Healthcare Sector (State or Private Sector)
- Waste Managers
- Environmental & Waste Management Consultants
- Healthcare Waste Transport Managers
- Healthcare Waste Treatment Plant Managers
- Waste Management Companies
- Healthcare Waste Technology Providers
- HCWM System Consumable Suppliers to Healthcare Sector
- Vocational Trainers / Training Centres in Healthcare Sector

## **WHY?**

- Links to other HCWM Professionals
- Platform to present, discuss and to receive information on best practice models and industry innovation as well as to keep updated with legislation changes
- Opportunity to formalise learning and to participate in a structured approach to vocational learning and continuous professional development in the HCWM sector
- The network will develop into a formal mechanism through which EU policy in regard to HCWM and related vocational learning can be shaped by the input from professional network members who are after all key stakeholders in the sector

## **HOW?**

1) Reach out to potential targets through our National Members, the RDN SEMEM and organizational members, or personal contacts through our Working Group (and WHO).

2) Through events which are either organized by ISWA or our members or their contacts / or events which we seek out proactively.

- Build up a database with events taking place in the next few months together with all partners.
- Create a standard presentation and see who would be where and how we could reach out.

3) Use social media platforms, such as LinkedIn to attract target members.

4) Use online tools, for instance a webinar, or a series of webinars – depending on how we see fit. This could then be good to reach target groups – WHO could also be involved to increase popularity and target base.

## **Professional Networks**

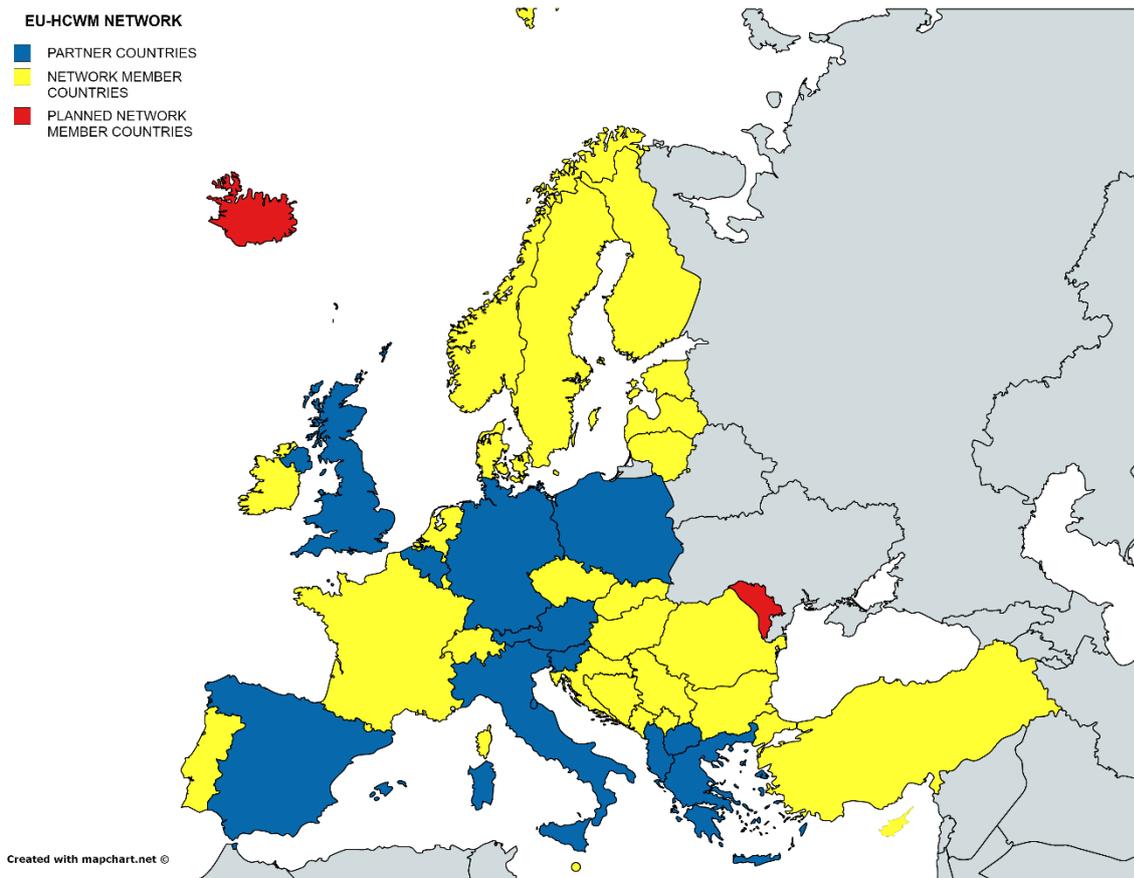
National networks have been created in each participating partner country. The members of the networks are representatives of all stakeholders' target groups, i.e. direct beneficiaries like vocational training providers and potential learners; policy and decision makers; other stakeholders like local communities, healthcare providers, and environmental organizations.

