

Electronic duty of care (edoc) The new way to record waste transfers

Layman's report

LIFE09 ENV/UK/000023



Electronic duty of care (edoc) was a 4 year project to develop a national online system to track the collection, transport, treatment and disposal of non-hazardous waste. It ran from January 2011 to December 2014 and was co-financed by the European Commission LIFE+ programme.



The primary benefits of edoc are that it:

- has the potential to replace the UK's existing paper-based way of recording waste transfers, which produces at least 23 million paper waste transfer notes a year
- is free for users and gives more accurate recording of data
- saves businesses time and money with digital storage and fast retrieval of information that everyone in a waste transfer chain can view
- gives information on the volume and types of commercial and industrial waste



We purposely developed edoc to be easy and efficient for users. And as part of the project we worked with waste industry and business customers to collect their views on the system design.

The project was led by the Environment Agency, working with these project partners:

- Chartered Institution of Wastes Management (CIWM)
- Northern Ireland Environment Agency (NIEA)
- Reconomy (UK) Ltd
- Waste and Resources Action Programme (WRAP)
- Welsh Government

The project also had the full support of the Department for Environment, Food and Rural Affairs (Defra) and the Scottish Environment Protection Agency (SEPA).

Contents

1. Why we created edoc	3
2. Development and design	4
3. Building awareness and interest	7
4. What did we learn?	11
5. Find out more	13



1. Why we created edoc

3

Recording the movement of non-hazardous waste using paper transfer notes is inefficient. We recognised that an online system would save UK businesses time and money. Plus give users and government a more comprehensive picture of the commercial waste produced.

How UK businesses must manage their waste

Businesses and public organisations in the UK must by law deal responsibly with any waste they produce. They must ensure they store, transport and dispose of it without harming people or the environment. This means when they move waste to someone else they must have written records of each transfer.

These records can be electronic, but many users rely on handwritten paper waste transfer notes (WTNs). We estimate UK businesses produce more than 23 million paper WTNs each year.

Paper WTNs are an administrative burden. Each organisation has to keep WTNs for at least 2 years, and in some cases 6 years if they are completing landfill tax returns. It costs time and money to complete and store the paperwork, and to retrieve the records.

There is also scope for inaccuracy. Different users completing paper records in the waste transfer chain can make mistakes and record information incorrectly, and WTNs often have missing details. This can create problems with duty of care compliance.

A better picture of the UK's waste

We know that more than a quarter of the UK's total waste comprises waste from the commercial and industrial sectors. But we do not have a national system that gives us a more detailed picture of the volume and types of waste businesses produce.

If we improve our knowledge about the UK's commercial and industrial waste, we can help businesses, and local and national government, better understand and plan for waste in the future. We will also improve our required reporting obligations to Europe.



How the edoc project will help

The electronic duty of care (edoc) project is a national online system to record and manage waste transfers.

In the UK it has the potential to replace the outdated paper system of WTNs. Other benefits include:

- **smarter administration** – both for business by eliminating the creation, storage and retrieval of paper notes, and for governments by reducing costly waste surveys to help estimate the volume and types of waste produced
- **better knowledge** – more accurate data on waste volumes and movements will help local planning authorities and businesses make better resource decisions, for example on the need for new waste facilities or where to target waste reduction efforts
- **preventing waste crime** – edoc can help tackle illegal waste practices like dumping by making it easier to be compliant, and so reducing opportunities for waste criminals
- **improved compliance** – the system includes simple self-auditing tools for businesses, and easier ways to complete regulatory documents



2. Development and design

We built a national UK system to record and manage waste transfers online.

Understanding and talking to business

Our starting point for the project was getting the support and backing of potential edoc users. So first we carried out research, and talked to businesses and waste regulators, to find out what they needed and wanted from an online waste transfer tracking system.

