Higher Apprenticeship in Sustainable Resource Operations and Management - Level 4 (England)

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Framework summary

Higher Apprenticeship in Sustainable Resource Operations and Management - Level 4

This framework includes information on Personal Learning and Thinking Skills

Pathways for this framework at level 4 include:

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<tr>
<th>Pathway 1: Higher Apprenticeship in Sustainable Resource Operations and Management</th>
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</thead>
<tbody>
<tr>
<td>Competence qualifications available to this pathway:</td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>Knowledge qualifications available to this pathway:</td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>Combined qualifications available to this pathway:</td>
</tr>
<tr>
<td>B1 - WAMITAB Level 4 Diploma In Systems and Operations Management (QCF)</td>
</tr>
<tr>
<td>B2 - WAMITAB Level 4 Diploma In Systems and Operations Management: Small Scale Operations (QCF)</td>
</tr>
</tbody>
</table>

This pathway also contains information on:

- Employee rights and responsibilities
- Functional skills
Framework information

Information on the Issuing Authority for this framework:

Energy and Utility Skills

The Apprenticeship sector for occupations in electricity, gas and water supply, and waste management (also includes gas utilisation, recycling and waste water collection and treatment)

<table>
<thead>
<tr>
<th>Issue number: 1</th>
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</thead>
<tbody>
<tr>
<td>Framework ID: FR02374</td>
</tr>
<tr>
<td>Date this framework is to be reviewed by: 28/02/2017</td>
</tr>
</tbody>
</table>

This framework includes:

Level 4

This framework is for use in: England

Short description

The waste management and recycling industry faces some key challenges:

- Public perception of a dirty and low skilled industry
- Legal and environmental drivers pushing for more sophisticated waste management solutions
- Developing a workforce capable of operating and maintaining high tech plant & processes
- Increasingly, new recruits need higher levels skills
- Industry expansion

The purpose of this Higher Apprenticeship at level 4 is to support the industry to address these challenges by developing occupational competence in a wide range of management level job roles in the collection, transfer, treatment and final disposal of waste and resources.
Contact information

Proposer of this framework

Development of this Higher Apprenticeship has been funded by the Higher Apprenticeship Fund Round 2 and managed by Energy & Utility Skills (EU Skills) in partnership with industry employers.

Employer engagement has been instrumental to every stage of framework development. The Waste Management, Recycling and Resource Recovery Industry Skills Initiative (WRRRISKI) chaired by Simon Catford, HR Director at Viridor and facilitated by EU Skills drove submission of the bid for development funding. The following organisations are represented on WRRRISKI at HR Director level:

Biffa, Cory Environmental, Cylch, FCC Environmental, Grundon, London Waste, May Gurney, Serco, Shanks, Veolia and Viridor.

The purpose of WRRRISKI is to address the strategic skills issues across the waste management, recycling and resource recovery sector, with particular emphasis on the skills activities for medium (2-5 years) and long term (5-20 years) collaborative action. WRRRISKI supports the sector wide delivery of a long term, sustainable, skilled workforce.

Once funding was secured, consultation with employers on the framework and qualification content was conducted through 1:1 site visits and through the waste management industry Training Managers Forum. The employers listed above are represented on the Training Managers Forum.

Expertise elicited through this engagement enabled the Training Managers Forum to provide recommendations for framework content to WRRRISKI who gave final sign off.

This framework is proposed by EU Skills and the employers listed above on behalf of the waste management industry.

Developer of this framework

<table>
<thead>
<tr>
<th>Name:</th>
<th>Helen Hawkins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisation:</td>
<td>Energy &amp; Utility Skills</td>
</tr>
<tr>
<td>Organisation type:</td>
<td>Sector Skills Council</td>
</tr>
<tr>
<td>Job title:</td>
<td>Apprenticeships Manager</td>
</tr>
<tr>
<td>Phone:</td>
<td>0845 077 9922</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:enquiries@euskills.co.uk">enquiries@euskills.co.uk</a></td>
</tr>
</tbody>
</table>
Postal address: Energy & Utility Skills
Friars Gate
1011 Statford Road
Shirley
Solihull
B90 4BN
Website: www.euskills.co.uk

Issuing Authority’s contact details

Issued by: Energy and Utility Skills
Issuer contact name: Jill Cheshire
Issuer phone: 0845 077 9922
Issuer email: enquiries@euskills.co.uk
Purpose of this framework

Summary of the purpose of the framework

Defining Apprenticeships
An Apprenticeship is a job with an accompanying skills development programme, designed by employers in the sector. It allows the apprentice to gain technical knowledge and real practical experience, along with personal skills, required for their immediate job and future career. These are acquired through a mix of learning in the workplace, formal off the job learning and the opportunity to practice and embed new skills in a real work context. This broader mix differentiates the Apprenticeship experience from training delivered to meet narrowly focused job needs.