A complete database of contact details has been created, and the members of the network are the core recipients of the project activities and outputs, mainly through project newsletters and updates.

Additionally, they will have access to the project products, including the qualification units and training modules.

The project LinkedIn group and the project website have served as two very useful dissemination platforms and will continue to aid the dissemination process for at least another 5 years. These platforms allow the project deliverables to be presented to and discussed by key stakeholders.

The existing EU-HCWM Network is continually expanding to include other member states, in order to create a pan European network of stakeholders, who will be invaluable in creating synergy between all member states.



## Exploitation and Implementation of Project Outputs

The main aim of the exploitation plan is to ensure the effective transfer and the sustainable use of the project results as well as the sustainable enlargement of the project network during and after the project span. Exploitation activities will include both mainstreaming actions to stakeholders and identified decision-makers and dissemination actions of the project's results. The exploitation strategy is a 5 year plan, which identifies and describes the exploitable results, the potential users (target groups, end users), the activities, the mechanisms and the channels via which the project results will be further exploited.

The project website will remain active for at least 5 years after the project completion, from where all project results will remain accessible. Additionally project results will be accessible via the partners' websites and linked to other similar projects' websites. A bulletin will be produced monthly in that period and circulated to the professional networks.

Indicative exploitation activities include:

- National and European developers of Vocational Qualifications and Frameworks and respective Accreditation Organisations will be informed for the methodology adopted for the development of the HCWM Qualification and Training Framework.
- Relevant Industrial and Waste Management Associations may collaborate with VET providers, to develop, use and/or certify training modules, based on project's training guide, to satisfy their members' personnel and other workers vocational needs and professional

evolution. The same stands for relevant Environmental Authorities at different administrative levels,

EU-HCWM partners will identify potential beneficiaries (direct and indirect target groups) in their countries.

The implementation plan will provide a strategy for the implementation of the products and outcomes of WP 4, 5 & 6. There will be a strong focus on creating mobility between member states and increasing relationships/networking between all member states. Increasing synergy between the member states, increases equal opportunities and creates a standardised framework within European member countries.

There were two main challenges for the implementation and exploitation of the project outputs:

1. no formal pan European mechanism to adopt qualifications for healthcare waste managers.
2. The fact that the EU Members are not all at the same stage in the evolution of vocational education and training

**In regard to point No. 1** it was important therefore that we found a mechanism through which the project outputs could be implemented across the EU rather than on a member state by member state basis. It transpired that one such mechanism was to utilise a pan European professional body who could facilitate this process through multi member state agreements on a minimum level of qualification for the role of a healthcare waste manager.

The International Solid Waste Association (ISWA), a well respected, professional body with not only a pan European but a global reach in terms of its membership, were extremely interested in the initiative and welcomed the opportunity to engage with the project beyond the project lifetime. Currently the project team are outlining a way forward with ISWA in order to make best use of the project outputs.

