

Department for Environment, Food and Rural Affairs

Digital, Data & Technology Services

SBRI GovTech Catalyst - Smart Waste Tracking supplementary information pack

Thank you for your interest in the Smart Waste Tracking challenge. The essential information on the challenge, eligibility for applications, how to register and apply and the various deadlines, is available from the published bid challenge at the link below:

<https://apply-for-innovation-funding.service.gov.uk/competition/175/overview>

To help you we have published slides from the briefing event on 29 June, and a transcript of the Q&A from this event, alongside this Supplementary Information Pack.

This supplementary briefing pack has some reminders of key information and dates from the published bid challenge (Sections 1-3) but includes other new additional background on some of the more technical points. This is intended to provide an overview of some key principles that we think could be important to understand the challenge and in assisting with any bid on proposed digital solutions.

One of the points to emphasise is that we don't expect you to be experts in waste legislation or waste management. Whilst it could help in some respects, less direct involvement could offer a fresh and different perspective and ideas around the solution.

We don't have fixed views on how any solution may look. We have some ideas but we need to test whether these are sensible, practical, technically feasible or even necessary.

So as long as you can demonstrate appreciation of the principles of the requirements, challenges, and what we are looking to achieve, and you have a digital solution to help us, please do apply. Officials will be on hand to advise and guide successful bids through the details as required.

We hope this will be useful and look forward to receiving some really interesting and innovative bids for the work and working with you.

Good luck!

6 July 2018

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Contacts:

GovTech Catalyst and SBRI process: ring the competition helpline - Tel: 0300 321 4357 or e.mail: support@innovateuk.gov.uk

Challenge owners: WasteTracking@defra.gsi.gov.uk

1. Smart waste tracking challenge statement

The challenge¹ is to use digital technology to record and track individual movements of waste through the economy. We aim to put in place the fundamental building blocks of data to know more about the types and amounts of waste generated; who is handling it, what is done to it, the outputs from treatment and where it ends up.

An innovative solution could help maximise the value we extract from our resources and boost innovation and productivity, whilst minimising damage to the environment. It is potentially a transformative project that has the power to change behaviour.

The data will be used by the four UK governments and environment agencies to regulate the management of waste, inform and shape policy, and help us meet legislative requirements under the Circular Economy Proposals². Also, to help us meet our commitments under the 25 Year Environment Plan³ and the Industrial Strategy⁴ as well as a potential future UK Government Resources and Waste Strategy (planned for later this year).

2. The application process

To lead a project, you must:

- Be an organisation of any size
- Work alone or with others (businesses, research base or third sector) To apply:
- Register online; the deadline is noon 18 July 2018.
- Read the invitation to tender which will be available for you to download from our secure site after registration.

3 Complete and upload your online application for Phase 1.

For multiple projects (differentiated proposals) contact the support team:

support@innovateuk.gov.uk

The deadline for submissions is noon on 25 July 2018. We will not accept late submissions.

¹ <https://apply-for-innovation-funding.service.gov.uk/competition/175/overview>

² <http://www.consilium.europa.eu/en/press/press-releases/2018/05/22/waste-management-and-recycling-council-adopts-new-rules/>

³ <https://www.gov.uk/government/publications/25-year-environment-plan>

⁴ <https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future>

Your application is confidential.

3. Key dates

11 June 2018	Competition opened
29 June 2018	Applicant briefing event
18 July 2018 12:00pm	Registration closes
25 July 2018 12:00pm	Competition closes
30 September 2018	Applicants notified
31 October 2018	Phase 1 contracts awarded
31 October 2018	Feedback provided

4 Ambitions and high level requirements of smart waste tracking

The UK has no single or comprehensive way of tracking waste. There are multiple fragmented IT systems that collect or hold certain elements of waste data. These have been built incrementally in isolation around specific regimes and functions so they do not 'talk' to each other. Some of the information is paper based. This results in data overlaps, inconsistency of information, data gaps and inefficiency.

We need to meet future business and technology requirements and reflect the technological advances and opportunities becoming available now and in the future. The solutions needs to be flexible, agile and 'future proof' to ensure we continue to comply with relevant legislation in the future, and support new and more efficient ways of delivering and managing our business in a resource- constrained environment.

The very broad requirements from a digital solution are:

- Capability of tracking waste from the producer through the waste management chain, to its final destination ie the point at which it is recycled into a product, incinerated, landfilled (inside or outside the UK)
- Your solution needs to be capable of interacting with existing systems currently used by businesses to track waste, such as those used by the larger waste management companies, to avoid additional reporting burdens but could also provide this functionality for businesses without their own system.
- Robust and comprehensive data analytics and reporting functionality capable of storing and collating a large number of individual data records into timely, accurate, meaningful, relevant and flexible reports, that meets regulatory obligations, support intelligence led investigations, business intelligence and other ad-hoc data analyses.

