



Environment  
Agency



# National waste crime survey 2023: results and findings

Chief Scientist's Group report

July 2023

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We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion.

We improve the quality of our water, land, and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We can't do this alone. We work as part of the Defra group (Department for Environment, Food & Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

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# Research at the Environment Agency

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This report is the result of research commissioned by the Environment Agency's Chief Scientist's Group.

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If you have any comments or questions about this report or the Environment Agency's other scientific work, please contact [research@environment-agency.gov.uk](mailto:research@environment-agency.gov.uk).

Dr Robert Bradburne  
**Chief Scientist**

# Contents

Foreword.....	4
Acknowledgements.....	6
Executive summary .....	7
Introduction .....	9
Objectives.....	10
Methodology .....	11
Wisdom of the crowds .....	12
Modifications to 2021 survey .....	12
Results.....	14
Sample profile.....	14
Objective 1: Quantify the perceived scale and impact of waste crime in England .....	15
Objective 2: Understand what motivates people to commit waste crime in England, what enables it and what will deter people.....	22
Objective 3: Understand the willingness of the public and industry to report waste crime .....	25
Objective 4: Identify whether action taken by the Environment Agency and partners is perceived as being effective in reducing the scale of waste crime .....	27
Conclusions .....	33
References .....	35

# Foreword

Waste criminals put us all at risk every time they break the law. Their toxic crimes cause widespread and significant harm to people, places and the economy.

The more we know about these people, the more effective we can be at stopping them. This is why we run the National Waste Crime Survey - it is designed to provide us with a unique insight into the problem by asking those who see it day in day out. The results in this report inform our understanding of the scale and nature of crimes in the waste industry, the impact on people, and what works to stop and shut down waste criminals. It also tells us there is a lot more to do if we're going to stop them.

The headlines are stark but not surprising:

- Waste criminals are all around us: Respondents estimate that a fifth of all waste produced may be illegally managed - that's approximately 34 million tonnes every year across England, enough to fill 4 million skips.
- Waste Crime is big business: the legitimate waste industry estimates it costs £1bn a year. Nearly 20% of all waste operators are thought to engage in illegal activity, and a considerable proportion of this is linked to organised crime. Landfill tax evasion is a key driver and allows perpetrators to illegally boost their profits.
- Waste crime is bad for good business: legitimate waste operators are undercut by criminals offering below market rate services, and landowners and farmers whose land is dumped on face significant clean-up costs.
- Under reporting: Just a quarter of all waste crimes are reported. We can't stop what we don't know about, however, we need to build faith that we will act when we are notified of a problem.
- We need to work together to drive criminals out of the industry: the Environment Agency is respected for its knowledge, but industry are already sceptical that the Environment Agency (and other enforcement agencies) are resourced to do the job.

These findings bring into focus the scale of the challenge ahead. Stopping and shutting down criminals in the waste sector is a top priority.

The Environment Agency is focused on continuing to use all our powers and the resources at our disposal to improve compliance with the law - preventing waste crime, protecting the environment, and pursuing criminals.

We cannot achieve these goals alone. We know we are stronger working together, with our partners, across government, with other regulators and law enforcement agencies to share information, tools, and resources. The waste industry and general public have a crucial role in helping us stop waste criminals faster by sharing with us what they know about the people committing waste crimes.

Finally, I'd like to thank everyone who took part and the waste industry who helped shape and promote the survey. The overall response was excellent and will inform what we do.

*Steve Molyneux*

## Acknowledgements

We are grateful to the participation of several teams within the Environment Agency and Defra for contribution to the design of the National Waste Crime Survey, particularly waste regulation colleagues and waste communication engagement specialists. Several colleagues also assisted in the distribution of the survey. Similarly, we are grateful to contributors from Chartered Institution of Wastes Management, Environmental Services Association, United Resource Operators Consortium, National Farmers Union, and Local Government Association for helping to shape the questions and promoting the survey to their member bases. SYSTRA administered the survey, and this report is based on their analysis of the results. Many thanks go to anonymous cognitive testers who were instrumental in shaping the survey. Finally, thanks to the respondents of the survey for helping to build our understanding of the scale and nature of waste crime in England, and how the Environment Agency can be more effective in tackling it.