It is proposed to undertake a pilot training programme utilising one of the qualifications developed under the EUHCWM project in 2017 and over the coming months develop a formal protocol and procedure whereby ISWA can formally take over and administer the training programme developed by the EUHCWM project. Initially this would be as a training programme however it is hoped that it could evolve into a formal delivery mechanism for a vocational qualification.

**In regard to point No. 2** it was decided that the UK, of all the project partner countries, was the one where the project outputs, in terms of qualification delivery, could be immediately adopted into the current vocational qualification system.

In this regard therefore the project are working with the National Health Service in the UK through the engagement of both the NHS Confederation and the NHS National Performance Advisory Group on Waste to determine the best way forward in relation to the qualifications developed by the EUHCWM project.

# Mechanism for ISWA to Manage Implementation of the EUHCWM Project Outputs

## Introduction

The initial aim of the EUHCWM project was to establish a Pan European approach to vocational qualifications for healthcare waste managers. During the baseline assessment phase of the project, and involving inputs from 10 of the 12 project partners, it was realised that only the UK had a formal route for vocational qualification in the healthcare waste management sector.

As a result of this finding it was decided to consider a two stage approach to the introduction of a standardised approach to vocational qualifications in the healthcare waste management sector. In each case the approach would be based on the project outputs which were three formal qualifications for healthcare waste managers:

- Healthcare Waste Manager – Healthcare Facility
- Healthcare Waste Manager – Healthcare Waste Treatment Facility
- Healthcare Waste Manager – Healthcare Waste Logistics

Each of the above three qualifications are underpinned by a series of training modules which will be contextualised by the partner for the specifics of their marketplace.

Those partners who wished to proceed with a formal qualification approach could do so and this was the route chosen by the UK and Polish partners. The remaining partners opted for a second approach which was to offer a training programme consisting of the training materials associated with the three formal qualifications developed by the project.

In the case of the UK and Poland it was clear that their approach to the formal qualification route would be guided by the requirements of their respective national qualification authorities and that the delivery of the qualification would be subject to strict controls in terms of quality assurance. In this case of the partners adopting the training programme approach it was not clear how this process of quality assurance would be managed.

In addition to the above another of the project outputs will be an E: learning platform based on the Moodle platform and this will be available for ISWA to utilise if it feels that this resource would be useful in the context of distance learning.

## Why ISWA?

It was decided that a possible option for ensuring that the projects outputs remained credible in the context of training programmes was to have that process managed on a Pan European basis by a credible entity.

It was proposed to approach ISWA as that entity at the last partners meeting in Warsaw.

The idea would be that ISWA would manage the three training courses and the candidates undertaking them. This would ensure that the training courses would be delivered to an agreed standard and that only candidates who were pre-vetted by ISWA could undertake the training course. Candidates would be pre-vetted in terms of their academic background and work experience. The specifics of the vetting criteria are of course is up for discussion depending on the approach taken by ISWA in other training programmes they offer.

In essence however and in order for the training programme to have credibility with both the candidate and the industry it would need to be managed by a credible stakeholder who had in place a robust quality assurance programme related to the training programme delivery and candidate management. ISWA, we feel, has that profile and would be able to take on the responsibility of the training programme provider and candidate manager for the three EUHCWM training programmes.

There is also the fact that if we want this training programme to be seen as an industry standard in countries where the qualification is not available then we need these quality assurances. We have a good example of an industry standard training course in the UK within the Health & Safety sector.

It is commonly known as a NEBOSH certificate and it relates to occupational health and safety. It is normally undertaken as a ten day classroom based course and it costs around €2,000.00 to attend.

The certificate in occupational health & safety is recognised globally.

## The proposed role of ISWA

It is proposed that ISWA will act as a training centre for the delivery of the three training programmes on offer.

At the moment the training programmes are in the languages of the existing partners:

English; German; Spanish; Albanian; Slovenian; Macedonian; Italian; Polish and Greek

We have the capacity on the project to have the training programme translated into both French and Portuguese BUT this is not planned in the methodology and would need to be agreed with the Agency as an additional work output.

