



# CIWM

## Green Careers Toolkit

global  
action  
plan

OUR LIVES. OUR PLANET.



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# About this Toolkit

This is a practical resource that aims to equip and inspire students in secondary schools to consider and explore careers in the resource and waste management industry. The Chartered Institution of Wastes Management (CIWM) have provided six profiles that describe what it is like to work in the waste industry. Through these profiles, students will be given the opportunity to explore the wide-ranging opportunities on offer in this sector. They will also be able to reflect, in particular, upon the strong links between the industry and sustainable development, offering a chance for them to make a positive contribution to an increasingly globalised world.

## This toolkit for schools is based around six career profiles:

### 1. Principal Land Quality Engineer - Lisa Hathway

I assess complex sites where there is contamination, such as old landfills, quarries and coal mines, making sure these are remediated before development into future homes and communities.

### 2. Environmental Specialist - Kirston Elton

I make sure that work for Network Rail helps the environment by advising about recycling, including the circular economy, so that material from one project/site can be used without bringing in new virgin material.

### 3. Global Technical Manager - Amaya Arias Garcia

I work as a Global Technical Manager, contributing to and reviewing anaerobic digestion plant designs. I also visit operational sites ensuring that we collect lessons learned and apply them to the design of new projects.

### 4. LGV Driver - Anne Okane

I drive a large lorry that picks up waste and recycling from homes. I am responsible for making sure the lorry is fit to drive, for the safety of the team and members of the public on the roads around the lorry.

### 5. Waste Regulation Advisor - Mike Tregent

I help develop the Environment Agency's waste portfolio, our priorities and how to meet our wider Regulated Industry Plan. I engage with external organisations to develop a broader understanding of the resource and waste landscape.

### 6. Director of Sacks Consulting - Deborah Sacks

I support companies in the waste management sector who are looking to invest here in the UK, and also to help UK companies who want to export around the world.

Each profile is created from responses to a set of interview questions that cover topics such as how the role impacts the wider world, key skills and characteristics required, challenges and highlights of working within the waste management industry and advice for those interested in pursuing a similar career.

Suggested **teaching and learning activities** have been developed in response to the details within these profiles, supporting learning in Geography, Business Studies and PSHE, but they also provide rich opportunities for discussion in Science, English and Economics.

## Tasks

To help you explore the industry, background information has been provided, accompanied by a number of suggested tasks to help add depth and context to this subject and assist you in helping students to think critically about careers and professionalism.

# Background Information

Including suggested supporting tasks and activities

## About CIWM

As the leading professional body for resources and waste professionals, CIWM (Chartered Institution of Wastes Management) is the voice of the sector and represents over 5,600 professionals in the UK, Ireland and overseas.

CIWM has a unique understanding of the sector. Its collective professional knowledge and trusted reputation enables CIWM to inform and influence legislation and policy, playing a vital part in shaping the future role and reputation of the sector.

Careers in resources and waste are not just about the physical management of waste and secondary materials. Much of the work is about communicating, advocacy and changing behaviour – from encouraging householders to recycle more through to helping businesses understand the business benefits of resource efficiency and new circular economy models. There is also a growing emphasis on data and evidence to develop new and more effective policies – such as measures to reduce packaging and eliminate single use plastics.

## CIWM Vision

*Making the best and safest use of resources to protect and enrich life on our planet.*

As humanity has grown and developed, the stresses we place on our environment and human health from the extraction, use and disposal of resources have grown too. As competition for those resources intensifies, the economic and social consequences of poor resource management become ever more serious. The safe and professional management of resources throughout their lifecycle, and the development of a more circular economy, are therefore increasingly urgent priorities. It is people who decide how we manage resources and CIWM exists to support them and help them make more sustainable decision and choices.



## Task



### English

Ask pupils to prepare a short article for 'Circular' – an environmental magazine aimed at explaining the role of CIWM in relation to resource and waste management in the UK. Pupils should browse copies of '[Circular online](#)' to gather a few examples of case studies to illustrate the effectiveness of the organisation and the impact that it has had on the waste industry – and on the environment – in the UK.

## CIWM Mission

*To influence, inform and inspire the sustainable management of resources and waste.*

Founded in 1898, CIWM is the leading professional membership body for people working in or with the resource and waste management sector. It supports its members to be successful in their roles by providing technical and career advice, information, training and networking. It sets and maintains professional standards, developing and sharing knowledge and best practice. It provides an impartial, influential and respected voice for the sector in policy discussions in Belfast, Brussels, Cardiff, Dublin, Edinburgh and London, helping to ensure policy development is informed by practical and theoretical understanding and experience.

CIWM has over 5,600 members. It is incorporated by Royal Charter and is a charity. Its charitable objects are:

*To advance for the public benefit the art and science of wastes management worldwide and so to promote education, the protection of public health and the preservation of the environment, and for that purpose to further and maintain good standards of practice, competence and conduct by all its Members.*

## Task



### English

Ask pupils to explore vision and mission statements from other professional bodies in order to compare and identify key features of such statements. Pupils should identify key vocabulary and phrases and consider the difference between aims, vision and mission. Asks pupils to consider the school mission statement and make links between how schools and professional bodies describe their core purpose.



## A few facts and statistics about waste in the UK

In 2019, the UK became the first major economy to pass a net zero emissions law, with a target to bring all greenhouse gas (GHG) emissions to net zero by 2050. The resources and waste sector have a really important role to play in meeting this target through:

- managing waste safely and efficiently to protect the environment and minimise GHG emissions.
- recovering valuable materials so that they can be put back to work in the economy, reducing the demand for virgin raw materials and the associated environmental impacts.
- working with the product supply chain to encourage ecodesign – where products are designed with resource efficiency, waste prevention, reuse and remanufacturing opportunities in mind.
- helping to change consumer behaviour to reduce waste, recycle more and make more sustainable and environmentally friendly buying choices.

In the last two decades, the UK resources and waste sector has been transformed, quadrupling the recycling rate, reducing the amount of waste going to landfill, and deriving more energy from waste in the form of electricity and biogas from biodegradable waste.

### Interesting statistics:

- In 2017/18 the England recycling rate for 'waste from households' was 44.8%, with the highest performing council being East Riding of Yorkshire Council at 64.5%.
- Between 01 Jul 18 to 30 June 2019, 50.6% of household waste was recycled by Northern Ireland local authorities, according to provisional data. This means the country has reached the EU 2020 target of 50% recycling 18 months ahead of schedule.
- In a 2017 survey of UK households, almost two thirds of households (66%) expressed uncertainty over what can be put in the recycling bin.
- Recycle Now 2019 campaign headlines:
  - 79% of all the plastic ever produced is still in the environment
  - 2050 is the estimated date when there will be more plastic than fish in the sea
- In 2016 in the UK, 71.4% of packaging waste was either recycled or recovered. This was above the EU target of 60%.
- Around 10 million tonnes of food and drink is wasted in the food chain annually in the UK. This is equivalent to around one quarter of the 41 million tonnes of food bought.
- The UK generated 222.9 million tonnes of total waste in 2016, with England responsible for 85% of the UK total.

Sources: Appendix 1 on page 33

### Task



#### Business Studies

Ask pupils to analyse this data and make some predictions about what the data might show for 2020. They should explain their reasoning. Ask pupils to work in groups to design a plan to address and improve one of these statistics through the creation of a marketing campaign for a local region aimed at changing behaviours.