# Executive summary

Waste crime encompasses a range of illegal activities, including dumping, burning, illegal shipping of waste, mis-describing waste, and operating illegal waste sites. Waste crime is widespread across England and has devastating effects on the environment, local communities, and legitimate businesses. Perpetrators profit immensely from their illicit handling of waste and go to great lengths to avoid detection, making it extremely difficult for authorities to grasp the true extent of the problem. Although the actual financial impact remains difficult to quantify, the waste industry estimate costs to the English economy total £1 billion annually through evaded tax, environmental and social harm, and lost legitimate business.

The Environment Agency established the National Waste Crime Survey to shed light on the extent and nature of waste crime. By gathering perceptions and experiences of waste crime from informed stakeholders (including those within the waste industry and potential victims such as landowners/farmers), the survey provides further insight into the scale of waste crime than can be gained from Environment Agency data alone.

In 2021 the National Waste Crime Survey found that according to respondents 18% of all waste was illegally managed, with respondents also perceiving waste crime to be increasing. This report aims to provide an update on these findings, specifically aiming to:

- Quantify the perceived scale and impact of waste crime types in England
- Understand what motivates people to commit waste crime in England, what enables it and what has the potential to deter waste crime
- Understand the willingness of the public and industry to report waste crime
- Identify whether action taken by the Environment Agency and our partners is perceived as being effective in reducing the scale of waste crime in England.

Members of the waste industry, service providers (such as local authorities and environmental consultants) and landowners/farmers were invited to complete the online survey, which ran for four weeks in February 2023. All responses were anonymous.

Key findings of the survey highlight the pervasive nature of waste crime, with an estimated 18% of all waste being illegally managed. Approximately 44% of organisations within the waste industry and 52% of landowners/farmers are affected by this issue. There is little evidence that waste crime has decreased in the past year, and some crimes (such as small-scale fly tipping) are thought to have increased. The waste industry also reported experiencing higher numbers of individual instances of mis-description of waste, relative to the 2021 survey. The financial consequences of waste crime are greater compared to previous years, with an average of 26% of respondents who are victims of waste crime, incurring costs greater than £50,000 in the previous 12 months.

The size of financial gains combined with the perceived low likelihood of apprehension were key motivators for waste crime. Respondents also perceive increased cost of living to

be increasing the scale of waste crime, as individuals and businesses seek to minimise costs.

The perception that the Environment Agency provides an effective deterrent is low, primarily due to perceived inadequate reporting mechanisms and unsatisfactory enforcement responses. These factors have left many individuals and organisations reluctant to report waste crime – with the survey finding that just 25% of waste crime is thought to be reported to the Environment Agency.

Overall, the survey tells us that waste crime remains big business, with an estimated 34 million tonnes of criminally managed waste. This is putting significant pressure on people, communities, the environment, and legitimate businesses, which is being exacerbated by the increased cost of living.

The Environment Agency is seen as a knowledgeable organisation, but it is unable to provide a consistently effective response or visible deterrent. Respondents to the survey perceive there are insufficient resources, hampering the Agency's ability to deliver, given the scale of the problem. This comes despite evidence showing that every £1 invested in waste crime enforcement delivers a potential £5 of returns in avoided harm, increased profits for legitimate industry, and increased tax returns.

The findings of this survey will now be used to shape the strategic response to waste crime. Evidence and insight gained will be used to aid the Environment Agency's ability to tackle the blight of waste crime in England. Armed with these findings, the Environment Agency can enhance its efficiency and effectiveness in eliminating waste crime and creating a sustainable environment.

# Introduction

Waste crime in England is widespread and criminals can make large profits from illegally handling waste. This causes damage to the environment, harms local communities, and undercuts legitimate businesses. It has been estimated to cost the English economy £1 billion per year (ESA 2021), though even this may underestimate the true financial impact of waste crime.

The term 'waste crime' includes dumping or burning waste, illegally shipping waste abroad, and deliberately mis-describing waste to evade landfill tax, as well as operating illegal waste sites or persistent and purposeful noncompliance with permit conditions. Perpetrators of waste crime actively seek to avoid detection, resulting in a challenge for the Environment Agency to quantify the true scale of waste crime, and the extent of its impact.

The National Waste Crime Survey was first established in 2020 with the aim of using respondents' perceptions and experiences to gain independent insight into the scale and nature of waste crime. The survey can therefore provide unique insight and perspective. This first survey was predominately aimed at the waste industry and was considered a pilot. The survey was repeated in 2021 (Environment Agency 2021), with some modifications to the questions and an extension of the scope to include farmers (given their insight into waste crime as private landowners). These modifications, along with enhanced promotion of the survey, increased responses and established the National Waste Crime Survey as a useful tool in assessing the scale and nature of waste crime.