The same is therefore true of the E:learning Platform content.

In principle therefore ISWA would be the focal point for all potential candidates either through its own dedicated web resource or through a link to the E:Learning Platform. Candidates would then register with ISWA in their chosen language. This would immediately result in that candidate being allocated a trainer for the online version of the training programme OR that candidate would await a sufficient number of candidates to register in that language in order that a course could be prepared at an agreed venue for that candidate. Training courses should be delivered, on a classroom basis, as a 3 to 5 day duration course, depending on the training programme chosen.

ISWA would organise the trainer/course delivery interface with the candidate in one of two ways:

- Where the candidate opts for the online training option then he/she is allocated a trainer from within the EUHCWM project partnership if the language is the native language of that project partner e.g. Spanish speaking candidate – Club EMAS.
- Where the candidate wants to do the course as a classroom based course then again when sufficient class numbers are available the candidate would undertake the training in his/her country of residence or work again the EUHCWM project partnership would be notified if the language is the native language of that project partner e.g. Spanish speaking candidate – Club EMAS. The project partner would then arrange the venue and provide the training.

Where a candidate registers for the award in a language NOT represented as a native language within the project partnership then the first request for a trainer would be to those project partners who have multi-lingual speakers. ISWA would maintain a register of those trainers and candidates would be allocated on a rota system.

Where a candidate registers for a training programme in a language NOT covered by the project partnership then ISWA will organise the trainer themselves and, if required, the training venue.

ISWA would be the focal point for the candidate throughout the process and once a candidate had successfully completed the course ISWA would award that candidate a training certificate in partnership with the training provider where that was a project partner. If no project partner was engaged in the candidate training process ISWA would issue a certificate in its name only.

## Financial Arrangements

The financial management would be done by ISWA and therefore all candidate fees would be paid to ISWA at the outset. Project partners would therefore in effect be sub-contracted to ISWA to provide training services and the venue if this indeed was the case.

## Final Conference Review

As is the tradition with projects funded under the Leonardo Da Vinci programme they normally culminate in a final conference where the final project deliverables and outputs are disseminated to a wider stakeholder group.

The EUHCWM project did not break with tradition and on 10<sup>th</sup> November 2016 it hosted, in partnership with the National Health Service, National Performance Advisory Group, Best Value Group for Waste, a final event in Birmingham.

It was an excellent event with an international speaker programme and a high quality of delegates who all came directly from the field of healthcare waste management. It was very pleasing to see

some many professional healthcare waste managers attend the event. There were some 75 delegates registered on the day which was an excellent turn out for such a niche conference.

It was good see such a diverse group of delegates, representing EU Member and Candidate/Accession States, at the event. It is excellent to see that, in the latter cases, the issue of HCWM is already firmly on their national agendas.

The speaker programme reflected the scope of the project itself and there were contributions from strategic as well as operational perspectives. It was particularly pleasing to be able to showcase best practices from around the UK and the EU with excellent presentations from both NPAG and project team members in this regard.

It was particularly interesting to hear from the NHS Sustainability Unit which obviously has a much broader remit than the focus of the project. None the less it was an important strategic overview of the NHS Sustainability Agenda, of which waste management is no doubt a key component.

There was an excellent overview presented of the work of the ZERO Waste Europe group and also a very informative presentation, by the NHS Confederation, on the challenges for the health service in the light of the BREXIT vote. In addition there was also a very interesting presentation from Greece on the impact of the financial crisis on their healthcare services.

The final sessions of the project focused on healthcare waste management and there was excellent presentation on HCWM projects on both the African continent and, closer to home, in Albania.

The conference concluded with project partners delivering three presentations on the future development of a Pan-European Professional Network of healthcare waste management professionals and vocational qualification providers; an overview of the new e;learning portal based on the Moodle programme and lastly an overview of the projects actions in regard to implementation of the project outputs.

Currently the project partners are in discussion with the International Solid Waste Association about an agreement to take forward a formal training agenda across the EU for healthcare waste managers in each of the three roles.