All apprentices commencing their Apprenticeship must have an Apprenticeship Agreement between the employer and the apprentice. This can be used to reinforce the understanding of the requirements of the Apprenticeship.

On completion of the Apprenticeship the apprentice must be able to undertake the full range of duties, in the range of circumstances appropriate to the job, confidently and competently to the standard set by the industry.

Profile of the Industry
The UK waste management and recycling industry may be defined as: “The collection, transport, disposal and recycling of waste, including the supervision of such operations and the after-care of disposal sites, and including actions taken as a dealer or broker.”

It has been estimated that there are currently (2010) approximately 142,550 individuals directly employed in the UK waste management and recycling industry which comprises “local authorities, a relatively small number of large private employers, a plethora of small to medium sized enterprises (SMEs) who often offer specialist services in local markets, and an active third sector of community and voluntary organisations.”

The industry is undergoing a substantial period of change, driven by a range of political, economic, social, technological, legal and environmental drivers which include:

Political Drivers:
- European policy and strategy (e.g. European Union Landfill Directive)
- UK policy and strategy (e.g. Landfill Tax Escalator and increasing anaerobic digestion capacity)
- Development of waste infrastructure

Economic Drivers:
• Entrants from the European marketplace
• Global economic downturn
• Price of energy, raw materials and recyclables
• Local authority spending and procurement
• Financial incentives and penalties

Social Drivers

• Lifestyle/household structure
• Increased public awareness and concern in relation to environmental issues
• Increased commercial focus on environmental policy technological drivers
• Recovering energy from waste
• Improved processing and treatment processes
• Success of new technologies in organisations/abroad resulting in these being adopted on a larger scale

Legal Drivers

• Employment legislation
• Health and safety

Environmental Drivers

• Low carbon agenda
• Energy and resource efficiency
• Lack of landfill space/landfill substance bans
• Environmental protection

Based on widespread agreement on the trend towards the use of more advanced technologies and automation of processes, it has been estimated that at least 195,950 people will be employed in the industry by 2020. Industry experts have identified a range of current skills gaps including:

Professional and technical roles: Additional need for technically skilled employees to maintain and operate treatment facilities is expected as more are built. The demand for highly qualified engineers, operational managers and processing technicians is expected to grow significantly in the immediate future.

Operative and maintenance roles: Corresponding to the advancing skills requirements for more senior positions, increasing skill levels are expected for supporting roles.

Elementary roles: The large manual base currently retained within the industry has traditionally required a low level of skills. However, as more technology is deployed throughout the industry, there will be a growing demand for higher levels of competence.
In order to meet future labour demands brought about by both growth and changes in the skills needs of the industry, the following priorities need to be met:

Up-skilling the current workforce: Through up-skilling of the current workforce it is believed to be possible to meet some of the new skills needs within the industry. This is anticipated to be especially appropriate for manual, operative and lower level technical roles.

Recruiting new entrants: A traditionally poor image of the industry is perceived to have hampered recruitment in the past. There is now an acute need to recruit a significant number of new entrants into the industry over the next decade. The need to attract young new entrants is widely recognised as the industry workforce ages and employees with a wealth of technical expertise approach retirement.

**Apprenticeships in the Waste Management Industry**

The Higher Apprenticeship in Sustainable Resource Management - Level 4 provides a key opportunity to address the current and future skills shortages identified by the industry. It will attract new entrants by providing a structured route to job competence and career progression and can also be used to up skill existing staff. It provides the ability for employers to “grow their own” workforce where technically competent individuals are increasingly difficult to recruit. The Higher Apprenticeship enables employers to support succession planning whilst delivering tangible benefits such as reduced staff turnover. The Higher Apprenticeship provides an opportunity to improve perceptions by raising standards and supporting the professionalisation of the industry.

**Aims and objectives of this framework (England)**

**Aim:**

- To contribute to the development of a sustainable workforce for the UK waste management and recycling industry.

**Objectives:**

- To attract new workers to the industry.
- To develop occupational competence in a wide range of management level job roles in the collection, transfer, treatment and final disposal of waste and resources.
- To facilitate progression within the industry.
- To support the Government’s priority outlined in Skills for Sustainable Growth, to ensure Apprenticeship frameworks offer high-quality, economically-relevant provision.
Entry conditions for this framework

The Higher Apprenticeship in Sustainable Resource Operations and Management is open to individuals of any age and does not impose any restrictions to entry. Responsibility for selection and recruitment of apprentices lies with the employer who will have a clear idea of their requirements.

