



TRADESKIPS

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COMPLETE REPORT

The Future of Waste Management



There's a lot more to waste management than just disposing your waste. It actually covers the entire lifespan of waste from production to landfill through reuse and recycling. When it comes to disposing your waste correctly, we want to make sure that you know where it's going and whether or not it's going to the right place.

At Trade Skips, our key aim is to provide solutions to waste management. In order to tackle this, we keep up to date with the latest regulations so that we can share the most efficient methods with you.

This is why Trade Skips have produced this report.

We have asked 5 experts to share their knowledge of the waste management field.

Karl S Williams, Director for the Centre for Waste Management at the University of Central Lancashire, suggests a shift in the way we think about waste will enable us to make better use of our resources.

Julian Silverwood, MD of Silverwoods Waste Management Ltd, believes that traceability is vital for the future of waste management and that the benefits of waste materials could be better understood and used.

Helen Simm, head of the regulatory team at Slater Gordon, considers the potential impact of Brexit and the Great Repeal Bill and suggests that investing in compliance is simply good business.

Alan Holmes, the founder of the Right Waste Right Place campaign, argues that better understanding of the duty of care and more transparency in handling waste will improve waste management processes in the future.

Margaret Bates, President of the Chartered Institution of Wastes Management and Professor of Sustainable Wastes Management at the University of Northampton, focuses on a more strategic approach to waste and the move from waste management to resource management.

Each contributor has brought a different area of expertise to their responses but they all have one thing in common: the need to change our current perspective of waste management to make it easier, more efficient and better for the environment.

Whether we are on the hunt for new strategies, educating the industry or seeing more wastes as resources, by reading on you can learn all about handling waste the right way.

This is The Future of Waste Management.

Dr Karl S Williams is the Director for the Centre for Waste Management at the University of Central Lancashire. As a Chartered Waste Manager, he has extensive knowledge of the technical, legislative and financial implications of converting waste into valuable resources.

HOW DOES WASTE ANALYSIS INFLUENCE THE WAY WE DEAL WITH WASTE?

Whenever there is a new technology or a proposed method for dealing with a waste stream there is a need to carry out an analysis of that waste. Technologists have to ensure that the intended process can cope with a particular waste stream. Here lies one of the main causes of contention as the analysis can cloud the issues. Any waste analysis is only a snapshot of a particular sample at a given moment in time; what it will be in 3, 5 or 10 years time will be very different. The time of year will also influence the analysis. Material composition changes over time due to a number of factors: new packaging materials, new products, changes due to legislation. Many policies are based on the waste composition not changing and therefore they set recycling targets based on weight that may be unachievable. An example of this is the lightweighting of packaging material such as plastic and glass bottles. Another aspect is the change from glass to plastic in a large proportion of packaging.

The waste analysis enables us to target certain materials. It also assesses the calorific value to identify whether it is

suitable for Energy from Waste. We can assess how much contamination is present in certain waste streams.

WHY IS WASTE ANALYSIS SO IMPORTANT?

It is important as a starting point to give an indication of what you are dealing with. It allows you to see what the composition is for that particular analysis at that particular time. Without an analysis you would have no idea where you are starting from for a particular process. However, it is important to understand that it is only an indication. There are a few PFI contracts, which have failed recently because the waste composition has changed from what was originally determined. If you want to increase the usefulness of the analysis, then it must be carried out more frequently to monitor changes and take remedial action. The frequency of analyses is obviously restricted due to the cost and time incurred each time.



HOW HAVE RECENT LAW CHANGES AFFECTED WASTE MANAGEMENT?

A target-driven legislation will result in waste management practices and processes which allow the target to be met. There is a drive now, within the EU, to look at waste management in terms of resources and the circular economy. However, the main metric of recycling quantities still remains as the method for determining targets. This means that in the case of MSW, recycling is the main driver and waste prevention and reuse have little investment from local authorities.

Another example where a target impacts greatly is WEEE. The amount of electrical reuse is very low in the UK because there is more value in recycling than reuse. A number of third sector organisations have ceased operation as their reuse operation is in direct competition with recycling. While legislation favours recycling targets, it will be very difficult to move to other waste management options.

HOW WILL WASTE BE MANAGED IN THE FUTURE?

There needs to be a paradigm shift on how we deal with the concept of waste. This will need to include the whole supply chain for any product with every link taking responsibility. This will be from the OEM to the consumer and waste management sector. This will result in better use and recovery of resources. There are limits on resources and in order for people to have a good standard of living we will need to make better use of

resources.

Waste management in the future will be resource management and will encompass economic, environmental and societal aspects.

