Title: Unit 1	Environmental Impact of Waste and Resource Management
Level:	3
Learning outcomes The learner will:	Assessment Criteria The learner can:
1. Understand what is meant by sustainable waste management and the waste hierarchy	1.1 Explain the principles of sustainable waste management 1.2 Identify any limitations in the commonly used definitions of sustainability 1.3 Describe the waste hierarchy using examples from thermal, biological and physical and chemical treatment to illustrate
2. Identify types of waste and arisings in the UK	2.1 Identify main types of controlled waste with examples of each i.e. household, industrial, commercial and agricultural wastes 2.2 Identify the current and projected arisings for the types of waste within the UK 2.3 Identify challenges for each of these waste types in relation to the waste hierarchy and sustainability.
3. Understand the potential environmental and amenity impacts of waste and resources management	3.1. Identify potential environmental / amenity impacts from wastes and resource management facilities and how they can be prevented or minimised. 3.2. Explain the significance of these impacts on the environment.
KNOWLEDGE AND UNDERSTANDING	Common definitions of the term sustainable waste and resources management The waste hierarchy Sources of information for waste types, quantities and tonnages List of waste examples, tonnages for arisings currently reported; predicted growth; reduction targets and rates within the UK Understanding the potential impact and issues arising by activity e.g. litter; noise, odour etc. The hazards to the environment arising from the operations carried out on site The records required by legislation and your organisation relating to environmental procedures and incident reports.

Title: Unit 2	Waste and Resource Management – Policy and Legislation
Level:	
Learning outcomes The learner will:	Assessment Criteria The learner can:
1. Understand the key stakeholders within the sector; their roles and interrelationships	1.1 Identify stakeholders relevant to the waste and resources management sector 1.2 Explain the roles and responsibilities of stakeholders in the waste and resources management industry and how their interaction will effect subsequent treatment options.
2. Understand which European/ UK legislation, codes of practice and guidance notes are relevant to waste and resource management facilities	2.1 Identify European / UK legislation, codes of practice and guidance notes relevant to the UK waste and resources management. 2.2 Describe the requirements of the legislation, code of practice and guidance in relation to operating a permitted wastes and resource management facility 2.3 Explain how 'waste' is defined and the use of protocols which determine when waste has ceased to be waste.
3. Understand what non-legislative drivers are affecting changes in wastes and resource management practices	3.1 Identify non legislative drivers which are affecting changes in waste and resources management practices. 3.2 Explain how these drivers will affect the ways waste and resources are managed in the future.
4. Understand why waste needs to be treated or disposed of in ways other than through landfill	4.1 Explain the legislative targets for reduction of waste to landfill 4.2 Describe the environmental impacts of diverting waste from landfill in relation to differing waste hierarchy options.
KNOWLEDGE AND UNDERSTANDING	Global warming Carbon footprint Conservation of resource Recycling targets European directives Legislature process from Directive to regulation and guidance Landfill Directive and its impact on company policy Groundwater Directive International protocols: transfrontier shipment of waste;

	Kyoto Protocol Waste strategy on a national, regional and local level. Waste Framework Directive - definition of waste, licensing and hierarchy. Current legislation, with specific reference to the Environmental Permitting Regulations, duty of care, EWC/List of waste Regulations and hazardous waste classification. Waste planning. Environmental Management systems.

Title: Unit 3	Permitting Requirements and Compliance in the Waste and Resource Management Industry
Level:	
Learning outcomes The learner will:	Assessment Criteria The learner can:
1. Understand the requirements of planning and permitting legislation as applied to the wastes and resource management practices.	1.1 Explain the requirement of relevant planning regulations in relation to waste and resource management facilities including new facilities and the changes to operations including: • requirement for Planning Permission • varying conditions • enforcement 1.2 Explain the requirements of the Environmental Permitting Regulations in relation to the following; • application • requirement for permit • Fit and Proper Person • modification • transfer • surrender • enforcement
2. Understand the concept of Producer Responsibility and the requirements of Duty of Care and dealing with hazardous wastes.	2.1 Explain the Duty of Care responsibilities for a waste carrier, and a waste management facility. Including the role of the: • Waste Producer • Waste Broker 2.2 Identify appropriate EWC Codes 2.3 Correctly complete a Waste Transfer note 2.4 Explain the concept of producer responsibility 2.5 Identify the legislation relevant to producer responsibility 2.6 Identify common hazardous waste types and explain the consignment note process.
3. Have an awareness of the roles of the Regulators working with the waste and resource management industry	3.1 List the Regulators which control /enforce regulations relevant to operating a waste and resource management facility. 3.2 Identify their key roles and powers relevant to an operator of a waste and resource management facility.