Employers must be confident that the potential Apprentice has the learning potential/capacity, motivation and aptitude to achieve all of the mandatory outcomes of the framework. Employers are asked to be flexible when recruiting people onto the Apprenticeship. Where employers/providers have robust learner support systems in place (such as tutorials and mentoring programmes), an individual who historically has not done particularly well at reading, writing and numeracy may thrive on an Apprenticeship where the relevance and application of these subjects is understood.

Individuals with the following characteristics and attributes (listed in no particular order) are likely to be suitable for this Higher Apprenticeship:

- The waste management industry is potentially very dangerous so the safety of apprentices, their work colleagues and the public are of the upmost importance in this job. Apprentices must be very safety conscious and have a very responsible attitude to work, working in accordance with company health and safety procedures at all times.
- These may be physically demanding jobs that involve bending, lifting and manual handling so a basic level of fitness is important to be able to conduct the job efficiently.
- Many of these jobs involve work outdoors, so apprentices should be prepared to work in any kind of weather.
- Some job roles will require shift work to ensure plant and equipment is operational 24 hours a day. Apprentices therefore need to be adaptable and flexible.
- A driving licence is desirable as some facilities are in remote locations.
- Most of these job roles involve dealing with the general public on a day-to-day basis so apprentices should be presentable and have a polite and courteous manner. Apprentices will need excellent verbal communication skills and be able to provide a good level of customer care.
- Clean and tidy by nature with good self-discipline and timekeeping.
- Apprentices will need a standard of numeracy and literacy skills that will enable them to successfully complete the qualifications included within this Apprenticeship.
- Basic computer keyboard skills.

Initial Assessment

Initial assessment will be used to identify prior learning and experience to tailor the Apprentice’s Individual Learning Plan as appropriate. In the case of APL for qualifications, the Apprenticeship programme must be tailored to allow the Apprentice to undertake new learning, including learning at a higher level and develop new skills.
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Higher Apprenticeship in Sustainable Resource Operations and Management - Level 4

Pathway 1: Higher Apprenticeship in Sustainable Resource Operations and Management
Description of this pathway

The Higher Apprenticeship in Sustainable Resource Operations and Management requires a minimum of 99 credits to be achieved through the combined qualification.

Entry requirements for this pathway in addition to the framework entry requirements

There are no additional requirements other than the general entry conditions.
<table>
<thead>
<tr>
<th>Job title(s)</th>
<th>Job role(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fleet Manager</td>
<td>Managing the fleet of collection vehicles. Responsible for procurement activities such as maintenance service contracts, asset management, process optimisation, finance and aspects of leadership.</td>
</tr>
<tr>
<td>Reuse Manager</td>
<td>Managing reuse operations including collections, storage, sorting and sales activities. Responsible for procurement activities such as maintenance service contracts, consumable materials, equipment and recyclable waste, asset management, process optimisation, finance and aspects of leadership.</td>
</tr>
<tr>
<td>Refuse Collection Manager</td>
<td>Management of refuse collection operations - Responsible for procurement activities i.e. maintenance service contracts, equipment and recyclable waste, asset management, process optimisation, finance and aspects of leadership. Managing and motivating staff and maintaining high standards are key.</td>
</tr>
<tr>
<td>Transfer Station Manager</td>
<td>Management of all operations at a transfer station including maintaining compliance with health and safety and environmental standards. Responsible for procurement activities i.e. maintenance service contracts, consumable materials, equipment, asset management, process optimisation.</td>
</tr>
<tr>
<td>Household Waste Recycling Centre (HWRC) Manager</td>
<td>Management of all operations on a HWRC site. Responsible for procurement activities such as maintenance service contracts, consumable materials, equipment and recyclable waste, asset management, process optimisation, finance and aspects of leadership.</td>
</tr>
<tr>
<td>Landfill Manager</td>
<td>Management of all operations on a landfill site. Responsible for procurement activities such as maintenance service contracts, process optimisation and aspects of leadership. A key feature of this job is interfacing with customers, regulators, local residents and other interested parties.</td>
</tr>
<tr>
<td>Sustainability Manager</td>
<td>Management of all aspects of environmental management in an organisation, including management systems, sustainable procurement, looking at waste minimisation and the best ways to treat waste and recyclables following the waste hierarchy and other principles.</td>
</tr>
</tbody>
</table>
Qualifications