Some more specific points include:

- Possibility of real-time information
- Intuitive and simple to use interface
- Scope for in-built data validation to improve data accuracy
- Scalable
- Usable and intelligible raw data format and flexible reporting data functionality to facilitate easy and efficient data analysis
- Secure and allow for different levels of access levels for different user types
- Potential to take payments or verify payment information held elsewhere
- Align with relevant core data standards in use or being developed
- Potential to link with other data platforms within the other agencies
- Flexible
- Resilient
- Sustainable from a technology perspective
- Cost effective to develop and maintain, with a business model that does not need ongoing or never-ending government investment
- May present re-use opportunities

We want you to be creative. Your solution may propose a new end-to-end service or the transformation of an existing service. You may propose to focus on a specific sector or territory, in which case, we would like you to explain how we could then scale and expand upon that. Equally, we are open to thinking about the challenge completely differently. If you have an alternative solution to the challenge of Waste Tracking, then we are keen to hear it.

Please note that new build digital services must be compliant with government digital standards. If your proposal envisages the creation of a new external user-facing digital or transactional service, you will need to demonstrate an understanding of the [GDS Service Standard](#) and a commitment to meeting it.

Additional insights have emerged through user research undertaken through various discovery projects. Some key information is given in Annex 3 and more detailed information can be shared with successful bidders through the process as required.

5 Challenges of waste tracking

Tracking waste is challenging for a number of different reasons:

- Large number of waste operators, facilities and transactions - there are an estimated 23 million waste transactions in the UK, over 100,000 regulated sites and over 100,000 waste carriers and brokers.
- Increasingly complex waste treatment processes.
- Diverse range of different types of waste where waste mis-description can occur.
- The type of waste (as described by the list of waste code) can change through treatment and can result in multiple outputs.
- Reconciliation through mass balance of waste inputs and outputs from treatment won't occur where there are process and/or moisture loss and there can also be stockpiling of certain waste.
- Waste can lose its source identity when similar types of waste from different sources for example, from households or commercial and industrial premises, might be combined at some point in the process such as transfer, bulking, sorting or intermediate treatment facilities.
- Reporting, for example to determine what can be counted as recycling, has to follow strict rules on source and type of waste which will require suitable markers or rules around the data.

6 Anticipated essential data fields

Through various earlier discovery work we have been looking to define key data fields and data markers that a solution would need to capture.

However at a very simplistic and high level we expect any solution would need to capture the basic types of information listed below. Common data standards are likely to be relevant for a number of these fields.

These are not the only fields and additional markers are likely to be required, for example, to identify packaging, and to support definitions and calculations, for example, household, commercial and industrial waste, recycling and quality standards.

- Waste type (LoW, Basel UN code)
- Waste sector source category (NACE, SIC)
- Waste producer [name, address, contact information]
- Waste transporter/handler/facility [name, address, contact information]*
- Waste management permit/licence details
- Waste treatment process (including Disposal and Recovery codes where relevant)
- Waste material/stream type for example, source segregated, residual, co-mingled
- Waste outputs from facilities and treatment processes for example, recycle by material type, incineration bottom ash, digestate.

*could relate to carrier, broker, dealer, treatment, exporter.

We expect to undertake further work either through this challenge or other work to more fully define the data fields and markers.

When waste is transferred from one party to another and/ or moved from place to place, it must be accompanied by information that will ensure the waste is handled safely and legally. This is one of the requirements of the Duty of Care (DoC) for waste.

For non-hazardous waste a waste transfer note (WTN) provides the information needed and must be completed and signed by both the person handing over the waste and the person receiving it. Duty of Care Transfer Notes must be stored by waste companies and provided if requested by the Environment Agency.

However, they are not routinely required to be sent to Government, so we don't have this data available. An example of a waste transfer note is provided in Appendix 4.

For hazardous waste a hazardous waste consignment note (HWCN) must accompany the waste and be signed at each point in its journey. A HWCN contains more detailed information than a WTN and an example is provided in Appendix 5. In England there is also a returns system for hazardous consignment notes, but this is done differently across the four nations. For example, Scotland and Northern Ireland use a pre-notification system.

7 Data standards and platforms

Data Standards are rules by which data is described and recorded. These are important to make data consistent so it can be joined up regardless of application or origin. A number of such standard lists may be published via 'registers' on [GOV.UK](https://www.gov.uk).

Various data standards would need to be agreed for waste tracking. The Environment Agency is currently developing data standards which could be particularly relevant to this challenge:

- Addresses
- Country names and codes
- Hazardous waste consignment references
- Waste carrier broker and dealer registration number
- Waste carrier broker and dealers registration types
- Waste classification codes
- International shipment of waste codes

There are a range of existing ICT platforms in use across the 4 UK Environment Agencies, that capture data related to waste.

Depending on the proposed solution, consideration should be given as to the interfaces with the systems within the four UK Environment Agencies, each of which have a unique set of underlying technologies.

Proposed solutions will also need to consider interfaces with systems used within various waste businesses. Most of these will be 'closed' systems with a wide range of technologies and platforms.

There may also be demand for a mobile app that will need to run on a range of mobile devices and mobile web browsers, both online and offline.

So proposed solutions must be compatible and aligned with the data standards being developed by the agencies and have the flexibility, adaptability and interoperability built in, to permit the easy flow of data and allow for linkages with the various platforms, as broadly outlined above.