4. Understand different systems and procedures designed to ensure compliance with relevant legislation and to control environmental effects	4.1 Explain environmental monitoring requirements 4.2 Identify what aspects should be covered in an environmental accident management plan and operational method statement 4.3 Explain procedures for the identification, acceptance, receipt of waste and rejection of waste. 4.4 Explain how nuisances e.g.– dust, mud, vermin, birds, odour, noise, litter, emissions (gas; vapour and bio-aerosols)can be controlled
5. Understand operator responsibilities for data collection, reporting, storage and retention in relation to waste and resource management facilities	5.1 Identify the different types of data which needs to be collected and identify how long it should be stored for 5.2 Identify who to report the different data streams to and the reporting mechanisms available.
KNOWLEDGE AND UNDERSTANDING	Guidance to planning and permit applications Requirements of Fit and Proper Person Principles of modification, transfer, surrender and enforcement The definition of controlled wastes and the controlled waste transfer note procedures as laid down in applicable legislation Use of EWC Codes Concept of producer responsibility Understand legislation relevant to producer responsibility Understand the role of: Environment Agency LPA EHO HSE Animal Health (for ABPR) Types of data you need to record Retention periods for 'Duty of Care Notes' Environmental monitoring requirements Acceptance procedures for receipt of wastes Methods to control nuisances Data collection and reporting

Title: Unit 4	Health and Safety in the Waste and Resource Management Industry
Level:	
Learning outcomes The learner will:	Assessment Criteria The learner can:
1. Understand the general principles of Health and Safety	1.1 Explain both the employer and employees' responsibilities for H&S 1.2 Explain the terms 'hazard' and 'risk' 1.3 Carry out a risk assessment identifying hazards, risk and appropriate control measures 1.4 Explain the hierarchy of control measures 1.5 Identify where to obtain further guidance and advice as necessary
2. Understand specific health and safety issues related to wastes and resource management industry site activities.	2.1 Identify, any unsafe working practices and activities, using case studies to determine and correct any safety, or health issues 2.2 Describe a process for 'Near Miss' Incident and Accident Reporting and take corrective action 2.3 Explain the principles of an accident or incident investigation.
3. Know the procedures for the control of contractors and other site users	3.1 Identify relevant legislation and guidance for dealing with contractors and other visitors 3.2 Identify good practice for dealing with contractors and other visitors
4. Know safe working practices to control the use of plant and equipment on site.	4.1 Describe requirements for use of plant and equipment on site including: Maintenance Operative training Operating procedures Statutory testing Contingencies in the event of plant breakdown Understanding of increased environmental risk as a result of plant breakdown

KNOWLEDGE AND UNDERSTANDING	Employers' and employees' legal duties for health and safety in the workplace as defined by the Health and Safety at Work Act 1974 Employees' responsibility for health and safety as defined by any specific legislation covering Health and safety records Effective methods of monitoring the activities and understanding of other people with respect to health and safety matters. The difference between a hazard and a risk What hazards may exist in your workplace The particular health and safety risks which may be present on wastes and resource management facilities and the precautions to take The importance of remaining alert to the presence of hazards in the whole workplace The importance of promptly dealing with or reporting significant risks in the workplace. Incident investigation Health and safety issues relating to plant and equipment.

Title: Unit 5	Technical Aspects of Managing Waste and Resources
Level:	
Learning outcomes The learner will:	Assessment Criteria The learner can:
1. Understand the concepts for different physical, chemical, biological and thermal treatment processes available in the UK	1.1 List the different options for physical, chemical, biological and thermal treatment of wastes currently available in the UK including the option of MBT processes. 1.2 Describe the principals on which physical, chemical, biological and thermal treatment processes operate and the types of wastes they can treat.
2. Understand the technical, financial, political, planning and other barriers limiting the uptake of different technologies.	2.1 Explain the technical, political and financial barriers to the uptake of different technologies 2.2 Outline how the planning system can influence the development of different waste treatment technologies 2.3 List any further barriers that may limit the uptake of different waste treatment technologies
3. Understand the importance of effective communication within the work environment including those relevant to but outside of the site boundaries	3.1 Describe where effective communication and consultation can benefit the site relationship with the local community. 3.2 Explain how effective communication can improve relations within the workplace.
4. Understand the principles and procedures for waste transfer	4.1 Describe the principles of waste transfer and the potential risk to the environment from the activity 4.2 Explain the procedure for waste transfer, minimising effect on the environment.
KNOWLEDGE AND UNDERSTANDING	A range of options for treating waste currently available in the UK Local and national planning rules, guidance and processes. Consultation process Principles and requirement for environmental impact assessment Importance of assessing the impact of the site operations Implications regarding expenditure Cost estimates from plan to build and operate Sources of advice and information