Competence qualifications available to this pathway

N/A

Knowledge qualifications available to this pathway

N/A
Combined qualifications available to this pathway

<table>
<thead>
<tr>
<th>No.</th>
<th>Ref no.</th>
<th>Awarding organisation</th>
<th>Credit value</th>
<th>Guided learning hours</th>
<th>UCAS points value</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1a</td>
<td>600/8139/9</td>
<td>WAMITAB</td>
<td>107</td>
<td>573 - 687</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Ref no.</th>
<th>Awarding organisation</th>
<th>Credit value</th>
<th>Guided learning hours</th>
<th>UCAS points value</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2a</td>
<td>600/8103/X</td>
<td>WAMITAB</td>
<td>99</td>
<td>561 - 675</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Relationship between competence and knowledge qualifications

Apprentices must complete either qualification B1 or B2. The choice of qualification must reflect the apprentices job role and the facility where they work. The qualifications underpin all job roles described in the job role section, however the appropriate choice depends on the size of the facility where the apprentice works.

Qualification B1 is designed for learners working at larger scales facilities who have more specialised functional job roles related to management of operations.

Qualification B2 is designed for learners working at smaller scale facilities who, whilst managing operations, will have a broader range of responsibilities and will need a more flexible range of knowledge and skills to reflect these this.

For example, in a large scale facility a site manager would typically have budgetary control but a colleague would manage spend and procurement. In a small scale facility a site manager would typically control and deliver this function.

Evidence of completion of one of the above qualifications is required for claiming an Apprenticeship completion certificate. Applications must be submitted through Apprenticeship...
Certificates England (ACE) available at: [https://acecerts.co.uk](https://acecerts.co.uk)
Transferable skills (England)

Functional Skills / GCSE (with enhanced functional content) and Key Skills (England)

Apprentices must complete or have completed one of the English transferable skills qualifications and one of the Mathematical transferable skills qualifications listed below in order to successfully complete their Apprenticeship and this will carry the QCF five credit values. If they do not have these qualifications as part of their evidence an Apprenticeship certificate cannot be awarded.

<table>
<thead>
<tr>
<th>English</th>
<th>Minimum level or grade</th>
<th>Credit value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional Skills qualification in English</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>GCSE qualification in English (with enhanced functional content)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

** achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

<table>
<thead>
<tr>
<th>Mathematics</th>
<th>Minimum level or grade</th>
<th>Credit value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional Skills qualification in Mathematics</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>GCSE qualification (with enhanced functional content) in Mathematics</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

** achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

Inclusion of Information and Communications Technology (ICT)

IMPORTANT: Please note that the achievement of Transferable Skills is no longer a mandatory requirement for Higher Apprenticeships.

Progression routes into and from this pathway
Progression routes into the pathway:
Applicants may come from a range of routes including:

- Successful completion of the Advanced Level Apprenticeship in Sustainable Resource Management
- Level 3 competence or knowledge qualifications
- Relevant work or work experience
- Academic qualifications such as GCSEs or A levels
- Candidates currently employed in the industry but seeking a career change or up-skilling.

Apprentices will undergo an initial assessment to identify prior learning and experience which may count towards the achievement of this Apprenticeship.

Progression routes out of the pathway:
The apprentice's knowledge about career pathways, information sources and the names of relevant professional bodies are developed initially during the induction and consolidated throughout the duration of the Apprenticeship programme.

Throughout any career in the waste management industry, individuals will be provided with the necessary on-going on and off job training, including refresher training and new skills training, to enable them to carry out their job role competently.

On completion of the Higher Apprenticeship and under normal circumstances, apprentices will continue to work as a competent manager in their current job role. Indicative job roles are described in the job roles section. Progression will depend on the performance and motivation of the individual and the vacancies/opportunities available within the company. Completion of the Higher Apprenticeship supports progression to higher level job roles such as Area/Regional Operations Manager, Business Manager, or Facilities Commissioning/Decommissioning Manager.

It is possible for managers to move across to other industry areas or to achieve further qualifications which might include one of the following qualifications recognised by the Chartered Institute of Wastes Management.