8 Waste classification systems

8.1 Classification system for types of waste

Waste classification is based on the European List of Waste (Commission Decision 2000/532/EC) and Annex III to Directive 2008/98/EC. The List of Wastes (LOW) Regulations 2005 transpose the European Waste Catalogue (EWC) into domestic legislation, and provide standardised codes for all hazardous and non-hazardous wastes that describe the properties of the waste.

The codes assigned will have implications for the safe handling and transport of waste, installation permits (which are usually granted for the processing of specific waste codes), decisions about recyclability of the waste or as a basis for waste statistics.

The [LoW](#) (more commonly referred to in the UK as EWC codes) is divided into twenty chapters, many of which are industry-based but some are based on materials and processes. Each waste type is assigned a six-digit code; first two digits of are the chapter code. Hazardous waste types are additionally denoted by an asterisk. It is worth noting that there are sometimes reviews or additions to the list.

In the case of international waste shipments, there is additional and separate legislation, the EU Waste Shipments Regulations which applies to the import and export of waste. Waste has to be described using a different set of codes - Basel UN [codes](#).

Any solution will need to have the capability to capture LoW and Basel UN codes.

8.2 Industry sector classification system

There are two very closely related classification systems used for classifying the economic activity. At least one of these will need to be used for classifying the source of the waste (contractors will be advised in due course through the process).

The Statistical Classification of Economic Activities in the European Community, commonly referred to as [NACE](#). The current version is revision 2 and was established by Regulation (EC) No 1893/2006. The Standard Industrial Classification ([SIC](#)) is used in classifying business establishments and other statistical units by the type of economic activity in which they are engaged. To the four digit level, UK SIC (2007) follows NACE Rev. 2 exactly. The difference is in the UK SIC (2007) subclasses.

9 Overview of waste collection and treatment

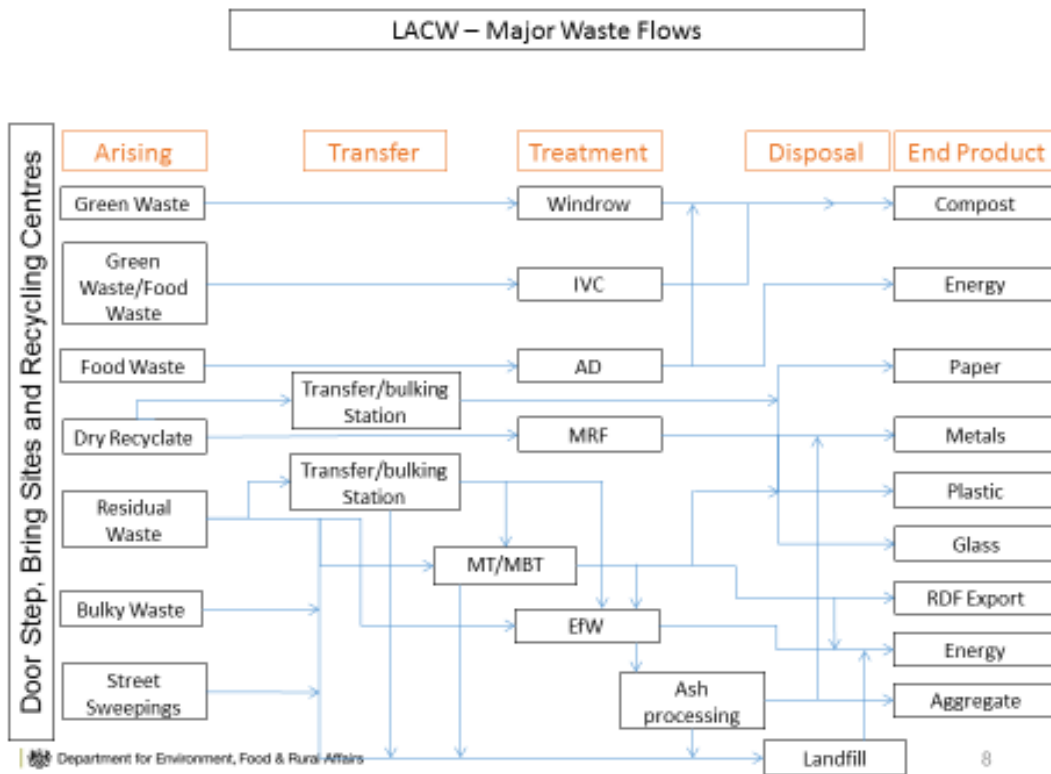
Waste collection and treatment and the associated supply chains have become increasingly complex.

Sources of waste include households, commerce and industry and from the construction and demolition sector. The complexity of the waste collection and treatment chain is illustrated below, using the example of waste collected by local authorities.