In 2021 respondents to the survey perceived waste crime to be widespread (18% of all waste was estimated to be illegally managed) and respondents felt that waste crime had increased, rather than decreased over the preceding 12 months. There was a perception that this was being driven by the size of financial gain, combined with a low likelihood of being apprehended. The survey also found that waste crime was underreported - respondents estimated only 25% of waste crime events were reported to the Environment Agency.

In February 2023 the third iteration of the survey was launched, developing the National Waste Crime Survey as a tool to track changes in the perception of waste crime. Since the last round of the National Waste Crime Survey restrictions imposed due to COVID-19 came to an end and (following EU exit) full customs controls were implemented. In addition, there has been an increase in the cost of living. These events may all impact the scale and effect of waste crime within England. Alongside these changes, there has been increased attention on waste crime. The National Audit Office published their investigation into government's actions to combat waste crime (NAO 2022) which has also been the subject of a House of Commons Committee of Public Accounts (Committee of Public Accounts 2022).

These reports acknowledge that the Environment Agency and Defra do not know the true scale of waste crime, recognising that this is in part due to underreporting. The National

Waste Crime Survey therefore seeks to understand why people may fail to report a waste crime offence. Waste criminals' avoidance of detection also means that tactical operations and targeted resource are required to quantify the scale of waste crime. This ties the Environment Agency's empirical metrics and knowledge of the scale of waste crime to the resource available for investigation. For example, during the COVID-19 pandemic internal metrics found that the number of illegal waste sites appeared to fall, however, this should be considered alongside the knowledge that there was a fall in the ability of Environment Agency's officers to substantiate reports, which may explain the reduction. Furthermore, counts of the number of illegal waste sites do not consider substitution and displacement, where one site may relocate following disruption, and this would lead to underestimating the scale of waste crime. The survey is an independent method to supplement the Environment Agency's resources and internal metrics. By using the waste industry and potential victims' knowledge alongside the Environment Agency's data, more insight into the scale of waste crime can be gained.

The Public Accounts Committee also highlighted that there are insufficient deterrents (both through insufficient sanctions and insufficient risk of sanctions) to tackle the profits that illegal waste management can earn (particularly through avoiding the appropriate landfill tax). The survey aims to understand what the waste industry considers to be an effective deterrent, as well as revealing the perception of the Environment Agency's current deterrence posture. By repeating the survey every one to two years, it will be possible to track the impact that enforcement actions have on the scale and nature of waste crime within England.

## Objectives

For this iteration, the survey was designed to build on the knowledge base established in 2021 and provide an update on the scale and nature of waste crime.

Specifically, the objectives were to:

1. Quantify the perceived scale and impact of waste crime type in England
2. Understand what motivates people to commit waste crime in England, what enables it and what has the potential to deter waste crime
3. Understand the willingness of the public and industry to report waste crime
4. Identify whether action taken by the Environment Agency and our partners is perceived as being effective in reducing the scale of waste crime in England.

# Methodology

The National Waste Crime Survey 2023 was commissioned by the Head of Waste Regulation at the Environment Agency. The research was carried out by SYSTRA consultants (SYSTRA, 2023). It ran as an online survey from 6<sup>th</sup> February 2023 – 27<sup>th</sup> February 2023.

Respondents to the survey were characterised as representing one of three target groups:

- Waste industry
- Landowners/farmers
- Service providers (including local authorities and environmental consultants)

Potential respondents (table 1) received weekly email reminders, which invited them to complete the survey. This email explained the objectives of the survey and that responses to the survey would be treated with anonymity. To maximise the survey response rate, stakeholders representing the target response groups were consulted during the survey design phase and then assisted in sharing the survey to their membership bases. This included United Resource Operators Consortium, Environmental Services Association, Chartered Institution of Wastes Management, National Farmers Union, and Local Government Association. Finally, the Environment Agency promoted the survey through its social media channels, alongside information on how to report waste crime through Crimestoppers.