DO YOU HAVE ANY ADVICE FOR EFFECTIVE WASTE MANAGEMENT?

The most important thing for an effective waste management system is taking responsibility for the ownership of the waste. The relationship people have with particular waste streams greatly influences what they do with it. To encourage more recycling or reduce littering then people need to change so that they have a responsibility for what happens to it. Unfortunately this is one of the hardest things to do, but it is crucial. Education, awareness raising and engagement activities are important but there will still be sections of society which do not take part. Punitive measures are also required but these need to be enforced and used as method of getting people to engage with education etc.

Julian is the MD at his company Silverwoods Waste Management Ltd. His focus is sustainable waste management, particularly in an agricultural setting.

HOW DOES WASTE ANALYSIS INFLUENCE THE WAY WE DEAL WITH WASTE?

Waste analysis is critical - especially for our land spreading operations. We need to understand the quantities of the beneficial nutrients such as nitrogen phosphate and potassium as well as the heavy metal concentrations. We are looking to identify an "agricultural benefit" so it is vital that we know what is present in the waste. All our wastes are sampled independently.

Most importantly, sampling will confirm if a waste is indeed hazardous.

WHY IS WASTE ANALYSIS SO IMPORTANT?

Waste analysis determines the outlets that are legal for your waste. For example, some waste types will require treatment others won't. At Silverwoods, we have a strict waste acceptance criteria for our land spreading operations and without waste analysis we simply wouldn't have a business.

HOW HAVE RECENT LAW CHANGES AFFECTED WASTE MANAGEMENT?

It's not so much the law changes that have affected

waste management, it's the current mindset of the regulator. The days of having a consultation with the EA and obtaining useful advice are long gone. Now they simply take a stance which is solely enforcement and this has created much hostility amongst honest companies trying to do their best.

HOW WILL WASTE BE MANAGED IN THE FUTURE?

I think in the future more waste will go to AD and incineration and new and novel solutions will continue to be identified.

DO YOU HAVE ANY ADVICE FOR EFFECTIVE WASTE MANAGEMENT?

Compliance is key. Understanding what you are dealing with and the outlets available is the only way forward. Operating a fully traceable system and getting the regulator to issue the necessary permits in a much quicker, easier form would help. Many waste streams are travelling 100s of miles unnecessarily as the number of appropriately permitted sites are simply not available. This alone creates an incentive for criminal activity.

Helen heads up the regulatory team at Slater and Gordon. The team represents corporate and individual clients facing investigation and prosecution by all the major regulators, with a particular focus on the Environment Agency and Health and Safety Executive. Helen also provides proactive compliance advice and training for businesses.

HOW DOES WASTE ANALYSIS INFLUENCE THE WAY WE DEAL WITH WASTE?

A reliable waste profile allows an operator to plan and keep track of waste handling activities. Independent waste analysis according to Waste Acceptance Criteria (WAC) helps determine whether waste contains material that is suitable to be used as a product or, if not, the appropriate landfill to which it must be sent.

Waste analysis allows an operator to identify useful materials within waste as well those that may be hazardous or harmful. Informed decisions can then be made about whether elements of the waste can be used and, if so, where and how this can be done. This promotes recycling and reduces the amount of waste sent to landfill, bringing obvious cost benefits.



WHY IS WASTE ANALYSIS SO IMPORTANT?

Section 34 of the Environmental Protection Act 1990 states that anyone who produces, stores, transports, treats, keeps or disposes of waste must take all reasonable steps to ensure that waste is managed properly. Without the appropriate waste analysis, operators may not be confident that they are fulfilling their duty of care obligations. In those circumstances it could be difficult to be sure, and later to evidence, that waste has been dealt with and disposed of in the appropriate way.

Every transfer of waste must be covered by the appropriate documentation, generally a Waste Transfer Note (WTN) for non-hazardous waste and a Consignment Note where material is hazardous. The correct EWC code must be contained within this documentation, as well as a brief written description of the waste. Analysis allows waste to be designated appropriately and given the correct EWC code. This may enable an operator to challenge the EA over a stated classification. Where disposal at a less expensive classification is proven to be appropriate, cost savings may be significant.

If waste is classified incorrectly, leading to a breach of duty of care, the financial implications can be enormous. When prosecuted in the Crown Court, breaches may be penalised by an unlimited fine. Confiscation proceedings, within which a convicted defendant is ordered to repay any benefit from their crime, may follow, often requiring companies and

individuals to realise their assets in order to pay tens if not hundreds of thousands of pounds into court.