## 25-Year Environment Plan

“It is this Government’s ambition to leave the environment in a better state than we found it. We have made significant progress but there is much more to be done. The 25-Year Environment Plan that we have published today outlines the steps we propose to take to achieve our ambition.”

Our 25-year goals. By adopting this Plan we will achieve:

1. Clean air.
2. Clean and plentiful water.
3. Thriving plants and wildlife.
4. A reduced risk of harm from environmental hazards such as flooding and drought.
5. Using resources from nature more sustainably and efficiently.
6. Enhanced beauty, heritage and engagement with the natural environment.

In addition, we will manage pressures on the environment by:

7. Mitigating and adapting to climate change.
8. Minimising waste.
9. Managing exposure to chemicals.
10. Enhancing biosecurity.

## Resources and Waste Strategy for England

This strategy sets out how Government will preserve material resources by minimising waste, promoting resource efficiency and moving towards a circular economy in England. A more circular economy will see us keeping resources in use as long as possible, so we extract maximum value from them. We should recover and regenerate products and materials whenever we can, giving them a new lease of life. We will:

- Stimulate demand for recycled plastic by introducing a tax on plastic packaging with less than 30% recycled plastic.
- Improve recycling rates by ensuring a consistent set of dry recyclable materials is collected from all households and businesses.
- By tackling waste crime, ensure that resources are properly recycled or recovered and fed back into the economy.
- Fully commit to reducing food waste, reducing our carbon footprint, and also meeting the UN Sustainable Development Goal to halve global food waste at consumer and retail levels by 2030.
- Invoke the ‘polluter pays’ principle and extend producer responsibility for packaging, ensuring that producers pay the full net costs of managing packaging waste at end of life.

Source: Appendix 1 on page 33

### Task



#### Science

Ask pupils to research further the rationale and specific directives of the government’s 25-Year Environment Plan. Ask pupils to explain what research and analysis was required in order to be able to create key statements and targets in this plan. What scientific processes and concepts were needed to be deployed in order for this plan to be authentic and relevant to the needs of the waste industry as well as the environment as a whole?

# Working in the Green Sector

## What is a Green Job?

According to the United Nations Environment Program it can be defined as:

"Work in agricultural, manufacturing, research and development (R&D), administrative, and service activities that contribute(s) substantially to preserving or restoring environmental quality. Specifically, but not exclusively, this includes jobs that help to protect ecosystems and biodiversity; reduce energy, materials, and water consumption through high efficiency strategies; de-carbonize the economy; and minimize or altogether avoid generation of all forms of waste and pollution."

Jobs in resources and waste management offer a diverse range of opportunities and career prospects and **they are found in many sectors of the economy including agriculture, energy supply, manufacturing, retail and transport.** In each specific industry sector the overriding purpose of particular jobs varies greatly.

In **the energy sector** they can involve working in renewables, wind, solar, biofuels, geothermal and small-scale hydro, carbon sequestration or co-generation.

A wide variety of jobs are also found in the **material management sector** (e.g. recycling, durability/reparability of products), **retail sector** (e.g. minimisation of shipping distances, promotion of efficient products, packaging and eco labels) **agriculture sector** (e.g. soil conservation and water efficiency) and **forestry sector** (e.g. reforestation, sustainable forestry management and certification schemes).

It is estimated that there are currently millions of green jobs globally and a report that was led by the Green Jobs Initiative has stated that **a greener economy could generate 15 to 60 million additional jobs globally over the next two decades** and lift tens of millions of workers out of poverty if appropriate government policies are implemented.

The greening of the economy presents a major opportunity to start new businesses, develop new markets and lower energy costs.

Source: [www.greenjobs.co.uk](http://www.greenjobs.co.uk)

## Task



### Business studies

Conduct some research into Green Jobs in the UK and one other contrasting country. What do you believe are the contributing factors to the way that these jobs are the same and different? Present your findings in the form of a radio interview for an international schools programme.



## Job roles in waste management

The range of careers in resource and waste management is far broader than pupils might expect. The list below highlights some examples of job roles, skills and specialisms that are involved in managing resources and waste and protecting the environment.

- Circular Economy
- Compliance officer
- Communications / behavior change
- Contracts manager
- Ecodesign
- Environmental lawyer
- Environmental officer / manager
- Environmental policy
- Environmental regulator
- Environmental consultant
- Facilities / plant engineer
- Fleet manager
- Hazardous waste specialist
- Health & Safety officer
- Healthcare waste manager
- HGV driver
- IT hardware & software
- Lecturer
- Local Environment Quality officer
- Logistics and transport
- Maintenance engineer
- Monitoring and control
- Nuclear waste and decontamination
- Permitting manager
- Planning officer
- Quality and performance manager
- Recycling officer
- Research and development
- Resource and waste manager
- Sales and marketing
- Specialist waste stream manager (e.g. food waste, textiles)
- Sustainability manager
- Technical
- Trainer
- Transport compliance
- Waste / environmental consultant
- Waste prevention and reuse

### Task



#### Business Studies

Allow students to look through the career job categories, roles and responsibilities. Ask them to discuss how certain roles are connected to each other and what opportunities there are for innovation and entrepreneurship. They should search for some examples of creative approaches to waste management (UK and Globally) in order to create a variety of examples of jobs that are similar but are in different contexts.

# Curriculum Links

The profiles provided in this toolkit are intended to highlight the opportunities for careers in resources and waste management as well as the range of skills, knowledge, understanding and experiences that contribute to the way professionals in waste services operate and collaborate.

Many aspects of the DfE national secondary school curriculum for England (Key Stages 3 to 5) will enable students to develop their knowledge, understanding and skills of different features of potential careers in the waste and environmental sector. The Geography, Business Studies and Science curriculum have learning outcomes that are particularly relevant and these are often particularly well supported by learning in PSHE, Citizenship, Mathematics and Literacy. Example key features of the related DfE curriculum aims are shown below, and then specific learning outcomes are suggested as themes alongside each career profile.



## Geography GCSE Key Stage 4

Geography should provide the opportunity for students to understand more about the world, the challenges it faces and their place within it. The GCSE course will deepen understanding of geographical processes, illuminate the impact of change and of complex people-environment interactions, highlight the dynamic links and interrelationships between places and environments at different scales, and develop students' competence in using a wide range of geographical investigative skills and approaches. Geography enables young people to become globally and environmentally informed, and thoughtful and enquiring citizens.

Geography should enable students to gain an understanding of the interactions between people and environments and to develop and extend their competence in a range of skills including researching secondary evidence, including digital sources. Geography should enable students to develop their competence in applying sound enquiry and investigative approaches to questions and to hypotheses. Students should be able to apply geographical knowledge, understanding, skills and approaches appropriately and creatively to real world contexts, including fieldwork and to contemporary situations and issues, developing well-evidenced arguments and drawing on their geographical knowledge and understanding.



## Science Key Stage 3

Students should be encouraged to relate scientific explanations to phenomena in the world around them and start to use modelling and abstract ideas to develop and evaluate explanations. Students should understand that science is about working objectively, modifying explanations to take account of new evidence and ideas and subjecting results to peer review. They should evaluate their results and identify further questions arising from them.