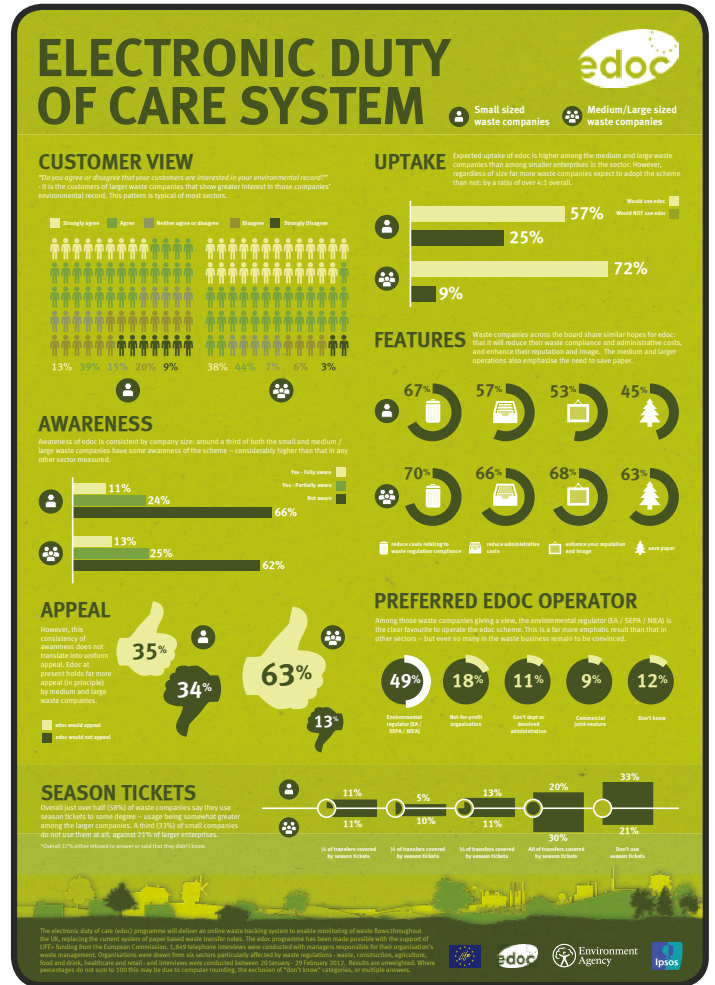
Preliminary market research

This comprised:

- a literature review
- in-depth interviews with 20 sector experts
- a survey of more than 1,800 business managers responsible for environmental issues in our 6 target business sectors: agriculture, construction, food and drink, health, retail and waste

With this information we:

- created profiles for 8 of our most typical and important business users, including their specific needs and motivations for using an online system, plus their present awareness of waste law
- pinpointed what different sectors wanted from a new online system
- confirmed views on proposed key features and benefits
- gauged the reaction to edoc – including any barriers
- developed our key ‘selling point’ messages for the project
- gained insight into how to encourage take-up of edoc and the best ways to attract different sectors



Our 8 user profiles

- ➔ waste producers – one each for a small, medium and large business
- ➔ waste management companies – one each for a small and large business
- ➔ an enforcement or compliance officer
- ➔ a waste data analyst
- ➔ a third party developer



Working with potential users

We believed the best way to make edoc a success was to put potential users at the centre of our development plans. So from design through to final testing we worked with representatives from each of our 8 profiled typical users and target sectors.

We first ran a series of workshops. This helped us compile a prioritised list of the features people wanted. From this we created a specification for edoc's design.

During development we set up several user groups to share information, and to help guide and advise the project. We also included people from trade associations, and asked environmental consultants and software specialists to take part.

We also accounted for the needs of project partners, who specified that edoc had to be:

- flexible, so users could do what they needed
- adaptable, to meet new or changing regulatory requirements
- capable of accommodating an increasing volume of users
- secure, to protect the commercial value of users' waste data

We released features of the edoc system every 4 weeks. Users involved in the project could test each release, and at each stage their comments fed back into the next development phase.

As edoc began to take shape we carried out several cycles of controlled testing with selected users. This helped check all the features, and ensured the developer had successfully created the functions we specified. It also identified any security vulnerabilities, allowing us to quantify the risk to either the system or the user, and resolve any shortfalls.

Developing edoc in this way helped us create a good relationship with important users. As they became more aware and interested in edoc's value, their enthusiasm for the finished system increased. We used their positive support as part of our promotional communication before and after edoc's launch.



edoc's design

Our approach

We used a stepped approach (known as agile) to develop edoc, consistently keeping the potential user involved and consulted in progressive phases of design. It proved an efficient and flexible way of working, allowing us to pinpoint requirements and find solutions as we built the system.