HOW HAVE RECENT LAW CHANGES AFFECTED WASTE MANAGEMENT?

From a legal perspective, the relatively recent introduction of the Environmental Offences Sentencing Guidelines (effective from 1st July 2014) has completely changed the enforcement landscape. Penalties for the incorrect management of waste are now higher than ever; in addition to ever rising fines, directors are now being sent to prison where it is proven that offences were committed by their companies and through their 'consent, connivance or neglect'.

It is too soon to tell whether the harsher penalties are having an effect on compliance. What does seem apparent is that the Environment Agency are taking a tougher stance and are focussing more on enforcement than regulation and guidance. Whilst all will be happy to see deliberately illegal operators put out of business, it is also important that legitimate waste businesses feel that they can obtain the help and support that they need.

HOW WILL WASTE BE MANAGED IN THE FUTURE?

It will be interesting to see what the impact of Brexit and the Great Repeal Bill will be. Ministers have stated that the whole body of existing EU environmental law will be carried over into UK law prior to Brexit. If so, this will provide some certainty at a time of enormous change. EU legislation such as the Waste Framework Directive will continue to apply, as will current recycling targets.

Within the white paper, “Legislating for the United Kingdom’s withdrawal from the European Union”, the government states that it is “committed to ensuring that we become the first generation to leave the environment in a better state than we found it”. With that in mind, and in keeping with the general direction in which the UK is travelling, tighter regulation may well be on the horizon.

The EU is currently developing a new set of waste policies based on the so-called Circular Economy. An alternative approach is proposed by the think tank Policy Exchange within their report, “Going Round in Circles”. The writers suggest that Brexit presents a unique opportunity for the UK to divest itself of EU laws that don’t work and to develop an entirely new waste and resource policy framework. It will be interesting to see which view prevails.

DO YOU HAVE ANY ADVICE FOR EFFECTIVE WASTE MANAGEMENT?

Reducing waste and environmental impact makes good

business sense. Investing money into compliance is vital. Whilst engaging the services of professionals may add short term expense, in the long term it can provide huge savings, especially at a time when financial penalties for breach are on the rise.

Making arrangements for staff to be trained by specialists will assist when trying to demonstrate to regulators, such as the Environment Agency, that a business has discharged certain duties and should reduce the risk of a breach. Instructing a consultant to undertake a compliance audit will help operators to identify any internal practices which need to be amended and evidence the steps taken to manage risks. The aim should always be to identify areas of weakness before a breach takes place. In the event that a breach does happen, it is vital to quickly engage the services of experienced, specialist regulatory lawyers. Early practical advice can dramatically change the outcome of a case.

Margaret is President of the Chartered Institution of Wastes Management and Professor of Sustainable Wastes Management at the University of Northampton. She has been involved in wastes and resource management for 30 years and is interested in all aspects but has recently focussed on developing countries, reuse and WEEE.

HOW DOES WASTE ANALYSIS INFLUENCE THE WAY WE DEAL WITH WASTE?

There is a very well established maxim that if you cannot measure it you cannot manage it but it is widely agreed, across the sector, that our data is not adequate, particularly for commercial and industrial waste. We need to have a clearer understanding of what waste we have to ensure that we deal with it, and recover value from it, in the most effective way. One way to ensure this is to put in place standard approaches to data collection and analysis, and CIWM is an advocate of the mandatory introduction of electronic tracking of waste under the Duty of Care regime using the edoc (electronic Duty of Care) online system.

WHY IS WASTE ANALYSIS SO IMPORTANT?

If we are to genuinely move from waste to resource management, and derive the maximum value in material and energy terms from our wastes, then we need to know more about it than we do now in terms of composition, volume, and destinations. Turning waste into useful feedstocks and secondary raw materials for different uses requires a more detailed understanding

of material flows and demand within the economy as a whole. Data is also essential to plan the right recycling and reuse infrastructure in the right place in the future so that we can continue to improve the UK's resource productivity.



HOW HAVE RECENT LAW CHANGES AFFECTED WASTE MANAGEMENT?

We are in a period of great uncertainty regarding future legislation and strategy, with England already dropping behind some other areas of the UK. The EU Circular Economy package has many challenging aspects and opportunities but it is not yet clear whether it will be in place in time to be converted into UK law through the Great Repeal Bill. Either way, we need to ensure that the UK puts in place an ambitious and innovative approach to sustainable waste practices, resource efficiency and productivity post-Brexit.

One area where there have been some developments, and more may be needed, is waste crime. Most recently, we have seen additional funding for the Environment Agency to tackle waste crime, stronger sentencing guidelines, and Government support for the 'Right Waste, Right Place' campaign to raise business awareness of waste Duty of Care requirements, particularly among SMEs.