The types of household waste commonly collected cover source segregated or co-mingled dry recyclates (paper, card, glass, various plastics, metal), food and/or garden waste at kerbsides. Household waste recycling centres will also collect bulky items such as furniture, wood, WEEE (electronic and electrical goods), oil, batteries etc. Other types of waste include:

- Street sweepings
- Public parks and grounds
- Litter bins
- Flytipped waste

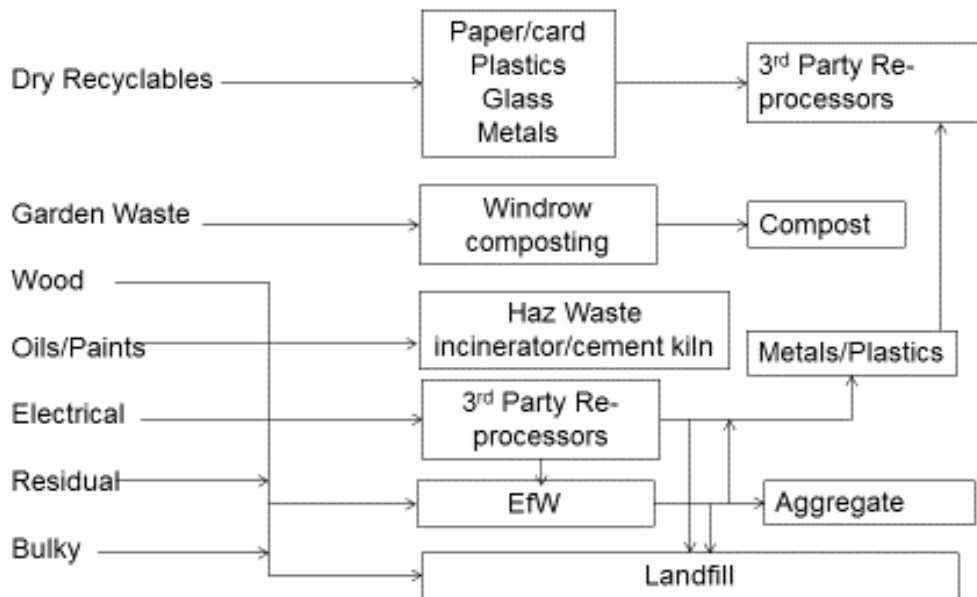
Figure 1 Example schematic for the treatment of local authority collected waste



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Figure 2 Destination of waste collected at household waste recycling centre



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Annex 1 Circular economy package legislation

Some key elements of the CEP⁵ that European Union member states will need to be able to monitor and report against are set out below. This gives an indication of possible future regulatory requirements that waste tracking could support:

- Establishment of electronic registries for hazardous waste
- Municipal waste recycling targets - mandatory targets will be set at 55% by 2025, 60% by 2030 and 65% by 2035.
- Landfill target - mandatory target to limit landfill to no more than 10% by 2035.
- Packaging waste targets - overall packaging waste recycling target of 65% by 2025 and 70% by 2030, with sub-targets for selected packaging materials:
 - Plastic: 50% (2025) 55% (2030)
 - Wood: 25% (2025) 30% (2030)
 - Ferrous materials: 70% (2025) 80% (2030)
 - Aluminium: 50% (2025) 60% (2030)
 - Glass: 70% (2025) 75% (2030)
 - Paper and cardboard: 75% (2025) 85% (2030)
- Food targets – the Commission will develop a methodology for waste measurement by January 2019 which the UK may have to report against during the implementation period. The Commission will also consult on the feasibility of a binding food waste target for 2030 by 31 December 2024. In the meantime, there is an obligation to adopt specific food waste prevention programmes to reduce food waste across all production and consumption streams.
- Prevention targets – mandatory implementation of measures to prevent waste generation. These measures are discretionary but they must, at a minimum, promote and support sustainable production and consumption models at all levels of materials' life cycles; prevent the waste of critical raw materials; encourage and facilitate reuse and repair; and develop information campaigns to raise awareness of waste prevention and reduce litter. The Commission will consider whether specific waste reduction targets are feasible by 31 December 2024. Wider recycling targets and reuse targets - by 31 December 2024 the Commission shall consider the setting of reuse and recycling targets for: construction and demolition waste and its material-specific fractions; textile waste; commercial waste; non-hazardous industrial waste; and other waste streams. The Commission will also consider targets for: preparing for reuse for municipal waste; and, recycling of municipal bio-waste.

⁵ <http://www.consilium.europa.eu/en/press/press-releases/2018/05/22/waste-management-and-recycling-council-adopts-new-rules/>

- Separate collection - strengthened requirements for separate collection (which may be provided through kerbside collection or bring sites) of at least paper, plastic, metal and glass through more robust application of the derogation not to separately collect where Technically, Economically or Environmentally not Practical (TEEP). Separate collection requirements extended to bio-waste from 31 December 2023 and textiles and hazardous household waste (for example, cleaning products, paints, weed killers etc.) by 2025.
- Extended Producer Responsibility (EPR) – EPR for packaging will be mandatory by 2025. Existing schemes required by EU Directives (such as the UKs Producer Responsibility scheme) must place at least 80% of costs on producers by 2025. New national schemes that are not required by EU directives also required to put at least 80% of costs on manufacturers.
- It is worth noting that there are specific definitions for a number of these terms and there are or will be specific calculation rules in place that will need to be followed. Details can be provided as required at later stages.