Undergraduate Qualifications

Bachelor Degrees
University of Northampton - BSc Environmental Science (Wastes)
University of Northampton - BSc Wastes Management (Distance Learning)
University of Northampton - BSc Wastes Management (Full Time)

Foundation Degrees
Myerscough College/UCLAN - FdSc Wastes Management
University of Northampton - FdSc Wastes Management
Higher National Certificates
Carnegie College - HNC Wastes Management
University of Northampton - HNC Wastes Management
Cardiff Metropolitan University, Cardiff - HNC Wastes Management

Diplomas
University of Huddersfield - Diploma in Professional Studies (Waste and Resource Management)

Certificates
Middlesex University - Certificate in Recycling for Sustainability
University of Central Lancashire - Certificate in Food Industry Waste and Resource Solutions
University of Central Lancashire - Certificate in Waste and Resource Optimisation in Food Processing
University of Northampton - Certificate in Wastes Management

Postgraduate Qualifications

Masters Degrees
Cranfield University - MSc Waste and Resource Management
Glasgow Caledonian - University MSc Waste Management
University of Central Lancashire (UCLAN) - MSc Sustainable Waste Management
University of Hull - Waste Module within MSc Environmental Technology
University of Northampton - MBA (Wastes Management)
University of Northampton - MSc Wastes Management
University of the West of Scotland - MSc Waste and Clean Technologies

Post Graduate Courses
Lancaster University - PGCert in Energy & Fuels from Waste

For full details of qualifications supported or accredited by CIWM please refer to http://www.ciwm.co.uk/CIWM/ProfessionalDevelopment/Qualifications/Qualifications.aspx
EU Skills is currently working with CIWM to identify the appropriate level of membership for Apprentices to support their onward professional development.

For the right individual, this Higher Apprenticeship can provide a springboard to an exciting career in the waste management industry. For further information on careers in the waste management industry please visit www.euskills.co.uk/careers

UCAS points for this pathway: Not applicable
Employee rights and responsibilities

Employee Rights and Responsibilities (ERR) are no longer a mandatory requirement of Higher Apprenticeships. For employers who wish their apprentices to undertake ERR, an ERR work developed in partnership between Energy & Utility Skills and Adams Associates is available at [www.euskills.co.uk](http://www.euskills.co.uk).

Evidence of completion of the workbook is not required at the point of certification.
The remaining sections apply to all levels and pathways within this framework.

How equality and diversity will be met

Under-representation in the industry
The under-representation of women and those from black or minority ethnic (BME) background remains a key priority for the industry. Females constituting only 19% of the workforce compared to the 43% UK average. In addition, only 4% of the waste management industry workforce is from a black or minority ethnic (BME) background compared to 8% of the UK workforce.

Barriers to entry and progression
Unfounded but widespread perceptions of the waste management industry provide the main barrier to entry and progression for these under-represented groups.

Actions being taken to address barriers to take up and progression
Apprentices are seen as a vital route to encourage and facilitate a greater diversity of individuals into the industry. This Apprenticeship does not discriminate. Employers/providers must be able to demonstrate that there are no overt or covert discriminatory practices in selection and employment. All promotion, selection and training activities must, as a minimum, comply with relevant legislation, in particular, the protected characteristics of the Equality Act 2010. For guidance please refer to: www.equalityhumanrights.com/advice-and-guidance/new-equality-act-guidance/

The larger employers in the industry are actively involved in initiatives to increase the representation of women and BME groups in the industry. Energy & Utility Skills will support these initiatives by promoting specifically to these groups. Take up will be monitored through analysis of statistical returns from the Data Service and through certification data. Where questions arise concerning policy and practice, Energy & Utility Skills will work closely with NAS to identify causes and to implement positive action where appropriate.

EU Skills will continue to host stands at careers fairs and participate in skills competitions where we can promote this Apprenticeship to all groups including females and BME. In addition, EU Skills is developing a number of case studies of successful women working in the industry which will be used to help encourage new female entrants.

These case studies will be available at: www.euskills.co.uk
On and off the job guided learning (England)

**Total GLH for each pathway**

GLH do not apply to Higher Apprenticeship frameworks.

**Minimum off-the-job guided learning hours**

Not applicable.

**How this requirement will be met**

Not applicable.

**Minimum on-the-job guided learning hours**

Not applicable.

**How this requirement will be met**

Not applicable.
Personal learning and thinking skills assessment and recognition (England)

Summary of Personal Learning and Thinking Skills

Personal Learning and Thinking Skills (PLTS) are no longer a mandatory requirement of Higher Apprenticeships.

For employers who wish to develop the employability skills of their apprentices through PLTS, a PLTS logbook developed in partnership between Energy & Utility Skills and Adams Associates is available at www.euskills.co.uk. This can be used by apprentices to formally record examples of where they have used PLTS to get tasks done in the workplace.

Evidence of completion of the logbook is not required at the point of certification.

Creative thinking

Not applicable

Independent enquiry

Not applicable

Reflective learning

Not applicable

Team working

Not applicable

Self management

Not applicable

Effective participation
Not applicable
Additional employer requirements

There are no additional employer requirements.