In addition, CIWM has welcomed current proposals by HM Treasury to extend the scope of Landfill Tax to illegal disposals. However, CIWM believes that the growth in illegal activities and persistent poor performance indicates that we not only need to question the level of enforcement of the current regulatory regime and the resources available to meet this growing problem, but also the effectiveness of the regime itself. It is time to reassess what changes are needed to deter waste criminals and address poor

performance in the future.

HOW WILL WASTE BE MANAGED IN THE FUTURE?

I would like to see a much more strategic approach to resources and waste in the future, linked into other key policy areas including low carbon industrial growth, climate change and energy. Cost and responsibility for waste and uptake of secondary raw materials also needs to be better distributed across the supply chain and I hope that there will be more widespread application of extended producer responsibility (EPR) in the future. As well as supporting more resource efficient design, manufacturing and end-of-life solutions for products, this could also ease the cost burden that falls on local authorities.

In the longer term, I believe that UK environmental policy and legislation should broadly mirror the EU's approach through the Circular Economy package, not least because trade with our European neighbours is likely to require this. It should be equally if not more ambitious and to do this, the Government will need to show its commitment to developing a much clearer policy framework than currently exists for England.

DO YOU ANY ADVICE FOR EFFECTIVE WASTE MANAGEMENT?

We need to have full value chain responsibility where everyone involved understands their role and what they should do. Recent concerns regarding fly tipping and littering have demonstrated that many people and businesses do not know what the right thing to do with their waste is – and if they don't know, we can hardly be surprised that they don't do it.

Making waste Duty of Care much more visible and well understood is one of the key things that could make a real difference. Everyone has a Duty of Care when it comes to waste to ensure that it is recorded, transported and treated by legitimate operators in a safe and sustainable way – from householders to big business. If this was better observed, and if electronic Duty of Care was mandatory for businesses, we would have a much greater understanding of what our waste is, where it comes from and the best way to manage it and recover value.

It would also help to fight waste crime, which has a serious impact on businesses, landowners, communities and the local environment. As co-funders of the Right Waste, Right Place campaign, CIWM is committed to raising awareness among businesses of their waste Duty of Care responsibilities. It is not just about avoiding fines and the risk of more serious legal action – it is about helping companies to demonstrate a professional and responsible approach to managing their waste that in turn can help close down the opportunities for waste criminals to abuse the system.

Alan Holmes is a former Environment Agency senior advisor, who with many other colleagues left the Agency last Autumn. One of the issues Alan dealt with was duty of care and waste crime and he helped establish the industry led awareness campaign Right Waste, Right Place. Duty of care came into effect in 1992 but many people are not aware of it or pay little regard to it.

The Right Waste, Right Place duty of care awareness campaign was launched only a year ago. It focuses on bringing vital information to producers, carriers and receivers of waste to ensure that all parties are fully compliant with the law and recognise the benefits compliance can bring. In this sense, we hope to change the landscape of waste management by helping people and companies to properly manage their waste.

Part of the reason for current confusion about how waste should be managed is a misunderstanding of duty of care and the laws and how they should be applied. By explaining the laws in practical terms, many more people will see that compliance is actually easier and cheaper than you might expect.

Changing attitudes to waste is another way that we hope to improve waste management. In the future, we hope that much more of our waste will be diverted from landfill to be reused, recycled or used for energy recovery. To achieve this, Right Waste Right Place offer advice on our website.

I like to call the duty of care the glue that holds all the waste processes together. It covers everything from the

correct permits to the correct sites and the correct carriers for the waste. It also requires that waste is described correctly and



this information is exchanged when waste is transferred from one holder in the waste chain to another. The provision of transfer notes and an accurate description of the waste is very important to ensure that waste is managed safely and at the correct site. It is also important in determining how much of what sort of waste is produced and managed. This may well include analysis of waste and other information.

For the most part, the duty of care is a self-policing meaning that everyone in the waste chain asks questions of one another to ensure waste is managed properly. This questioning brings business opportunities, for example ensuring that waste is managed as high up the waste hierarchy as possible, and getting some value from waste. If everyone follows these principles thoroughly, problems further down the line can be avoided.

It is likely therefore that following the duty of care will also reduce your costs too. There are lots of examples of this. I have been travelling around the country speaking to people about duty of care and sharing platforms with many others in the waste and construction industry who have described many examples of where duty of care principles have been of significant business advantage.