Annex 2 Existing data systems and datasets

There are three key examples of online web based systems currently in use by all four nations.

1. Local authorities enter data on waste collection and treatment relating to data within their remit in [WasteDataFlow](#). This will mainly be for household waste from kerbside collection or household waste recycling centres, but also from street litter bins, parks and grounds and street sweepings, and a small proportion of commercial and industrial waste from smaller offices and shops. The system provides for summary reports or raw data downloads to local authorities and public users.
2. [Edoc](#) is an online system that allows waste producers, operators, carriers, brokers and dealers can use to record and manage their waste transfers online and so fulfil their duty of care obligations. It is a voluntary system set up to handle non-hazardous waste only. Businesses are able to search and run reports from the system also.
3. Companies obligated by the packaging and battery regulations, reprocessors, exporters and compliance schemes are able to use the [National Packaging Waste Database](#) to register and submit quarterly returns. It also allows reprocessors and exporters to apply for accreditation online. Information on targets and reports are also published.

Each government agency has a range of different internal systems and tools for storing and collating information. These could be based on Access databases, Excel spreadsheets or more bespoke databases. In addition to this, each nation will have a range of statistical publications and datasets and other outputs. Some of these are published via [Data.gov](#).

The discovery work has revealed that similarly businesses have a range of different internal systems from paper based or a combination of Access databases and Excel spreadsheets, to sophisticated bespoke systems which link to customer delivery logistics and invoicing.

Annex 3 Prior discovery work – user research outputs and findings

User research has been conducted across the four nations covering various users including waste producers, regulators, waste management companies and local authorities. A summary of key findings is given below under five themes (for example, regulatory change/enforcement). For each theme the most commonly raised user needs are listed separately for regulatory officers and businesses.

This has also been used to develop various user personas.

1) Regulatory change/ enforcement

Regulator

Legislative change/increased powers
Simplify hazardous waste notes
Unify UK legislation

Business

Increase enforcement/prosecution/ deterrents
Unify UK regulation systems
Place more onus on producer
Provide clarity on government waste strategy and commitment to digital
Abolish hazardous waste charges
Legislate on data, not method of submission
Update duty of care
Incentivise recycling markets

2) Improve data quality and plug data gaps

Regulator

Make changes that will improve the accuracy, depth and consistency of data
Include end destination
Require more waste movement data
Track all wastes and transfers
Include data from producers
Ban estimates of waste
Require producers to weigh waste
Require information on re-use
Prevent any changes to load description during transit
Place obligations on haulage companies
Include field for business section
Improve accuracy of contractor's use of EWC codes
Include non-permitted sites on season tickets

Business

Include end destination
Fill gaps in data obligations
Place weight requirement obligations on contractors
Include accurate measurement for re-use
Include mass balance calculations
Place data submission obligation on all including producers

3) Non-digital options

Regulator

Promote greater public understanding of DoC
Reduce SEPA charges for DoC
Increased frequency of reporting
Provide access to financial info for enforcement purposes

Business

Improve regulator communication and advice
Retain or extend 72 hours notification for all hazardous waste
Improve web guidance and search facilities
Place greater responsibility on contractors
Regulatory staff to be more business savvy
Retain paper options for waste transfers
Provide reminders for site returns
Provide for email returns

4) Simplify/rationalise

Regulator

Amalgamate data requirements into one report
Standardise format for DoC notes
Simplify hazardous waste notes
Remove DoC signature requirement for both parties

Business

Improve EWC codes, more choice, fewer overlaps
Simplify processes and reporting requirements
Provide clarification on definition of producer
Standardise DoC format

5) What an online system should deliver

Regulator

Be simple, quick and easy to use
Provide for data in real time
Deliver enhanced reporting capability
Improve data quality with automatic validation
Users need to be provided with training
Incorporate the use of tracking devices
Provide regulators with access to all cross-national data
Provide ability to identify trends
Be operational from a mobile device
Ensure transparency and safety of data
Not reduce revenue from hazardous waste
Provide card payment capability
Provide live data on shipments
Ensure transparency
Have the ability to handle financial transactions
Protect commercially sensitive information
Have print capability
Provide for mass balance calculations

Business

Be fully compatible with own business needs and data collection methods
Protect commercially sensitive data
Provide users with access to all waste movements data
Be able to operate safely in sensitive locations
Be able to provide duplicate copies of waste transfer notes
Be linked to the weighbridge
Operate in real time
Allow data imports into own systems
Be delivered with financial assistance to help business switch to digital
Be able to operate in remote locations
Have functionality which will help reduce errors
Retain paper options for drivers
Allow for the submission of partially complete transfer notes
Be capable of operating offline
Generate quarterly returns automatically
Either prevent or limit changes to in transit waste description
Not increase special (hazardous) waste consignment costs
Automatically validate EWC codes
Integrate with H&S requirements
Able to issue receipts
Be delivered with some training support

Discovery user research – user personas

Roger

Frustrated by industry confusion

Is an Environmental Compliance Manager for a large UK company. He deals with thousands of waste movements per year. He is an active member of a Trade Association and is tech savvy. He uses GOV.UK but prefers the EA's old website.