# Curriculum Links



## GCE AS and A level Business Key Stage 5

Encourage students to develop an enthusiasm for studying business and gain a holistic understanding of business in a range of contexts. Students should develop a critical understanding of organisations and their ability to meet society's needs and wants. Students should be encouraged to generate enterprising and creative approaches to business opportunities, problems and issues developing some awareness of the ethical dilemmas and responsibilities faced by organisations and individuals. Students should acquire a range of relevant business and generic skills, including decision making, problem solving, the challenging of assumptions and critical analysis and they should be to apply numerical skills in a range of business contexts.



## English Key Stage 3

The national curriculum for English aims to ensure that all students read easily, fluently and with good understanding, developing the habit of reading widely and often, for both pleasure and information. Students should acquire a wide vocabulary and appreciate our rich and varied literary heritage. Students should write clearly, accurately and coherently, adapting their language and style in and for a range of contexts, purposes and audiences. Using discussion in order to learn, they should be able to elaborate and explain clearly their understanding and ideas and become competent in the arts of speaking and listening, making formal presentations, demonstrating to others and participating in debate.



## PSHE - Key Stage 4

*Personal, social, health and economic education (PSHE) is not a statutory subject and so does not have curriculum objectives set by the DfE. The subject, however, is well supported by the PSHE Association who receive funding from the DfE to support schools.*

PSHE education equips students to live healthy, safe, productive, capable, responsible and balanced lives. It encourages them to be enterprising and supports them in making effective transitions, positive learning and career choices and in achieving economic wellbeing. A critical component of PSHE education is providing opportunities for children and young people to reflect on and clarify their own values and attitudes and explore the complex and sometimes conflicting range of values and attitudes they encounter now and in the future.

PSHE education contributes to personal development by helping students to build their confidence, resilience and self-esteem, and to identify and manage risk, make informed choices and understand what influences their decisions. It enables them to recognise, accept and shape their identities, to understand and accommodate difference and change, to manage emotions and to communicate constructively in a variety of settings. Developing an understanding of themselves, empathy and the ability to work with others will help students to form and maintain good relationships, develop the essential skills for future employability and better enjoy and manage their lives (PSHE Association, 2019).



# Six Career Profiles

Each career profile presents a different view of careers and opportunities in resource and waste management. There are similar and different themes, as well as details relating to the required skills and knowledge that enable these employees to complete tasks and conduct themselves professionally.

Each profile is supported by a list of suggested activities, which focus on particular areas of the national curriculum, but the following questions could be used to shape initial understanding of each career that is being described. It would also be useful to ask students to compare profiles in order to identify similarities and differences.

- **What aspect of this career is familiar to you? How?**
- **What aspect of this career is appealing to you? Why?**
- **What aspect of this career do you think is likely to change in the next 10 years? Why?**
- **Do you think that the person being interviewed here enjoys their job? What makes you think this?**
- **If you had to choose 5 words to describe key features of this career what would they be? Why?**
- **What further questions do you have for this employee? Why?**
- **If you compare some of the careers, how are they similar and how are they different?**





## Career Profile 1

**Name:** Lisa Hathway  
**Role:** Principal Land Quality Engineer  
**Company:** NHBC Technical Operations  
**Industry:** Insurance

*I assess complex sites where there is contamination, such as old landfills, quarries and coal mines, making sure these are remediated before development into future homes and communities.*

### 1. What does a typical day for you look like?

I predominantly work from an office and I generally start at 07:30. I always have a plan of what I need to do; however, my day doesn't always go to plan, but that's what I like about my job! I prepare technical reports delivering National House Building Council's (NHBC) feedback on the investigations, remediation proposals (suggesting ways of reducing environmental damage) and verification of brownfield sites affected by contamination (brownfield sites are places that have been previously developed but are not currently in use). I often undertake site visits, which include former quarries, coal mines, landfills and all manner of industrial complexes, to meet my customers and to physically see what is taking place.

### 2. What do you enjoy the most about your job?

I really enjoy the varied tasks and the fact that I have the autonomy to manage my workload, which enables me to meet my customers' expectations. My priority is to ensure that projects meet the NHBC's technical standards. I like the mix of technical and management elements within my role.

### 3. What about your role do you find exciting?

I love going to sites. I don't care about the weather, although the worst scenario is to wear full PPE (Personal Protective Equipment), including masks and gloves, when it's over 30°C! You really can't grasp operational elements and challenges without seeing them first-hand.

### 4. What challenges do you experience in your role?

Balancing the need to take time away from the day job so that I can stay well informed about technical and regulatory changes. I work in a multi-disciplinary team for an insurance company, across the construction and remediation industries, so I've had to learn about a lot of different areas, including geotechnical engineering, to understand their issues/perspectives.

### 5. How does your role impact the wider world?

I work in an environmental protection role. There are many sites across the UK that are derelict and will be potentially causing harm to the environment and to

social cohesion. We see, for example, that derelict land attracts fly-tipping, which leads to a number of health and safety issues. I work to ensure that these sites are remediated to NHBC Standards, which ultimately brings a site back to beneficial use and enables new communities to be developed. This often includes new recreation areas integrated to improve health and wellbeing and aimed at enhancing both community cohesion and the physical environment. As another example, former unlicensed landfill sites that aren't lined or capped but still have residual ground gas and leachate issues, can be engineered back to beneficial use with appropriate remediation, engineering and mitigation measures. This means that they no longer cause harm, for example by reducing the impact of greenhouse gases and potential pollution to groundwater.

### 6. What would your vision for the future of your role be?

To have an inspiring and diverse multi-disciplinary workforce, with the right skills, training and qualifications.

### 7. What characteristics and key skills are needed for your role?

A flexible, resilient and professional attitude that embraces the fact you never, ever stop learning. Good analytical and problem solving skills are key but also being able to organise yourself, communicate and listen effectively is essential. You also need to be open-minded and be prepared to step out of your comfort zone.

### 8. What advice would you give to someone looking to get into the industry?

Expect an evolving and constantly moving industry - try and stay abreast of what's going on technically and policy-wise, as well as reading what is going on around you. You can do this by joining CIWM at whatever stage of your career - that's a no-brainer! Getting involved can help with networking, and making contacts is essential for any professional. Never be afraid to ask for help or advice. CIWM have always been there for me throughout my career.



# Career Profile 1: Student Activities



## Geography

### Suggested activities:

In this profile we read about environmental protection and the need to monitor land quality. Lisa talks about site visits, monitoring data collection and creating technical reports. What aspects of human activity are described in this profile and what is the effect on landscapes and the environment? Ask students to consider the school grounds and the wider local community. Where is there evidence of human activity having an impact on the environment? What aspects of this change is useful? And what is damaging? Ask students to research the regulations, laws and systems that are in place at a local level to protect the environment. To what extent have these changed in the last 10-20 years and to what extent will they change in the future?

### Curriculum Links:

**Key Stage 3:** Students should understand how human and physical processes interact to influence, and change landscapes, environments and the climate; and how human activity relies on effective functioning of natural systems.



## Science

### Suggested activities:

In her interview, Lisa talks about contaminated land. Students should consider examples of materials that contaminate land and how these affect the environment – and life-cycles in particular. Students should think about and research some of the animals that have become extinct over the last 100 years and attempt to make links between this and the way that human activity has harmed the environment through different aspects of land use.