	Waste treatment processes which are unsuitable for certain waste treatment options. Public perception regarding waste and stakeholder engagement Importance of effective communication within the workplace

Title: Unit 6a	Physical and Chemical Processing within the Waste and Resource Management Industry
Level:	
Learning outcomes The learner will:	Assessment Criteria The learner can:
1. Understand the implications of different collection and reception systems relating to physical and chemical treatment processes	1.1 Outline the different collection and reception systems available and their implications on subsequent physical and chemical treatment processes.
2. Understand the principles behind the science and engineering of the physical and chemical treatment processes.	2.1 Explain the scientific principles behind physical and chemical treatment processes. 2.2 Explain the engineering principles behind the physical and chemical treatment processes.
3. Know the technical and environmental benefits, limitations and any potential problems that may arise from physical and chemical treatment processes.	3.1 Identify and explain the technical and environmental benefits of the physical and chemical treatment processes. 3.2 Describe the limitations associated with the physical and chemical treatment processes. 3.3 Describe any potential problems of physical and chemical treatment processes and how they can be controlled and managed.
4. Know what emissions, products and residual waste are associated with the physical and chemical treatment processes	4.1 List the emissions and products associated with the physical and chemical treatment processes. 4.2 Explain how the emissions from physical and chemical treatment processes can be controlled and managed 4.3 Discuss the uses of the products arising from physical and chemical treatment processes. 4.4 Explain how the residual waste from physical and chemical processes can be controlled and managed
KNOWLEDGE AND UNDERSTANDING	Understand physical and chemical treatment processes Dewatering processes Mechanical separation processes Compaction and others as appropriate Waste electrical and electronic equipment (WEEE) dismantling

Title: Unit 6b	Biological Processing Within the Waste and Resource Management Industry.
Level:	
Learning outcomes The learner will:	Assessment Criteria The learner can:
1. Understand the implications of different collection and reception systems relating to biological treatment processes	1.1 Outline the different collection and reception systems available and their implications on subsequent biological treatment processes including: • food waste • co-mingled green waste with food waste • green waste
2. Understand the principles behind the science and engineering of the biological treatment processes.	2.1 Explain the scientific principles behind biological treatment processes. 2.2 Explain the engineering principles behind the biological treatment processes.
3. Know the technical and environmental benefits, limitations and any potential problems that may arise from biological treatment processes.	3.1 Identify and explain the technical and environmental benefits of each of the biological treatment processes. 3.2 Describe the limitations associated with the biological treatment processes. 3.3 Describe any potential environmental problems of biological treatment processes and how they can be controlled and managed.
4. Know what emissions, products and residual waste are associated with the biological treatment processes.	4.1 List the emissions and products and residual waste associated with the biological treatment processes. 4.2 Explain how the emissions from biological treatment processes can be managed and controlled 4.3 Discuss the uses of the products arising from biological treatment processes. 4.4 Explain how the residual waste from biological treatment can be controlled and managed
KNOWLEDGE AND UNDERSTANDING	The different types of biological treatment processes currently available What wastes can be treated in this way, benefits of the products Emissions, products and residues of the processes and control mechanisms

Title: Unit 6c	Thermal Treatment Processing within the Waste and Resource Management Industry
Level:	
Learning outcomes The learner will:	Assessment Criteria The learner can:
1. Understand the implications of variations in the waste types appropriate to thermal treatment processes and their inherent collection and reception systems	1.1 Outline the different collection and reception systems available and their implications on subsequent thermal treatment processes. 1.2 Describe the impact of different waste types on thermal treatment processes
2. Understand the principles behind the science and engineering of the thermal treatment processes.	2.1 Explain the scientific principles behind thermal treatment processes. 2.2 Explain the engineering principles behind the thermal treatment processes.
3. Know the technical and environmental benefits, limitations and any potential problems that may arise from thermal treatment processes.	3.1 Identify and explain the technical and environmental benefits of the thermal treatment processes. 3.2 Describe the limitations and public perceptions associated with the thermal treatment processes. 3.3 Describe any potential problems of thermal treatment processes and how they can be controlled and managed
4. Know what emissions, products and residual wastes are associated with the thermal treatment processes	4.1 List the emissions, products and residual wastes associated with the thermal treatment processes. 4.2 Explain how the emissions from thermal treatment processes can be controlled and managed 4.3 Discuss the uses of the products arising from physical and chemical treatment processes. 4.4 Explain how the residual waste from physical and chemical processes can be controlled and managed
KNOWLEDGE AND UNDERSTANDING	Different thermal treatment processes available. Implications of the waste stream quality on the processes What the public's concerns/ perceptions are in relation to thermal treatment processes Identify emissions, residues / products and how they can be controlled and /or used.