Goals

- To know that our organisation and our customers are compliant
- We need to know where the waste is going
- We have to meet our recycling targets

Frustrations

- DoC Regulations are confusing and out of date
- Multiple processes to follow when moving waste UK wide
- There needs to be a "level playing field" within the Waste Industry
- No single point of contact in the Environment Agency



"DoC legislation needs clarifying so that people truly understand it."

Waste Tracking Service

Steve

Reluctantly online

Is a Waste Management and Contracts Manager for a Local Authority and has operational responsibility for a household waste recycling centre and composting facility. He shies away from using online services and is suspicious of any technology. He has access to a computer but uses it only for what he needs "to do his job".

Goals

- To provide DEFRA with the information they require in a timely manner
- We need to be able to track the waste movements in and out of our sites

Frustrations

- Data entry can be onerous and repetitive
- Why does everything have to be online?
- It all seems so complicated and time consuming



"I don't want to be mithered reading information or researching what is required"

Waste Tracking Service

Gerry

Electronic sceptic

Environment and Sustainability Manager at a regional firm of carriers who also operate two waste transfer stations. Specialise in the construction industry, but work in other sectors too.

Goals

- Get our customers to pay their bills on time – the main focus of management is cashflow.
- Minimise any activity that takes us away from serving our customers, especially red-tape.

Frustrations

- I feel swamped with the amount of information I have to report to government agencies – what's worse, I think it's all meaningless and wasted effort.
- The local environment agency keep talking about moving to electronic reporting – but it won't work: the kit will be too expensive, the drivers won't be able to use it, and the Agency still won't do anything with the data.



"It's fine designing an electronic system when you are sat behind a desk. My drivers work in the real world."

Waste Tracking Service

Amanda

Paperless champion

Head of business transformation at a large, integrated waste management company operating across the UK. They are carriers, operate waste transfer stations, and recycle and dispose of waste. They have recently invested heavily in new IT systems and matching staff training in the use of the required mobile devices.

Goals

- Move to completely paperless transactions.
- Make reporting to the various agencies and other public bodies as effortless as possible using their existing electronic systems.

Frustrations

- Her company cannot roll-out their new paperless processes fully across the UK due to the statutory requirement for paper waste transfer notes and consignment notes.
- While now being fully geared up to real-time electronic reporting, the various agencies are not themselves geared up to accept this.



"I feel that the Agencies are dragging their feet, and not letting us be as efficient as we could be."

Waste Tracking Service

Bindya

Frustrated agency officer

A compliance officer at an environment agency, Bindya is asked ensure maximum compliance in her region. This is also seen as an essential building block to the greater goals of initiatives such as “zero waste” and “the circular economy” which her agency is expected to help enable.

Goals

- Have the “end-to-end” and “real-time” view of waste transfers she needs to effectively enforce compliance.
- Feel good about the enforcement work she does, and be able to communicate its effectiveness to the law-abiding waste management business community.

Frustrations

- Believes that many more opportunities for enforcement would be identified if waste transfer data was collated electronically, in real time, and automatically analysed.
- Feels she wastes time on pointless data entry, and searching multiple systems for the data and reports she needs.



“I could be so much more effective as an enforcement officer if I had real-time data at my fingertips .”

Waste Tracking Service

Annex 4 Example waste transfer note pro-forma

Duty of care: waste transfer note Keep this page and copy it for future use. Please write as clearly as possible.

Section A – Description of waste

<p>A1 Description of the waste being transferred</p> <p>_____</p> <p>_____</p> <p>List of Waste Regulations code(s)</p> <p>_____</p>	<p>A2 How is the waste contained?</p> <p>Loose <input type="checkbox"/> Sacks <input type="checkbox"/> Skip <input type="checkbox"/> Drum <input type="checkbox"/></p> <p>Other <input type="checkbox"/> _____</p> <p>A3 How much waste? For example, number of sacks, weight</p> <p>_____</p>
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Section B – Current holder of the waste – Transferor

By signing in Section D below I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011 Yes

<p>B1 Full name</p> <p>_____</p> <p>Company name and address</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Postcode _____ SIC code (2007) _____</p> <p>B2 Name of your unitary authority or council</p> <p>_____</p>	<p>B3 Are you:</p> <p>The producer of the waste? <input type="checkbox"/></p> <p>The importer of the waste? <input type="checkbox"/></p> <p>The local authority? <input type="checkbox"/></p> <p>The holder of an environmental permit? <input type="checkbox"/></p> <p>Permit number _____</p> <p>Issued by _____</p> <p>Registered waste exemption? <input type="checkbox"/></p> <p>Details, including registration number</p> <p>_____</p> <p>A registered waste carrier, broker or dealer? <input type="checkbox"/></p> <p>Registration number _____</p> <p>Details (are you a carrier, broker or dealer?)</p> <p>_____</p>
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Section C – Person collecting the waste – Transferee