### Curriculum Links:

**Key Stage 3: (Biology)** Changes in the environment which may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction.



## Business Studies

### Suggested activities:

Lisa talks about a number of different roles and responsibilities that she has, including the way that she holds her clients accountable to the NHBC Standards and the LQE service that she offers. Ask students to explore some of the details of these standards. What competitive edge do organisations who reach these standards have over other organisations – and to what extent are these standards 'law' rather than guidance? Students could also explore other standards that this sector uses in order to maintain high standards of environmental protection and mitigation. Some of these are listed on the [.gov website](#).

### Curriculum links:

**AS Level:** Students should investigate different types and sizes of organisations in various business sectors and environments, with an awareness of local, national and global contexts, recognising that they face varying degrees of competition. Students should identify business opportunities and problems.





## Career Profile 2

**Name:** Kirston Elton  
**Role:** Environmental Specialist  
**Company:** Network Rail  
**Industry:** Rail Infrastructure and Asset Management

*I make sure that work for Network Rail helps the environment by advising about recycling, including the circular economy, so that material from one project/site can be used without bringing in new virgin material.*

### 1. What does a typical day for you look like?

My day is very varied and there isn't really a typical day. I am rarely in the office and I am often out on-site verifying compliance against permits and consents across a range of site types, such as our aggregate recycling depots, track and materials reclamation sites, and our wash plant. I also carry these activities out at our depots and maintenance sites that keep the testing, seasonal, maintenance, tamping and high output trains working. I provide advice and guidance relating to duty of care, permit compliance, pollution prevention, waste classification and definition of waste, as well as our Environmental Management System (EMS).

### 2. What do you enjoy the most about your job?

There are so many new areas of operational activities that I find something new and challenging each week. I am not an office person and so I like to get out and work around the operational areas, getting to know and learn from people I meet in the different areas of my job. I also get to make a real contribution to reducing waste and maximising environmental benefits, including reducing energy and waste production. This includes involvement in new depot projects and advising on drainage, recycling strategies and construction to minimise waste.

### 3. What challenges do you experience in your role?

Implementing a new approach to resource management and reducing waste is an ongoing challenge. You have to try and change people's attitudes towards waste, helping them to see prevention as the priority and then see subsequent waste as a resource, rather than something to be gotten rid of.

### 4. How does your role impact the wider world?

To reduce the amount of waste from projects from the outset, and deliver real resource management for waste that cannot be avoided, means that I have to spread this message across a range of people in the business. This can have lasting changes in the culture of the business as well as changes that people can then apply to their everyday life to reduce our impact on resources and the Earth. Getting people to think about their actions, the impact they are having and how they can alter their

behaviour is a key aspect of our work. It is important for people to sustain changes so that they become habits – and this takes practice as well as motivation. It has been interesting to consider this in light of what we are learning about the benefits of a circular economy. For example, we are considering how we might redesign some of our materials to begin with, so that they are designed to be reused rather than recycled.

### 5. What would your vision for the future of your role be?

Something I'm passionate about is affecting real change across society, not just in the workplace – resource management starts with us and our buying habits. Reusing and repairing to avoid waste is something that we should return to, thereby reducing waste in the first place.

### 6. How did you get into resources and waste?

I entered waste management through the Environment Agency in 2004. I'd always had a keen interest in the environment and the green economy but left school at 16. I worked in warehousing and then on a car production line before finally re-training to follow my environmental interests. In my car production work, I was the group recycling rep which meant I had already gained an insight into the challenges in a manufacturing situation. I joined the Environment Agency and worked my way up to Senior Environment Officer. After 11 years I left and worked as an Environmental Compliance Manager in the quarrying sector before joining my present position. I've found that gaining a grounding in operational work and working up through a sector helps you really understand the business and how resource management can be integrated.

### 7. What advice would you give to someone looking to get into the industry?

Work with the people at the operational end of a business – they do the work day in day out and know the processes and problems. This way you'll get to know the work and what the resource and waste implications are, which you can then use to develop your own ideas and the direction of your influence on the sector.



## Career Profile 2: Student Activities



### Business Studies

#### Suggested activities:

Ask students what Kirston is describing in his response to Question 4. Ask students to draw the life cycle of common household items and consider at what point there are opportunities for innovation and entrepreneurship relating to the need to produce less waste. Is there an opportunity to design materials at the outset that can be re-used, for example, rather than recycled? We often think about recycling as a 'green' option, but reduce and reuse options should come first! The [Ellen MacArthur Foundation](#) has some interesting case studies to explore. Choose one and consider what aspects of resource and waste management are being deployed.

#### Curriculum Links:

**GCSE:** Business operations; the impact of different types of production processes on businesses. Business activity; the purpose of business activity, the role of business enterprise and entrepreneurship, and the dynamic nature of business.



### Business Studies

#### Suggested activities:

Consider the different roles that Kirston has held within the different organisations he has worked with. What is similar and different about these roles? How do you suppose the aims and objectives differ across these organisations? Explore, if possible, the aims and organisational structures of these businesses and to what extent these aims might change in the next 10 to 20 years as technology, entrepreneurship and innovation continue to accelerate change.

#### Curriculum Links:

**GCSE:** Business activity; business aims and objectives, how and why they differ between businesses, and how and why they change as businesses evolve.



### Citizenship

#### Suggested activities:

Students should consider the point that Kirston makes about changing the way people behave in order to better protect the environment. What role could they play in changing the way that their school community addresses environmental issues? What are the recycling facilities like, for example, and can they be improved? To what extent are plastic bottles available on the school premises and can this be changed? Students should consider how they could go about creating behaviour change for a more sustainable school environment, creating a short action plan that they could present to the science or geography subject leader in their school.

#### Curriculum links:

**Key Stage 3:** Students should consider the roles played by public institutions and voluntary groups in society, and the ways in which citizens work together to improve their communities, including opportunities to participate in school-based activities.







## Career Profile 3

**Name:** Amaya Arias Garcia  
**Role:** Global Technical Manager  
**Company:** Suez Water Technologies and Solutions  
**Industry:** Organics Recycling

*I work as a Global Technical Manager, contributing to and reviewing anaerobic digestion plant designs. I also visit operational sites ensuring that we collect lessons learned and apply them to the design of new projects.*

### 1. What does a typical day for you look like?

I am part of a team that designs, builds and operates anaerobic digestion plants. I have two types of days. Office days, which usually consist of meetings, conference calls and answering emails, and site days, where I go to a construction site, or a commission site (a site that is being tested prior to operation). On site I get to do some practical work like assessing equipment that is underperforming, consider engineering modifications to improve the process or attending meetings with suppliers.

### 2. What do you enjoy the most about your job?

I love that I am constantly learning on the job and that I get to put my problem-solving skills into practice when problems arise that you might not expect or that are not in your control. Both these elements help to make my job really satisfying. An example of a recent challenge was that we had to reduce the plastic content of the digestate, an end product of our anaerobic digestion plants, through the introduction of extra equipment.

### 3. What about your role do you find exciting?

As an engineer, I find it exciting when I need to build something and then seeing what I have helped create come to life and start working and doing the job it was made to do. When you are commissioning a new plant it is very exciting to start producing biogas.