The UK partner is in addition in discussions with the NHS to have these vocational qualifications available to healthcare waste management professionals throughout the UK and as a formal vocational qualification aligned to the national vocational qualification framework.

If you would like any more information on the project please visit the project website at [www.euhcwm.eu](http://www.euhcwm.eu) or email: [media@icerms.com](mailto:media@icerms.com)

The partners held a meeting on Friday 11<sup>th</sup> November to discuss the exploitation of the project outputs.

The partners agreed on the proposed partnership with ISWA. There were aspects of this relationship which needed to be clarified from the outset in order that there was due consideration for quality assurance and local delivery.

1. ISWA will in effect act as a qualification authority to the partners who will be considered training providers
2. The HCWM Training MUST be a standalone training programme.
3. ISWA and the Partners will jointly market the Training Programmes. ISWA will point potential candidates to local training providers.
4. ISWA will approve the course content; course delivery methodology; course training providers, course training staff and ensure the quality assurance of the process.
5. ISWA and the partners will be working from the same qualification handbook which will provide details of minimum course content; optional and mandatory units; candidate suitability criteria; minimum learning hours per unit; criteria for trainers and training materials to be used.
6. The partners will be responsible for delivery at a local level and they will organise all aspects of the delivery of the training programme with the candidates.
7. The partners will pay a fee to ISWA in respect of candidate administration and candidate certification.
8. ISWA will hold a master record of all candidates successfully trained by the appointed training providers.
9. Certificates issued by ISWA will carry both the ISWA logo and the training provider logo AS WELL AS ANY OTHER LOGOS OF LOCAL INSTITUTIONS which may be required to improve the perception of the training programme.
10. Where a partner wishes to conduct training in a country which is not the country they are registered to do they must inform ISWA who in turn will inform all the partners of the intention. This is not seeking permission however BUT keeping partners informed of commercial developments.
11. ISWA can register new training providers who have the qualifications and experience to provide the training and who are not in the same country as the existing partners. ISWA will notify the partners of any new applicants in this regard prior to approval is given.

ISWA can also develop markets for these training programmes and use its members as delivery agents. The first refusal for such training provision however must be given to the partners.

## Annex 2 EUHCWM Project Outputs

WP	Description	Output	Comment
1	Project Management	Project Governance Structure and Key Personnel Project Work Plan Interim Report Final Report Kick-Off Meeting 6 Co-ordination Meetings Final Co-ordination Meetings	
2	Quality Management and Assurance	Quality Handbook Interim Quality Report Final Quality Report Project's Monitoring and Evaluation System	
3	Assessment Strategy Research, Preparation and Development	Development of Assessment Package Healthcare Facility Assessment Healthcare Professionals Qualifications and Training Assessment Communication and Knowledge Exchange Tool National EUHCWM Professional Networks	Seriously Deficient in Content Missing Germany
4	Development of National Qualification Standards	Comparison Report on the Identified National Qualifications and VET National Occupational Standards for HCWM	Partner Languages Partner Languages
5	Vocational Education Training Programme Development	Training Package	Partner Languages
6	Evaluation Process	Internal Evaluation Report External Evaluation Report Revised Competence Framework	
7	E:learning Platform	E:learning Platform Developed	ENGLISH ONLY
8	Dissemination	Dissemination and Exploitation Handbook Project Website Project Newsletters (7) Informative Workshops  Informative Leaflets Brochure (800) Articles (9 + 2) & Press Releases (18) Participation to Events and Conferences	9 Languages 9 Languages P1-P9 & P11; P12 & P13 9 Languages 9 Languages 9 Languages 1/Per Partner
9	Exploitation	Exploitation Handbook	
10	Implementation Planning and Network Development	Development of Implementation Plan Development of EU-HCWM Network Final Conference	



## Annex 4 Intellectual Property Right Agreement

### **Confidentiality, Intellectual Property Rights Agreement**

#### **on the deliverables of the project**

#### **Developing an EU Standardised approach to Vocational Educational Training Awards in Healthcare Waste Management – EU-HCWM**