<p>C1 Full name</p> <p>_____</p> <p>Company name and address</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Postcode _____</p> <p>C2 Are you:</p> <p>The local authority? <input type="checkbox"/></p>	<p>C3 Are you:</p> <p>The holder of an environmental permit? <input type="checkbox"/></p> <p>Permit number _____</p> <p>Issued by _____</p> <p>Registered waste exemption? <input type="checkbox"/></p> <p>Details, including registration number</p> <p>_____</p> <p>A registered waste carrier, broker or dealer? <input type="checkbox"/></p> <p>Registration number _____</p> <p>Details (are you a carrier, broker or dealer?)</p> <p>_____</p>
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Section D – The transfer

<p>D1 Address of transfer or collection point</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Postcode _____</p> <p>Date of transfer (DD/MM/YYYY) _____</p>	<p>D2 Broker or dealer who arranged this transfer (if applicable)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Postcode _____</p> <p>Registration number _____</p> <p>Time(s) _____</p>
<p>Transferor's signature _____</p> <p>Name _____</p> <p>Representing _____</p>	<p>Transferee's signature _____</p> <p>Name _____</p> <p>Representing _____</p>

Source : <https://www.gov.uk/government/publications/duty-of-care-waste-transfer-note-template>

Annex 6 Glossary of common terms

Term	Explanation
Anaerobic Digestion (AD)	A method of biological treatment for organic wastes such as food and green garden/ horticultural waste, where plant and animal materials (biomass) are broken down by micro- organisms in the absence of oxygen, using an enclosed system, under controlled conditions. The main end products are 'biogas' which can be used to generate heat or power, and 'digestate'.
Bring Bank	Unsupervised local drop off for recyclables (for example, bottle bank). These are being phased out due to incorrect use.
Bulky waste	Larger items such as furniture and mattresses.
CA Site	Civic Amenity Site. See HWRC (Household Waste Recycling Centre).
C&D	Construction & Demolition (waste). This waste stream therefore includes various building materials, including concrete, bricks, gypsum, wood, glass, metals, plastic, solvents and asbestos.
CD&E	Construction, Demolition & Excavation (waste). E is primarily soil.
C&I	Commercial & Industrial. Waste generated by Commercial & Industrial sectors. There is no industry wide definition of C&I. For the purpose of reporting under the waste Statistics Regulation, this is based on NACE Industries A, C, D, E (except for E38) and G (except for G4677).
Composting	A method of biological treatment that involves breaking down organic waste into a soil-like substance, using various micro- organisms in the presence of oxygen. Can be done in 'open windrows' or 'in-vessel' (see separate definitions). The end- product is compost. To count towards the official waste from households recycling, the compost has to be derived from source segregated waste material and not residual waste. There is a quality standard for compost, PAS 100.
CLO	Compost Like Output. This is produced from residual waste once recyclables have been removed. The input material will consist of food waste plus all manner of small pieces of solid waste. The process is much like composting of green waste – it is shredded and then left to decompose in piles which are turned regularly. The resulting CLO can be used for the structural restoration of land but in some cases ends up being landfilled. It is not suitable for use as compost, particularly where edible crops are involved because it contains non-biodegradable and hazardous elements such as bottle tops, toiletries, batteries, chemicals and anything that might find its way into household bins. It is not included as recycling in the harmonized official 'Waste from Households' recycling measure, but may be included in other national measures.
Commingled	Multiple waste types collected together for recycling. Typically tins and plastic bottles.

D&R Codes	Disposal and Recovery Codes. EC Coding system for treatment operations.
E	Excavation (waste). Usually bundled in with Construction & Demolition as CD&E. E waste is essentially soil.
Edoc	Electronic Duty of Care. System allowing waste handlers to complete waste transfer notes electronically rather than on paper went live on 01/01/2014.
ELVs	End of Life Vehicles. A vehicle that has been scrapped.
EWC Code	European Waste Catalogue. These are six digit codes used to describe type of waste. There are about 800 different codes. The six digits are expressed as three pairs, with the first pair representing the Chapter. If an EWC code ends with an asterisk (“*”) then it is classed as ‘hazardous’
EWC-STAT	This is a high level EU waste type classification used for reporting. Several EWC Codes map to each EWC-STAT. There are about 35 top level EWC-STAT classifications.
Exemptions	Waste operation that is exempt from needing an environmental permit. Each exemption has specific limits and conditions that the holder must operate within. There is no obligation to report activity (tonnages and waste types dealt with) to the Environment Agency.
HWRC	Household Waste Recycling Centre. Local sites where general public can deposit waste unsuitable for kerbside collection (e.g. wood, rubble, appliances). Also Civic Amenity (CA) Site.
IBA	Incineration Bottom Ash. The residual ash left at the bottom of an incinerator after combustion. This can be made into cinder blocks. Sometimes it is landfilled. It is not included as recycling under the harmonised official ‘Waste from Households’ measure but may be included in other national measures.
IBA metals	Metals that can be separated from IBA. This is usually considered to all end up being reprocessed. From 2017 this has been counted as recycling under the harmonised official ‘Waste from Households’ recycling.
Incineration	The combustion of waste, either with or without energy recovery. EfW is incineration with energy recovery.
Inert waste	Waste which is neither chemically or biologically reactive and will not decompose.
IVC	In-Vessel Composting. Composting of mixed garden and food waste within an enclosed environment.
LACW	Local Authority Collected Waste. Includes refuse collections, HWRCs and a small proportion of commercial waste from smaller offices and shops.
LoW	List of Waste. Waste type classification framework for waste types. Often referred to as EWC.