### 4. What challenges do you experience in your role?

Over the years the challenges I have experienced have been mainly related to working with various types of people, whether clients, co-workers or otherwise. I have learnt that building strong relationships with people is so important, even when this is not necessarily part of your job description, as developing positive relationships with the people you work with is critical for getting the best results. Understanding other people's perspectives, their needs and different ideas (even when they're different to your own) helps to make sure things go smoothly and helps to overcome challenges that arise along the way.

### 5. How does your role impact the wider world?

We recover organic waste material (e.g. food waste) and turn it into renewable energy and fertiliser for reuse - it is circular economy at its best! Through my role, I am helping to turn something that was once considered waste into a valuable natural material that is beneficial and useful to the land. The products we create out of waste go on to support the growth of plants, help to prevent flooding, retain water in the soil, improve soil compaction and allow better root growth for trees and plants. Using natural materials in the soil to increase plant growth also means artificial fertiliser is not necessary, creating a healthier environment for biodiversity and increasing plant resilience and reducing the need for chemical pesticides. By producing renewable energy, we are reducing the need for fossil fuel-based energy generation which of course is better for the planet.

### 6. What characteristics and key skills are needed for your role?

Technical know-how and strong communication skills are important for working with others and making sure results are achieved. I believe that a good science background is important to develop an innovative understanding of the products you might be creating. A thinking head and using your initiative is necessary (especially when it comes to problem-solving). The industry wants someone with the desire and passion to understand and deliver quality products.

### 7. What advice would you give to someone looking to get into the industry?

To support the skills that are needed, I would recommend building up the basis of science and the thinking ability. Start learning to communicate at all levels.



## Career Profile 3: Student Activities



### Geography

#### Suggested activities:

Students should explore the circular economy model of recycling. Students should consider to what extent attitudes to recycling have changed in the last 5, 10 and 50 years. The following questions are useful to consider:

- How does resource and waste management (e.g. organic composting) support sustainable development and the progress towards reducing the reliance on fossil fuels and towards land bank protection?
- What innovative strategies are being developed in the UK and further afield that change human behaviour to manage organic waste through prevention and to enable waste to be put to good use?

They should complete a detailed study of one of either food waste, water waste or use of energy from waste, recognising the changing characteristics and distribution of demand and supply, past and present impacts of human intervention, and issues related to their sustainable use and management at a variety of scales.

#### Curriculum Links:

**Key Stage 4** (People and environmental interactions): Students should know and understand about resources and their management in order to develop an overview of how humans use, modify and change ecosystems and environments in order to obtain food, energy and water resources.



### Science

#### Suggested activities:

Students should consider all the scientific processes involved with the way that materials are changed through waste processes, demonstrating an understanding of the organic recycling and anaerobic digestion process. They should consider strategies to reduce an over-reliance on artificial fertiliser, such as how organic recycling and anaerobic digestion can reduce artificial fertiliser and make a positive impact on plant growth, resilience and biodiversity. Students should prepare a poster presentation of possible approaches to reduce the need for artificial fertilisers, including a description of the roles and jobs associated with making these changes.

#### Curriculum Links:

**Key stage 3** (Biology): Changes in the environment which may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction.

**Key stage 3** (Chemistry): Chemical reactions as the rearrangement of atoms.



### English

#### Suggested activities:

Students should choose one feature of what has been presented in this profile and explore it in more detail. They should present their findings to two relevant audiences of their choice (e.g. the client vs a visiting school group) adapting their communication styles depending on the context as Amaya suggests in this interview (learn to communicate at all levels).

#### Curriculum Links:

**Key stage 4:** Planning for different purposes and audiences, including selecting and organising information and ideas effectively and persuasively for formal spoken presentations and debates.





## Career Profile 4

**Name:** Anne Okane  
**Role:** LGV Driver  
**Company:** Greater Cambridge Shared Waste Service  
**Industry:** Local Government

*I drive a large lorry that picks up waste and recycling from homes. I am responsible for making sure the lorry is fit to drive, and for the safety of the collection team and members of the public on the roads around the lorry.*

### 1. What does a typical day for you look like?

My working day begins at 6am, I collect the keys to the lorry and check the rota to see who I am working with. I complete the pre-driving safety checks on the lorry and paperwork then the two loaders will begin to fill the bins. The lorry is driven along a carefully selected route (referred to as an optimised route) to limit carbon emissions and air pollution. I will be constantly observing traffic and the loader's activities, as well as inputting information into the onboard computer system to accurately record progress. Sometimes the lorry will get full, so we return to base to drop off the load. Once the round has been completed, the lorry's load is finally tipped off into the recycling site. The vehicle is then refuelled, and checks are made for defects or issues. If there have been any issues with the round associated with safety, critical incidents, etc, this information is reported to the supervisor.

### 2. What do you enjoy the most about your job?

I enjoy the driving the most! I prefer to work within a small team, and I like the early starts as it fits in with my life outside work. My previous jobs have been indoors so this work is completely different - I like the open road and the countryside. It's interesting working with people of different nationalities and cultures which is quite a feature of our workforce.

### 3. What challenges do you experience in your role?

The challenges I usually experience are related to driving. In this respect, every day is different. Bad weather, such as ice, rain and dark mornings can make driving conditions challenging and I am very conscious of the need to represent our industry well by driving in a considerate and responsible manner. Other vehicles are sometimes parked awkwardly and there are tricky areas and routes to negotiate, which can mean some very skilled driving techniques are required.

### 4. How does your role impact the wider world?

I enjoy being part of an organisation that helps to protect the environment through its resource efficient system and collecting recyclables, helping to create a cleaner and safer environment for everyone. I think I could also be

seen as a role model, as I am a women LGV driver in a male dominated environment.

### 5. What would your vision for the future of your role be?

Until there is a different way of disposing of plastic and recyclable items, the vision for the future isn't going to change much. We need to look at our use of plastic! Is there a way of doing things differently regarding recycling or by designing products differently in the first place, so that they're more easily reusable? I think my role in the near future will be similar, although there might be less of us driving because there is less waste to collect, and I hope those vehicles will also be more environmentally friendly!

### 6. What are the characteristics and key skills needed for your role?

Keeping calm in times of difficulties or in tricky situations, as well as being extremely observant. You also need confidence in driving a large vehicle and the ability to communicate well. Knowledge of the local geographical area is useful. It is also important to remain professional.

### 7. What advice would you give to someone looking to get into the industry?

Research and ask lots of questions about the role, for example, with the driving role, is it a relief driver, permanent round or trade waste round? I recommend asking about the training and how soon will that start, as well as about support and mentorship.



## Career Profile 4: Student Activities



### Geography

#### Suggested activities:

Students should think about the contrasting processes of taking waste to landfill sites compared to the removal of waste to recycling plants. They should discuss the effect on the environment of these contrasting approaches to removing waste from homes and businesses. They should read [this article](#) about a large recycling plant that is due to be built in Avonmouth and discuss what innovation, environmental policies and [Sustainable Development Goals \(SDGs\)](#) are being supported through this development.

#### Curriculum links:

**Key Stage 3:** Students should understand how human and physical processes interact to influence, and change landscapes, environments and the climate and how human activity relies on effective functioning of natural systems.