#### **Project N°. 541982-LLP-1-2013-1-UK-LEONARDO-LNW**

In Birmingham - UK, today 11<sup>th</sup> November 2016, the current agreement is made between:

1. **International Centre for the Environment, Resource Management & Sustainability Limited** hereinafter referred as **ICERMS**, a Limited Company, No. SC280276 and VAT No. 100 9084 54, having its headquarters at 5 Station Road, Fairlie, Largs, Ayrshire, KA29 0DX, represented by Scott, Head of Centre, and the
2. **SIGMA Consultants Ltd**, hereinafter referred as **SIGMA**, an organization duly registered under the Greek national laws with Official Registration No: 32564/1994 and VAT GR 095636061, having its headquarters at 2 Patriarhou Ioakim Street, Thessaloniki, EL – 54622, Greece, represented by Parthenopoulos Triantafyllos – Managing Director, and the
3. **SINERGIE Società Consortile a responsabilità limitata**, hereinafter referred as **(SINERGIE)**, a Società Consortile a Responsabilita Limitata with VAT n. 01548000387, having its headquarters at Via Martiri di Cervarolo 74/10, 42122 Reggio Emilia, Italy, represented by Luca Rovere – President, and the
4. **Institute of Environmental Protection – National Research Institute** hereinafter referred as **IEP – NRI**, an organization duly registered under the Polish national laws with Official Registration No: 0000032034 and VAT (NIP No.) 5250007307, having its headquarters at 5/11d Krucza Street, Warsaw, 00-548, Poland represented by Prof. Barbara Gworek – Director, and the
5. Club EMAS

6. REC Albania
7. REC Slovenia
8. REC FYROM

## Clause 1: Scope

The abovementioned organizations, undersigning the current Agreement participate in the European project entitled: 'Developing an EU Standardised approach to Vocational Educational Training Awards in Healthcare Waste Management' hereinafter referred as EU-HCWM. The project has been funded within the framework of the Lifelong Learning Programme under the action of Leonardo DA Vinci Multilateral Projects for Development of innovation (Agreement Reference no 2013-4928/ 001 – 001 signed on 05/12/2013) with Project no **541982-LLP-1-2013-1-UK-LEONARDO-LNW**. The Project's duration is 36 months, starting from 01.01.2014 and ending at 31.12.2016.

Among the deliverables of the project is the development and utilization of:

1. A Harmonised Qualifications Framework (hereinafter referred as HQF) for Healthcare Waste Managers (hereinafter referred as HCWM's), according to the European Qualifications Framework Level 6 and higher.
2. An E: Learning Portal (hereinafter referred as ELP) addressed to Healthcare Waste Managers (HCWM's) vocational training.

Harmonised Qualifications Framework was developed, by 8 EU-HCWM project partners according to the specifications of the European Qualifications Framework Level 6 and higher and includes the following contents:

- Three National Occupational Standards; the derived Qualifications and each qualification unit underpinned by a Powerpoint based training modules for healthcare waste managers, namely:
  1. Healthcare Waste Manager at a Healthcare Facility
  2. Healthcare Waste Manager at a Healthcare Waste Treatment Facility
  3. Healthcare Waste Manager at Healthcare Waste Transport Operations.A complete list of the qualification units under each qualification option is attached at **Annex I** to this agreement.
- Qualification Handbook and Training Delivery Manual.

The HCWM's functions, activities, tasks, the required learning outcomes, knowledge and skills and competences are described according to the following HCWM's main professional functions:

- Operational Management
- Human Resources Management
- Financial and Contractual Management
- New Projects Management
- Health & Safety Management
- Environmental Management
- Healthcare Waste Segregation
- Healthcare Waste Treatment
- Healthcare Waste Transportation

elaborated during the management of healthcare wastes in one of the three scenarios outlined in the qualification options.