Accessing edoc

Users can access edoc in two ways:

- **Web portal** – this is more suited to a smaller business. Here a user enters information just as they would on a paper WTN. The user also has the flexibility to create a file for several waste transfers, uploading this in a single action through the web portal as a comma separated value (CSV) file. This is more efficient when recording multiple WTNs and was attractive for medium-sized businesses.
- **Application programming interface (API)** – for larger waste management companies we designed a software tool. This is a series of rules that allows an organisation to connect their own computer network to edoc and transfer data automatically. The API has the capacity to transfer large quantities of data quickly and easily, and users need only enter information once for it to appear on both systems.



Creating transfer notes with edoc

Create

Any business involved in a transfer (transferor, transferee, broker or dealer) can draft a waste transfer note.

Submit

When a business submits a draft waste transfer note, edoc validates the content against current regulation. If validation is successful, edoc tries to link each business listed on the waste transfer note to a business registered on edoc. The transfer note is only shared with businesses that have been successfully linked to the transfer note.

Sign

When both the transferor (the current holder of the waste) and the transferee (person receiving the waste) have signed the waste transfer note, the note is agreed and is stored.



What else can edoc do?

- search and retrieve records quickly and easily
 - create downloadable business reports on waste transfers
 - track waste, and show its final fate
 - send automatic email notifications to prompt users to complete an action
 - provide a log of actions, showing by whom and when
 - create a yearly WTN or season ticket with the option to include multiple waste types, containers and collection frequencies
- 👍 summaries telling the user about important system features like uploading data or reporting
 - 👍 technical tools – for example, to help estimate the weight of a waste transfer
 - 👍 prediction tools to help match users with other businesses registered on edoc
 - 👍 alert messages to show an action is completed successfully, or if a response needs correcting
 - 👍 a frequently asked questions (FAQs) page, with technical ‘how-to’ guidance for specific tasks

Help for users

We designed edoc to be simple and intuitive. Rather than create a user manual, we decided to develop easy ways for people to learn about the system as they move around the site.

Features include:

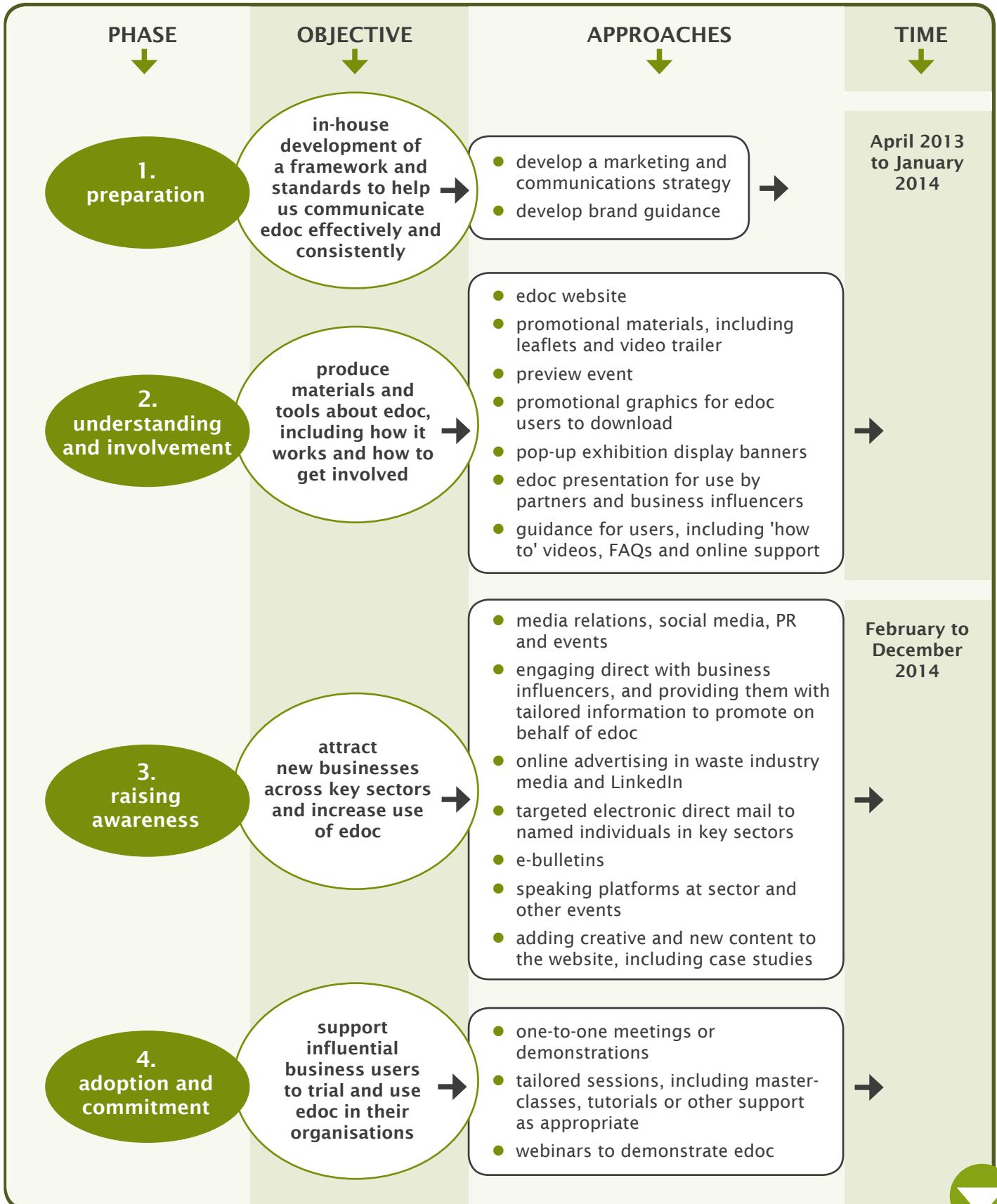
- 👍 drop-down menus for quick, standard responses – this also helps produce accurate data
- 👍 pop-up tool tips to help the user complete information fields correctly
- 👍 ‘how to’ video guides on some of edoc’s main features – for example, registering a business
- 👍 a test system that replicates edoc, so users can learn how it works without entering real information
- 👍 general advice pages about using the system, duty of care and related waste issues
- 👍 a help-desk for problem-solving and reporting technical faults