MBT	Mechanical Biological Treatment. Involves two or three stages of treatment of residual waste at a single site. Often there is an initial mechanical sorting and separation stage to recover material suitable for recycling followed by a biological treatment with any remaining residual waste may be sent to energy recovering or disposed to landfill.
MRF / MF	Materials Recovery Facility. Facility that uses mechanical techniques to sort, separate and recover raw materials from mixed waste.
MRS	Metal Recycling Site. One of the 'Site category' options in Waste Data Interrogator.
Municipal waste	No established formal agreed definition of municipal waste but generally understood as 'household and commercial waste'. At a practical level all local authority waste may be used. A definition is given under the circular economy package there is a definition. For reporting 'BMW (Biodegradable Municipal Waste) to landfill' under the Landfill Directive, municipal waste is defined based on a specific list of EWC codes agreed between the UK countries.
NACE	Industry sector classification system used by Eurostat for EU reporting.
Permitted site return	All facilities that handle waste need a waste permit or exemption. Operators of permitted facilities have to submit a return to EA either annually or quarterly. The return gives tonnes received and removed, split by EWC code. These returns are compiled by EA into 'Waste Data Interrogator'.
RDF	Refuse Derived Fuel. Also Solid Recovered Fuel (SRF). Fuel material formed from solid waste and then burnt to provide energy.
Residual waste	Municipal waste that is not part of a recycling scheme. Typically mixed 'black bag waste'.
TEEP	Technically, Environmentally and Economically Practicable with reference to the separate collection of wastes destined for recovery operations.
Waste from Households	Not to be confused with 'household waste'. Waste from Households is the measure that the UK has chosen to report on for the Waste Framework Directive household recycling target. It has been designed in relation to WasteDataFlow and is the same across all four UK countries.
WCA	Waste Collection Authority. Manages collection of municipal waste in a Local Authority, principally through kerb side collection and household waste recycling centres.
WDA	Waste Disposal Authority. Manages disposal of waste in a defined geographical area and will serve multiple WCAs.
WEEE	Waste Electrical and Electronic Equipment.
WFD	Waste Framework Directive. The main waste related EU legislation. The UK has to report against two targets, one for household recycling (completed on an annual basis) and one for the recovery rate of non-hazardous C&D (completed every two years).

Windrow composting	Composting of garden waste (no food waste allowed) outside.
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Annex 7 Links to other possible useful information Waste overview

Waste overview (England)

<https://www.gov.uk/topic/environmental-management/waste>

Waste overview (Wales)

<https://naturalresources.wales/permits-and-permissions/waste/?lang=en>

Waste overview (Northern Ireland)

<https://www.daera-ni.gov.uk/topics/waste>

Waste overview (Scotland)

<https://www.sepa.org.uk/regulations/waste/>

Waste duty of care

Waste duty of care code of practice (England and Wales)

<https://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice>

Waste duty of care (Northern Ireland) <https://www.daera-ni.gov.uk/articles/duty-care>

Waste duty of care (Scotland) <http://www.gov.scot/Publications/2012/10/2631>

Duty of care NetRegs (Scotland and Northern Ireland)

<http://www.netregs.gov.uk/environmental-topics/waste/duty-of-care-your-waste-responsibilities/>

Hazardous waste

Hazardous waste (England) <https://www.gov.uk/dispose-hazardous-waste>

Hazardous waste (Wales)

https://gov.wales/topics/environmentcountryside/epq/waste_recycling/legislation/hazardous-waste-regulations/?lang=en

Hazardous waste (Northern Ireland) <https://www.daera-ni.gov.uk/articles/hazardous-waste>

Hazardous (special) waste (Scotland)

<https://www.sepa.org.uk/regulations/waste/special-waste/>

Hazardous/special waste NetRegs (Scotland and Northern Ireland)

<http://www.netregs.gov.uk/environmental-topics/waste/hazardous-special-waste/>

Waste carrier, broker or dealer

Waste carrier, broker or dealer (England and Wales) <https://www.gov.uk/waste-carrier-or-broker-registration>

Waste carrier, broker or dealer NetRegs (Scotland and Northern Ireland)
<http://www.netregs.org.uk/environmental-topics/waste/waste-carriers-brokers-and-dealers/>

Waste data

Waste data and statistics (England and UK)
<https://www.gov.uk/government/collections/waste-and-recycling-statistics>

Waste data (Wales)
<https://naturalresources.wales/evidence-and-data/research-and-reports/waste-reports/?lang=en>

Waste data (Northern Ireland)
<https://www.daera-ni.gov.uk/articles/published-waste-data>

Waste data (Scotland) <https://www.sepa.org.uk/environment/waste/waste-data/>