### Business Studies

#### Suggested activities:

Ask students to look at a range of data and reports that describe the way that transport planning has changed over the last 50 years. They should consider what impact globalisation has had on transport and its related infrastructure as the movement of goods and services have become increasingly more 'global' in the last 20 years.

Students should consider what Anne says in her interview about the skills she requires in order to effectively conduct her role and they should debate to what extent this might change in the future.

#### Curriculum links:

**GCSE:** Students should develop and apply quantitative skills relevant to business, including using and interpreting data. They should develop as effective and independent students, and as critical and reflective thinkers with enquiring minds and use an enquiring, critical approach to make informed judgements.



### English

#### Suggested activities:

Students should think about what they know about the changing roles of women in the workplace and discuss what they know about the gender pay gap. Students should conduct research into articles, studies and data which exemplify particular aspects of inequality and human rights associated with gender. They should seek to find encouraging examples of policy and practice that reflects the ambition of a variety of employers to address issues of inequality in the UK and beyond, thinking about the language used to convey this message.

#### Curriculum links:

**A Level:** Students should develop their skills as producers and interpreters of language. Students should develop their interest in and enjoyment of English as they independently investigate language in use.





## Career Profile 5

**Name:** Mike Tregent  
**Role:** Waste Regulation Advisor  
**Company:** Environment Agency  
**Industry:** Environmental Regulation

*I help develop the Environment Agency's waste portfolio, our priorities and how to meet our wider Regulated Industry Plan. I engage with external organisations to develop a broader understanding of the resource and waste landscape.*

### 1. What does a typical day for you look like?

Is there any such thing as a typical day? One of the things I like about my role, is the fact that it is varied and that there are many different challenges! I could be in the office working on internal environmental plans and strategies, or I could be on my way to London or Bristol to engage with external partners. In this role, I get to meet many different people from different disciplines and with different skills, such as those in research and academia, as well as technical experts, who consider water contamination or risks of flooding.

### 2. What about your role do you find the most exciting?

It's a fast moving and dynamic sector and there are many actors in play, which means there is a need to keep informed and act upon the evidence to come up with plans or interventions quickly. We are constantly reviewing our practice and policies in order to keep up with the demands of what is required to protect the environment, all in line with new and changing guidelines and regulations.

### 3. What challenges do you experience in your role?

There are many challenges. Data on waste can be patchy and intelligence coming from people working in the field can often be poor, making it hard to get a clear picture, and thus the best way to intervene.

### 4. How does your role impact the wider world?

I would like to think that what I do contributes to improving our overall sustainability through resource efficiency and circularity. This in turn helps to contribute to our efforts to reduce greenhouse gas (GHG) emissions, conserve resources and meet our Sustainable Development Goals (SDGs). It's very satisfying to know that in my job I am making a positive contribution to the way we look after the environment and I am pleased to be able to share what I do with you, in the hope that young people might also like to explore the opportunities that exist in this sector.

### 5. How did you get into resources and waste?

When I left school (wow that was a long time ago!), I worked in a bank for a couple of years, but I realised that

I wanted to do something more technical that benefitted people more. I got a job as an Environmental Health Technician with a local authority, which was a fantastic job. I learned a wide range of skills that included noise monitoring, health and safety at work for offices and shops, infectious diseases, pest control and food hygiene. As I worked for a small authority, there weren't resources to train as an Environmental Health Officer, but I did my Diploma for CIWM. This led to me moving into waste regulation, initially with a County Council, and I've been doing it ever since!

### 6. What key skills are needed for your role?

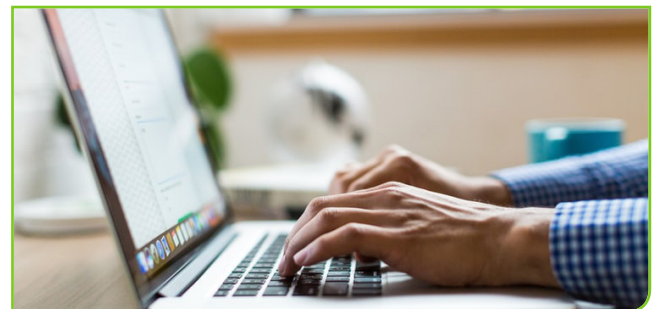
I have accumulated a number of skills over the many years I have been working in waste, but those most relevant to my current role are: strategic thinking, knowledge of planning, ability to interpret data and intelligence, innovative approach to problem resolution and influencing.

### 7. What's the most important characteristic of someone in your role?

Honesty, credibility, an outgoing personality and a willingness to continue learning. Be robust enough to accept alternative views, whilst maintaining self-belief.

### 8. What advice would you give to someone looking to get into the industry?

Get a broad understanding of the industry through research, by talking to people in the industry and by thinking critically about things you may see in the news in relation to resource and waste management. Be open to different ideas, build your knowledge before deciding on a specific area. It's a great industry to get to know!



## Career Profile 5: Student Activities



### PSHE

#### Suggested activities:

Reading through this profile, what aspects of personal development seem to have contributed to the role that Mike now has as a waste regulation advisor? What organisational skills did Mike have to develop within his roles? Do you think there was any need for Mike to conduct any research? And how does this relate to the data analysis that he describes? Organise a picture profile for Mike which maps and reflects the roles, skills and responsibilities that he describes here.

Ask students to think about their own identities as a learner. Careers and opportunities for professionalism are likely to continue to change rapidly. What key skills, attributes and characteristics do students believe are essential if they are going to be able to compete jobs in the future? And what strengths and qualities do students currently have – and wish to further develop – if they are to succeed? This could be presented in a 'This is me now and in the future' flow chart.

#### Curriculum Links:

**Key Stage 3:** Students should have the opportunity to learn about their own identity as a learner, preferred style of learning, and to develop study, organisational, research and presentation skills. Students should have the opportunity to identify own strengths, interests, skills and qualities as part of the personal review and planning process, including their value to future employability and strategies for further developing them.



### English

#### Suggested activities:

Students should explore the Sustainable Development Goals in order to understand the reference that has been made to them in the answer to question 4. Students should look at the goals that they think specifically relate to this role that Mike has in Waste Regulation as an Advisor. In groups, students should create a poster presentation to share with students in tutor time that helps to explain the significance of the SDGs, relating this to the 2018/19 publicity and activity around Climate Strikes and the campaign by Greta Thunberg.

#### Curriculum Links:

**Key Stage 3:** Students should understand increasingly challenging texts through learning new vocabulary, relating it explicitly to known vocabulary and understanding it with the help of context and dictionaries and making inferences and referring to evidence in the text.





## Career Profile 6

**Name:** Deborah Sacks  
**Role:** Director of Sacks Consulting  
**Company:** Sacks Consulting  
**Industry:** Architecture & Planning and International Trade & Development

*I support companies in the waste management sector who are looking to invest in the UK, and also to help UK companies who want to export around the world.*

### 1. What does a typical day for you look like?

Most of my time is spent meeting people from different waste management companies and explaining how the waste management industry works in the UK. After every meeting, I follow-up with further information and put people in touch with other partners or contacts. Sometimes I work from home or the office in London, and sometimes I am travelling within the UK or abroad, but I'm always meeting people and finding out how to help take their projects forward.