3. Building awareness and interest

Our aim in promoting edoc was to progressively build awareness and interest among key audiences, moving them along a journey of understanding towards our overall goal of system take-up.

Our strategy had four key phases, reflecting each stage of edoc's evolution:



Preparing to launch

Our first messages focused on 'selling in' the broad benefits and advantages of edoc. Communication professionals within our project partner organisations and external consultants helped prepare a marketing and communication strategy, with methods for engaging two main groups:

Group 1 Business influencers

- sector trade bodies
- professional bodies
- edoc partners
- individuals already part of edoc user advisory groups
- business representative groups
- government bodies/organisations
- key industry publications and journals

Group 2 Potential end users

- large waste operators – waste management companies and carriers, brokers, dealers
- small waste operators – waste management companies and carriers, brokers, dealers
- waste producers from main industry sectors
- local authorities

The first group helped promote our main messages and reach wider audiences. We used targeted, direct contact with the second group, especially among larger businesses, to build support. Engaging with large UK waste operators was especially important as, through them, we could reach their network of waste producer customers.

Our methods combined speaking at events, traditional and social media, PR, online advertising, demonstration and training events. We also created a distinct brand identity for edoc.

edoc website



To help influencers and potential users learn about edoc and preview its content, we created a dedicated website. It went live 4 months before edoc launched, at which time we added new content, including access to the edoc system, supporting information, and online tools.

In its first year the website received an average of around 1,350 visitors a month.

edoc preview

In September 2013 we organised an edoc preview opportunity at RWM 2013, the UK's flagship resource management event, and combined this with our website launch.

More than 150 event delegates attended. The launch was hosted by our project partner CIWM, the professional member organisation for the resources and waste management sectors. We also secured support from several major businesses in the construction and waste management industries, who spoke about why they wanted to use edoc.

During the preview we also presented a promotional video trailer showcasing the benefits and main features of edoc. We placed this on the edoc website where it was viewed more than 2,500 times up to December 2014.

"The best things about edoc for us are the improvements in compliance and our data reporting capability. It makes life so much easier for environmental consultancies and contract managers like us."

Mark Allison, Compliance Manager, Helistrat



Rolling out the message

Speaking engagements

Representatives from both the project and supporting partners spoke about edoc at 38 selected target audience events within the UK and a further 4 in Europe.

Media

From April 2013 to December 2014 the project issued 46 news releases or articles about edoc. From this and our work engaging with business influencers, we gained over 210 pieces of coverage in print and online, providing more than 3.5 million potential opportunities for individuals in our target sectors to view information on edoc.