ELP contents were developed by ICERMS and include the following items:

- a. Access criteria for the implementation of the HCWM training courses on the abovementioned professional functions and healthcare waste facilities management.
- b. HCWM training courses' concept, structure and contents, the requirements for the trainers, the participants and for the training facilities and infrastructures on the abovementioned HCWM professional functions and healthcare waste facilities management.

The signing partners wish to ensure that commercialization and property rights of the abovementioned EU-HCWM project deliverables are duly agreed between partners. Having this in consideration, the EU-HCWM partners agree the following:

## Clause 2: Confidentiality

All information, directly or indirectly disclosed to a partner related to the development of the EU-HCWM Project deliverables as described in Clause 1 of this agreement, shall be treated by the receiving partner as confidential and shall not be used and disseminated to further objectives than the ones under the EU-HCWM project intents until the signing of the current agreement, by all parties.

This restriction shall not extend to any information which:

- has been in the possession of the receiving partners prior to receipt from the disclosing partner;
- is or has been published or otherwise has become public knowledge, otherwise than through any act of omission on the part of the receiving partner,
- was rightfully acquired by the receiving partner from others without any undertaking of confidentiality imposed by the disclosing partner;
- was developed by the receiving partner independently of the work of the Project as evidence in writing.

### Clause 3: Intellectual Property Rights

#### Ownership of Pre-existing Know-How

Each partner is and remains the sole owner of its intellectual property rights used for the development of the EU-HCWM project deliverables over its Pre-Existing Know How.

#### Ownership

- a) The main deliverables of the EU-HCWM Project that can be object of commercial use are the contents of the Qualifications Framework and the contents of the Info-Training Toolkit;
- b) The ownership of the results and knowledge arising from the EU-HCWM project shall be attributed to all partners;
- c) In case of public use the following statement should be included: *This project has been funded with support from the European Commission. This publication 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. Grant Agreement reference no 2013-4928/ 001 – 001. No public reproduction is permitted without the license of the authors or without reference to the EU-HCWM project ”. Reference to the project’s logo and the European Commission logo should be made as well.*

#### Protection and Use

- a) The outputs of the project will be used in accordance with the agreement drawn up between the signatories to this document and the International Solid Waste

Association (ISWA).

- b) ICERMS will continue to manage the EU-HCWM webpage for a period of five (5) years after the project's completion.
- c) ICERMS will produce a monthly Bulletin and circulate to the professional network list provided by the project partners.

#### Commercial Exploitation

- a. Partners can only commercially exploit the results of this project, under the terms agreed with ISWA.
- b. A copy of the ISWA terms is attached at **Annex II** to this IPR Agreement.

#### Clause 4: Duration and legal binding

The current Agreement embodies the entire understanding between the parties concerning the subject matter, and cannot be modified except by the mutual agreement.

In the event that any part of this Agreement becomes invalid, illegal or unenforceable, the parties shall negotiate in good faith and endeavour to agree such amendment or amendments as will so far as possible validly give effect to the intentions expressed herein.

This Agreement shall be effective after the EU-HCWM project official finish and for a period of five years starting on the 1<sup>st</sup> of January 2017 and ending on the 31<sup>st</sup> of December 2021. The review of the current Agreement will be examined at least two months before its termination.

This Agreement is governed by UK law. All disputes or differences arising from the implementation of this Agreement which cannot be amicably settled within the parties shall be settled through arbitration in Edinburgh, Scotland, UK, under the Rules of the International Chamber of Commerce (ICC). Arbitration shall be conducted in the English language.

The following parties have settled this Agreement, signed in fourteen (8) originals

#### **CONTRACTING PARTIES**

1. On behalf of **International Centre for the Environment, Resource Management & Sustainability Limited**

Scott Crossett – Head of Centre

2. On behalf of **SIGMA Consultants Ltd,**

Parthenopoulos Triantafyllos – Managing Director,

3. On behalf of **SINERGIE Società Consortile a responsabilità limitata**

Luca Rovere – President

4. On behalf of **Institute of Environmental Protection – National Research Institute**

Prof. Barbara Gworek – Director