### 2. What about your role do you find exciting?

Having an impact on the way things are done, often for a more sustainable world, is very satisfying! Better sustainable resource management means less extraction of raw materials from mining, which is recognised as environmentally and socially damaging. Reduced carbon emissions through lower use of oil as a raw material is also very encouraging, especially in the case of plastics. Coming across or having good ideas and spreading them for improved resource and waste management is the most exciting thing.

### 3. How does your role impact the wider world?

I am currently working with a number of different countries to improve their waste management systems, which usually involves looking at how resources can be used more sustainably, as well as implementing better reuse and recycling systems. Unfortunately, many countries still do not have formal systems in place, and the most common methods of waste disposal are backyard burning and dump sites. A lack of systems contributes to the spread of diseases and the contamination of potable water supplies. In addition, if rivers become blocked by waste, stagnant water can build up and become a breeding ground for mosquitoes, which carry diseases, such as malaria. Therefore, any small increase in waste collection and treatment can have a large impact. I work with governments and municipalities on how to develop better systems, looking at getting money into the system to generate a green economy and then reliably collecting and managing waste. Ultimately this can help to reduce the amount of waste ending up in the rivers and oceans, helping to create a cleaner environment all round.

### 4. How did you get into resources and waste?

I started off training as a Chartered Surveyor, which involved lots of site visits to factories and shops, working with business owners to support their growth. Then I became a Town Planner, whilst at the same time I became involved in local politics and got elected to my local council. While my main interests there were in planning and education, I quickly realised that waste management is a huge part of a local council's work, particularly financially! After a short career break having my children, I found a part-time role as a waste planner with the East of England Regional Assembly, combining my professional experience and knowledge of the waste management system. When regional planning was abolished in 2010, I set up my own consultancy, working with waste planning authorities to continue the cross-boundary co-ordination that is still required.

### 5. What key skills are needed for your role?

It's important to be able to think across different sectors and see the broader picture. Waste management is a very complex issue due to the many varieties of waste and the frequently changing policy and guidelines, which connects product design and material management to social issues and individual behaviours. The technical issues are interesting, but really the best part is working with a wide range of really skilled and interesting people from many different areas.

### 6. What advice would you give to someone looking to get into the industry?

Like many industries, the environment is changing all the time, so be prepared to apply your skills to different contexts and sectors.



## Career Profile 6: Student Activities



### PSHE

#### Suggested activities:

Ask students to look in detail at the answer to question 6. They should reflect on the skills that Deborah also talks about in her answer to Question 7. Ask pupils to talk generally in small groups about what kinds of careers they are interested in themselves. What kinds of skills do they think they will need – and what do they think they will need to know about? Students should think about the range of careers they have read about in these profiles and form a 'Wasted Career' profile that could form part of a school careers fair.

#### Curriculum Links:

**GCSE:** Students should have the opportunity to learn how their strengths, interests, skills and qualities are changing and how these relate to future employability. Students should learn to develop their career identity, including how to maximise their chances when applying for education or employment opportunities.



### Science

#### Suggested activities:

Students should think about communicable diseases, as described by Deborah in her answer to Question 3. They should consider what they know about these diseases already and relate this to how they are spread through contaminated land and water. Students should research which diseases are spread by land and water in plants and animals and begin to identify how diseases can be stopped from spreading by cleaning water and reducing waste that contaminates land. Students should also look at what medicines are used to treat people who are infected by communicable diseases, investigating why and how these medicines work and how the immune system is the first line of defence.

#### Curriculum Links:

**GCSE:** Students should explain how communicable diseases (caused by viruses, bacteria, protists and fungi) are spread in animals and plants. Students should learn to explain the role of the immune system of the human body in defence against disease.



### Business Studies

#### Suggested activities:

Ask students to identify the different businesses and organisations that are mentioned in this interview. They should create a diagram to track and connect how these businesses interact with each other, discussing how they rely on each other and to what extent they are accountable to each other. Students should work in pairs to look at another aspect of resource and waste management and create a similar 'track and connect' diagram. They could look at other profiles in this toolkit in order to explore in more detail one of these aspects.

#### Curriculum links:

**GCSE:** Students should know about business stakeholders, including owners, employees and customers; their different objectives, how they are affected by business activity and how they affect business. Students should know about the interdependent nature of business operations, finance, marketing and human resources within a business context.





# Other Careers in the Waste Management Industry



## Environmental Lawyer Dr Anna Willetts



As an Environmental Lawyer there is no typical day; some days I am in the office, other days I am travelling to court hearings or going to see a client at their site to provide advice. I really enjoy working with my clients and trying to find solutions for often quite complex waste laws and regulations.

**Challenges:** The law itself can be complex and technical which can be hard for my clients to understand.

**Career Path:** Completed a PhD in landfill engineering, after embarking on a career as an environmental consultant. After 5 years I decided to become an environmental lawyer so undertook a Graduate Diploma in Law.

**Skills:** Attention to detail, good communication skills and an ability to explain technical points of law and science to clients.



## Director of Waste Plan Solutions Lara Ayris

I work in the construction and demolition sector by supporting clients with their Environmental Management System, collecting the environmental data for a project, making sure their sites are complying with their environmental permit and getting them ready for their environmental inspections. I am passionate about increasing environmental awareness and reducing waste in construction. My company has saved thousands of tonnes of waste being sent to landfill over the last 10 years.

**Challenges:** I have been faced with ethical

challenges, such as a client engaged in activities that could have led to prosecution if I had not been able to successfully change their thinking. There are various challenges that are presented when you run your own business e.g. day-to-day financial management, conflict management and people management.

**Career Path:** Degree in Earth Science BSc (Hons) then worked for CIWM.

**Skills:** Understanding of legislation across the UK, leadership, management skills, IT skills are important in any business today.





## Independent Consultant

Charlie Trousdell



Being a consultant is an interesting and fulfilling role that includes a range of tasks such as sales, waste auditing, advising clients on waste management, recycling and equipment. With over 30 years of waste experience, my role tends to involve some form of problem-solving for clients. As an independent consultant, I am able to pick and choose what I do.

**Challenges:** Trying to change a company or people's behaviours can be very difficult. However, it makes it all worthwhile when it is successful.

**Career Path:** First worked in horticulture (agriculture of plants), then in my 30s I did a degree in Environmental Science.

**Skills:** The ability to think outside the box, be flexible, innovative and have a good sense of humour!



## Waste Policy Manager

Rebecca Weymouth-Wood

As a Waste Policy Manager for the council, I am managing a busy team every day and overseeing the implementation of policy and service and behaviour change campaigns. Lots of discussion, progress reviews, policy queries and tea and biscuits!

**Challenges:** Understanding what is happening on the ground operationally and the reality of how the public use the service and how we want it to be.

**Career Path:** A degree in environmental policy, which sparked my passion for waste management. I then gained work experience at an environmental charity, before a 6-month work placement at a District Council waste team. I progressed to other councils from there.

**Skills:** Good communication, organisation and time management skills to manage projects and people.



# Waste Audit

An important aspect of exploring strategies to reduce waste and recycle more, is to conduct an audit of what waste is being produced. The 4-stage plan below is used by professionals in the industry to explore waste in a variety of settings in order to create useful plans to reduce and recycle more waste.