To maintain interest, we highlighted different messages to reflect each stage of the project. In the 9 months preceding the launch we focused on broad awareness-raising among key audiences. During and immediately after edoc went live in January 2014, we highlighted the benefits of using edoc instead of paper record keeping.

We also 'hooked' our stories to milestone events, such as the 1,000th business to register on edoc. User testimonials were another successful way of securing coverage in trade and industry media.

Later in our campaign we used more detailed business case studies and sector articles. These highlighted the work of individual businesses, describing why and how they were moving to edoc. Our sector articles proved attractive to specialist publications and helped reach important sectors like construction and retail.

"edoc will help us to solve a number of basic compliance and efficiency challenges currently facing us in the paper waste transfer note system."

Brian Marshall, Environment and Compliance Manager, Reconomy

edoc e-bulletins

We compiled a list of more than 1,700 influencers and business people during our project, to whom we sent 8 specially designed e-bulletins with the latest news about edoc. Every issue drove reader traffic to the edoc website. On average we achieved higher than standard industry rates, both for the percentage of recipients opening the e-bulletin and then clicking a link through to information on the edoc website.

Online advertising

A series of 3 online advertising campaigns ran in April, June and September 2014. We chose 5 specific waste industry websites familiar to potential users. All sites delivered above the industry average of 0.03% in click-through rates to the edoc website, with two sites performing consistently well.

Electronic direct mail (eDM)

We issued a series of 3 eDMs to a specific industry audience using a database supplied by our project partner CIWM. We emailed more than 18,000 contacts. Each eDM achieved an above average click-through rate, compared to CIWM's 2% benchmark.

'...we gained over 210 pieces of coverage in print and online, providing more than 3.5 million potential opportunities for individuals in our target sectors to view information on edoc.'



Training and demonstrations

While we had used events and presentations as opportunities to show how edoc would work, attracting people to a traditional training course was more challenging. In particular we felt that we could cover neither the specific nor varied user needs in one generic edoc user training session.

Instead we offered 17 free learning opportunities for more than 500 people. These included:

- tailored sector edoc master-classes – for example, for large waste management companies or companies in a large waste broker's supply chain
- one-to-one support for individual businesses or special interest groups
- webinars hosted by the edoc project and associated partners

LinkedIn

We identified that LinkedIn had more than 40,000 registered members closely matching our edoc target audience profiles.

To reach them we ran 2 campaigns in July and September 2014, displaying edoc adverts on target members' profile pages. We also took advantage of a new media format inMail. This gave us the opportunity to send a message direct to a member's LinkedIn inbox. The results for each campaign showed the inMails achieved a higher open rate than the industry standard of 22%.

Our edoc LinkedIn company page was another useful means by which we engaged with professional contacts, and we posted regular status updates to highlight news and promote edoc events.



Engaging with business influencers

This helped us reach an estimated audience of more than 115,000 potential edoc users. We used edoc partners and users from our advisory groups as ambassadors to the project. They forwarded messages through their existing networks, helping us broaden our contact base.

We also approached professional and trade organisations for our 6 main target sectors, asking them to use information tailored to suit their own contact with members. This included text for presentations, and copy for newsletters or online information.

“edoc is an important milestone, bringing waste management and waste handling transfers into the 21st century. We recognised the benefits of edoc in its early development. The previous system was based on regulations introduced and written more than two decades ago, so we wanted to modernise and update the options available to our customers.”

Chris Griffiths,
Technical Support Manager, FCC
Environment



4. What did we learn?

Edoc can help businesses, the waste industry and governments work efficiently and save money, while gathering more accurate data on commercial and industrial waste.

By December 2014, almost a year after launch, 1,918 businesses had registered to use edoc. This number continues to grow. We secured a public commitment from the fifth largest waste management firm in the UK to use edoc, and several other recognised organisations in the waste industry agreed to switch to the new system.

Edoc has the firm backing of UK government and also the devolved administrations in Northern Ireland, Scotland and Wales. We successfully reached an agreement for them to jointly own edoc when the project closed. This includes their commitment to take on the hosting and upkeep of the system.

Business users will benefit from using edoc as its methods for issuing and administering WTNs is simpler and more cost effective than the paper-based system. Because of this it is included as an example of reducing business burdens in the English government's Red Tape Challenge programme.