Availability of information, transparency in waste management companies and effective ways to monitor the routes wastes take from production to disposal will be vital to future waste management. Everybody involved in waste - whether you are an office block producing lots of paper waste or a factory

producing hazardous waste - must understand what their duty of care is and how to apply it.

At Trade Skips, we are forward thinkers. Every service we provide and every problem we solve comes down to the technology and innovation at the core of our business. The future of waste management is dependent on harnessing every available development and improving the systems we already have.

Needless to say, the future of waste management is a hugely relevant and exciting subject for us.

We believe that education and awareness is critical for the future success of our waste management in the UK. Simply not enough businesses - large or small - are aware of their legal obligations towards their waste or the practices they can employ in order to manage their waste more efficiently, save costs and reduce the amount of waste sent to landfill. Benchmarks and recycling targets have been set but little information has made available to help businesses achieve them.

Julian Silverwood of Silverwoods Waste Management raised concerns that the regulating bodies are now taking more of an enforcement stance offering little advice or consultation. Helen Simm of Slater & Gordon, also states that the 'penalties for the incorrect management of waste are now higher than ever.' With the Environment Agency now clamping down, it's more important now than ever that waste producers and receivers know how to get onto the right side of compliance, recognise problems and rectify any issues efficiently.

I agree with Helen Simm, that it's great that rogue businesses will be prosecuted but it is important that legitimate businesses aren't condemned due to their lack of education and are given the right tools to do the

job correctly. This is why it is essential that the correct educational material is distributed and promoted so that companies are made aware of their obligations and the steps they can take in order to meet them.

The Right Waste Right Place campaign are championing this very notion. As Alan Holmes says, everybody involved in waste must know what their duty of care is and how to apply it. Partnering with industry experts in a variety of fields, they are raising awareness across the UK. Trade Skips are an affiliate of the campaign and have been investing in the creation of content intended to educate businesses including The Importance of Waste Analysis. The Content Hub on our website is full of articles, infographics and guides for this very purpose.

Information on waste licences and permits need to be made easily accessible too. With businesses expected to ensure compliance down the chain, they need more visibility to ensure they are sending their waste to a facility with the necessary permits or exemptions. This could be achieved very easily with a simple web based application coupled with the Environment Agency's data on permits and licenses. This would allow users to search for local sites and carriers who can accept their waste.

Karl S Williams points out that 'the relationship people have with particular waste streams greatly influences what they do with it.' Understanding responsibility is the first step to making the best choices for waste management. Businesses must either invest into expanding their own internal compliance departments or work with the relevant experts that can give them advice along the way and share responsibility with them.

It's not just that businesses need educating, we also need to rethink how we deal with waste on a national, governmental level. As Margaret Bates of CIWM puts it: 'If we are to genuinely move from waste to resource management, and derive the maximum value in material and energy terms from our wastes, then we need to know more about it than we do now in terms of composition, volume, and destinations.' The UK is falling behind EU targets for recycling but with a greater understanding of the value of our waste, there is no reason that we could not pull ahead of Austria and Germany whose waste recycling systems are much more advanced and well-understood.

One advancement in technology that particularly catches my eye is a waste sorting robot made by Zenrobotics. The robot uses artificial intelligence to sort mixed waste from the picking line into individual waste types. The system is said to be much more accurate than a human due to its sensors which can detect a variety of different materials. It can make up to 4000 picks per hour, working 24/7 with no coffee breaks. The price of these robots is high at the moment so businesses would need to be processing a huge amount of waste to make it pay but naturally, as with all new technologies, the price will come down. Looking at how robotics transformed the automotive industry, it is sure to make a difference in the waste separation and processing sector, it was just missing one thing up until now: AI.

We are likely to see some major changes right across the waste sector in the coming years, including areas such as technology, licensing, legislation and compliance. As

an innovative waste management solutions company, Trade Skips will be at the forefront of change. We are already leading the way with software, intelligent waste management and educational material to ensure that compliance is not a painful experience for businesses but is beneficial to those that embrace the change for good.

All we can ask now is for other businesses to join us.





A FULL SERVICE WASTE MANAGEMENT SOLUTIONS COMPANY

Trade Skips is a waste management solutions company. This means that we don't just arrange skips, we also provide every service you could possibly require. We take the time to get to know your waste streams with regular site visits to establish your needs and to ensure consistently excellent service. If something unexpected should happen, we will be there to help you, whatever the time of day.

Whatever the compliance, logistics, recycling, recovery and disposal services you need, we can find a solution. Our speciality is intuitive problem solving and we will accept any challenge. This means that if you have a particularly complex set of wastes, a site with difficult access or a sudden surge in waste, we can handle it.



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