## Task



### Business Studies

The questionnaire, data gathering and evaluation exercise below was designed for a motel. How could it be adapted for your school? What questions would need adapting and are there any areas of your school that are missed? Ask students to explore this 4 stage process and, if possible, work with the school site manager to audit waste in your school.



# Waste Audit Questionnaire

## Stage 1: Planning

1. You have decided that it is necessary to carry out a basic audit of the wastes arising from the organisation by examining the contents of the bins. Do you:

- a. inform the Manager and get their support .....
- b. inform all of the motel staff .....
- c. inform your Assistant and ask for their help .....
- d. inform your waste contractor .....

2. When will you carry out the waste audit?

- a. on one of the few days when the motel is closed .....
- b. on a normal day just before the bins are emptied .....
- c. on a normal day just after the bins are emptied .....
- d. only after you have carried out a risk assessment .....

3. What information will you need before you start the audit?

- a. how frequently the bins are usually emptied .....
- b. the average weight of the waste collected per bin .....
- c. the cost of the the service provided by the contractor .....
- d. what happens to the waste after it is collected .....

4. What equipment will be essential to carry out the waste audit?

- a. suitable PPE e.g. safety goggles, gloves, overalls .....
- b. containers for segregating the waste .....
- c. weighing equipment .....
- d. JCB or other large plant .....
- e. table .....
- f. plastic sheeting .....
- g. pen and clipboard .....
- h. lifting equipment .....
- i. cleaning materials .....

5. What other factors might you need to consider at the planning stage?

- a. health and safety of staff and guests .....
- b. confidentiality .....
- c. weather .....
- d. disruption to the motel's operations .....
- e. available space .....



## Stage 2: Sorting the Waste

6. This is a list of the possible categories that you could use for sorting the materials. Choose seven that would be most appropriate for the organisation:

- |                                  |                          |                              |                          |
|----------------------------------|--------------------------|------------------------------|--------------------------|
| a. paper .....                   | <input type="checkbox"/> | l. clothing .....            | <input type="checkbox"/> |
| b. clean office paper .....      | <input type="checkbox"/> | m. bedding .....             | <input type="checkbox"/> |
| c. newspapers and magazines..... | <input type="checkbox"/> | n. furniture .....           | <input type="checkbox"/> |
| d. cardboard .....               | <input type="checkbox"/> | o. hazardous materials ..... | <input type="checkbox"/> |
| e. food waste .....              | <input type="checkbox"/> | p. electrical equipment..... | <input type="checkbox"/> |
| f. kitchen waste .....           | <input type="checkbox"/> | q. batteries.....            | <input type="checkbox"/> |
| g. glass .....                   | <input type="checkbox"/> | r. fluorescent tubes .....   | <input type="checkbox"/> |
| h. glass bottles .....           | <input type="checkbox"/> | s. light bulbs.....          | <input type="checkbox"/> |
| i. plastic bottles .....         | <input type="checkbox"/> | t. garden waste.....         | <input type="checkbox"/> |
| j. bric a brac .....             | <input type="checkbox"/> | u. general waste .....       | <input type="checkbox"/> |
| k. metals.....                   | <input type="checkbox"/> |                              |                          |

7. How would you sort the materials?

- |  |                          |
|--|--------------------------|
| a. throw them into separate piles on the floor ..... | <input type="checkbox"/> |
| b. place materials into separate containers.....     | <input type="checkbox"/> |

8. How would you establish the quantity of each material?

- |  |                          |
|--|--------------------------|
| a. estimate the weight .....                   | <input type="checkbox"/> |
| b. count the number of containers .....        | <input type="checkbox"/> |
| c. weigh an empty container .....              | <input type="checkbox"/> |
| d. weigh each container with its contents..... | <input type="checkbox"/> |



**Stage 3:**

Sample no.: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Area: \_\_\_\_\_

No. of days since collection by contractor: \_\_\_\_\_

Material category	Sub-category	No. of containers	Gross weight (material + container)	Net weight (contents of container)	Current costs
Paper	Office paper				
	Newspaper & magazines				
	Other				
Plastic	Bottles				
	Food trays				
	Other dense plastic				
	Film				

**Stage 4: Evaluating the Data**

**9. Why is it important to evaluate the data?**

- a. it gives you an understanding of the different types and quantities of materials being discarded.....
- b. it reduces costs .....
- c. it helps to identify options other than disposal.....
- d. it helps you to understand whether you are complying with legislation.....



# Framework of Professional Standards

The Framework underpins one of CIWMs' key goals to drive forward professionalism in the sector. It provides a map of the professional competences required at four core career stages and has been developed with representatives from across the sector.

## Four Career Stages:

### I'm a Director

I lead an organisation or a large department in a big company.

### I'm a Senior Manager

I need to look across departments to see how my team impacts and works with others.

### I'm a Manager/Team Leader

I have responsibility for others and for the delivery of objectives for a team.

### I'm a Team Member

I work in a team but I don't have anyone who reports to me.

The Framework of Professional Standards has been developed with the sector to cover the knowledge, skills and behaviours that CIWM would expect to see at four core levels of a resource and waste professional's career. Based on the established competences which are used to assess Chartered Waste Managers, the framework outlines the core sector knowledge and the essential business skills that individuals need:



## Task



### Business Studies

Ask students to explore the structure of the professional framework and relate it to other careers or professions that they might know. Using the list of careers and jobs in resource and waste management (page 9), ask students to see if they can 'complete' the Framework of Professional Standards for a job that they are interested in.

# Qualifications

There are a number of different qualifications specifically related to resource and waste management currently available at the time of going to press (Autumn 2019) but there are many different wider environmental qualifications. Qualifications vary in complexity, length and type, with distance learning options also available, and therefore should suit a variety of individual needs and styles. Below are details of the academic programmes currently accredited by CIWM.

## Undergraduate Qualifications

### Higher National Certificates

- [University of Northampton - HNC Wastes Management](#)
- [Fife College - HNC \(SCQF Level 7\) Sustainable Resource Management](#)

## Postgraduate Qualifications

### Masters Degree

- [Cranfield University - Environmental Engineering MSc](#)
- [University of the West of Scotland - MSc/PgD Waste & Resource Management](#)
- [Glasgow Caledonian University - MSc Environmental Management \(with pathways Waste, Energy, Water, Oil and Gas\)](#)
- [University of Northampton - MSc Advanced Industrial Practice \(Wastes Management\)](#)

## Other Qualifications

- [Apprenticeships in Sustainable Resource Management](#)
- [WAMITAB Waste Management Qualifications](#)
- [VRQ - WAMITAB Level 4 Certificate in Wastes and Resource Management](#)





# Appendix 1

**These links relate to the facts and statistics about waste in the UK on page 6.**

- [Department for Environment Food & Rural Affairs - National Statistics](#)
- [Department of Agriculture, Environment & Rural Affairs](#)
- [Digest of Waste and Resource Statistics 2018 Edition](#)
- [Recycle Now - Recycle Week 2019](#)
- [Department for Environment Food & Rural Affairs - UK Statistics on Waste](#)

**These links relate to the 25-Year Environment Plan on page 7.**

- [25 Year Environment Plan, May 2019](#)
- [Resources and waste strategy for England, December 2018](#)