The edoc project has helped focus attention on the importance of properly describing and recording waste transfers to help evaluate waste produced. One of the added benefits of edoc is the intelligence the data provides on what and how much commercial and industrial waste the UK generates. This will support better and more efficient resource management. It does this without compromising users' market-sensitive information.

During project development the House of Commons Environmental Audit Committee (EAC) expressed strong support for edoc, recognising the role it could play in helping improve data quality on waste materials in the UK.



Observations and lessons

The agile approach used to create edoc worked well. It helped keep our design flexible and responsive to changes suggested by business during the project's development, and was a good way of engaging key users and securing positive support for the system.

Anticipating a significant sign-up to edoc in just a year was ambitious. Despite it being free to use, and having widespread support from customers, growing the user base will take time. Greater take-up of edoc depends on a longer period of sustained communication, especially when there is no legal compulsion to use it.



Reasons why it will take time:

- Choosing to use edoc, and making the move from paper records, may be a significant change programme for some businesses. For example, companies with established IT systems may need to invest in or upgrade their existing infrastructure to accommodate an API.
- A voluntary system is hard to introduce. While there is broad dissatisfaction with the traditional paper system, this is not necessarily sufficient motivation to make the change. Making edoc voluntary rather than mandatory was a point of debate during the project. A poll by project partner CIWM found business opinion split almost evenly with 47% in favour of making edoc mandatory.



- Making edoc free to use was considered an important incentive, and this strongly remains our view, one that our main business partners also share. The scope for further financial incentives or rewards for signing up was limited, principally because of matters of propriety and governance for some of the main project partners. We believe businesses will eventually move to edoc because of the benefits and efficiencies they will gain from its use, and gifts or rewards are unlikely to sway their decision.
- edoc is for non-hazardous waste, but we believe it could suit other types of waste, including hazardous waste.



Adapting edoc for other countries

While the technical functions will need to adapt to suit a country's specific waste laws and procedures, we believe the principals of an online waste transfer record system like edoc could be used with positive benefits outside the UK, particularly within EU countries.

Are waste transfer notes keeping you stuck in the past?



5. Find out more

At www.edoconline.co.uk you can read more about how edoc works, register to use the system and learn more from specially created tools and videos. Try:

- watching our **video** to understand more of edoc's benefits and main features
- following our **simple plan** to help your business think about how it can make the change to edoc
- checking out our **frequently asked questions**
- using our **edoc test site** to help see how edoc could work for you

For a summary of the edoc project go to:

www.gov.uk/government/groups/edoc-electronic-duty-of-care

Edoc project details

Project number: LIFE09 ENV/UK/000023

Duration: 4 years, from January 2011 to December 2014

Total cost: €4,176,500, contribution by the European Commission of €2,088,250

Principal contact: Chris Deed, chris.deed@environment-agency.gov.uk



LIFE+ Project Partners

Co-ordinating beneficiary

Environment Agency for England

We protect and improve the environment and make it a better place for people and wildlife.



We operate at the place where environmental change has its greatest impact on people's lives.

We reduce the risks to people and properties from flooding; make sure there is enough water for people and wildlife; protect and improve air, land and water quality, and apply the environmental standards within which industry can operate.

Acting to reduce climate change and helping people and wildlife adapt to its consequences are at the heart of all we do.

We cannot do this alone. We work closely with a wide range of partners including government, business, local authorities, other agencies, civil society groups and the communities we serve.

Associated beneficiaries

Chartered Institution of Wastes Management (CIWM)

CIWM is a professional member organisation



serving the resources and waste management sectors of the UK and its countries.

As a registered charity in England and Scotland it helps promote and assist in developing waste management industry knowledge, and promotes education, the protection of public health, and care of the environment.

The Waste and Resources Action Programme (WRAP)

WRAP works with local authorities, businesses and households to prevent waste, increase recycling, and develop markets for recycled and sustainable products.



Reconomy (UK) Ltd

Reconomy is the leading outsourced waste management and recycling services company in the UK. Operations extend to all sectors and help business and other organisations to recycle, process or otherwise dispose of waste in a responsible, eco-friendly and cost-efficient manner.



Northern Ireland Environment Agency (NIEA)



NIEA is the environment regulator for Northern Ireland. Activities and statutory duties cover environmental protection, natural heritage and the built environment.

Welsh Government

The Welsh Government is the organisation responsible for most key areas of public life in Wales, including the economy, health, education and the environment.



edoc

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