**Table 1 The total number of emails sent to specific target groups with an invitation to complete the national waste crime survey.**

Target Group	Number contacted
Sample list of those in the waste industry, purchased from Experian	4112
Sample of Environment Agency waste permit holders	6045
Sample of Defra register of landowners/farmers	6568
Sample of Environment Agency exemption holders	1449
<b>Total</b>	<b>18174</b>

## Wisdom of the crowds

Several questions in the survey used a 'wisdom of the crowds' approach. This method aims to utilise the collective knowledge of a group to produce average estimates, by aggregating individuals' answers (Centola 2022). The approach assumes the sample respondents have a diverse range of opinions, specialised local knowledge and can state independent views. Broadly, the groups targeted in this survey meet these requirements, with perspectives across the waste industry (including a range of size organisations and sectors), landowners/farmers, and service providers as well as geographical spread. In addition to the survey, 10 in-depth telephone interviews (referred to as qualitative interviews) were carried out. Insights from these interviews have been used to aid in the interpretation and contextualisation of the survey findings.

However, this survey and interview approach relied upon a self-selecting sample, which is a limitation of this research. Those who have experienced waste crime or those who hold strong opinions on the Environment Agency may have felt more motivated to reply than those who have not experienced waste crime, or those who commit waste crime themselves. This predisposition may be particularly present for individuals who volunteered to partake in the interviews. It's therefore reasonable to assume a degree of bias in responses, that cannot be controlled for. Furthermore, it is possible views from respondents were not truly independent or diverse as respondents' opinions may be informed by their consumption of materials by trade press or industry associations. The Environment Agency also circulate waste crime statistics and reports, which could have informed respondents' opinions prior to completing the survey, for example respondents may have been aware of the finding that 18% of waste was estimated to be illegally managed in 2021. However, all responses reflect the perceptions of those working in the waste industry or those who may be victims of waste crime. This survey produces a subjective measure of the scale of waste crime and should not be treated as the true scale of waste crime.

## Modifications to 2021 survey

Whilst the survey aimed to track changes in the perception of the scale and nature of waste crime, modifications to the question set have been made between survey years. This was to improve response rate, gain a better understanding of current events, and to reflect changes in the Environment Agency's approach to tackling waste crime. In 2023, the survey included small-scale fly tipping as an additional waste crime type for the first time. This was defined separately from large-scale fly tipping throughout the survey:

- Large-scale fly-tipping - waste abandonment, including illegal deposits of waste of more than one lorry load of waste
- Small-scale fly-tipping - waste abandonment of less than one lorry load of waste

In England, the Environment Agency is responsible for dealing with fly tips that are large-scale (more than 20 tonnes), contain hazardous waste (more than 5 cubic metres of asbestos, or 75 litres of potentially hazardous waste in drums/containers) and fly-tipping

by organised criminal groups (Smith, 2022). Small-scale fly tipping as defined by the survey is outside of this remit. However, by including small-scale fly tipping in the survey, a more complete picture of waste crime can be achieved. This recognises that, particularly for landowners, small-scale fly tipping is suspected to be one of the more prevalent types of waste crime. To avoid extending the overall survey length (a risk to response rate) some questions were removed in 2023, primarily 'direct' questions. This style of question asked respondents if they had been tempted to commit waste crime, personally. Given the incriminating nature of direct questions the resulting data was considered less reliable (and therefore less valuable) than the responses to other questions.

In 2023, the survey was also sent directly to a sample of exemption holders, a new target group. This was to increase representation of groups who are adjacent to the waste industry and may interact with waste handlers.

# Results

## Sample profile

The survey garnered responses from 841 people (19 respondents were excluded based on the inclusion criteria of needing to have a role in relation to waste or landowner/farmer status). There was a response rate of 3.7% (for those who were emailed the survey directly rather than who accessed the survey through social media, table 1). At this sample size, the maximum confidence interval was  $\pm 3.4\%$ , at a 95% confidence level (in 2021 the confidence interval was also  $\pm 3.4\%$  (Environment Agency, 2021); differences between surveys of greater than 6.8% of respondents would therefore be considered statistically significant).

Of the 841 respondents, 346 worked within the waste industry (table 2). Those with a role in waste management covered a range of sectors (most commonly construction and demolition, recycled materials, or household/commercial waste). There were 459 responses from landowners/farmers and 84 from service providers (including local authorities and consultants).

**Table 2: The total number of respondents and the groups they belong to (either waste industry, landowners/farmer, and service providers) along with the percentage of total occupancy or overlap between groups, for example 346 respondents were from the waste industry, 16% of which were also landowners/farmers.**

Group	Waste industry	Landowners/farmers	Service providers
Waste industry	100%	12%	11%
Landowners/farmers	16%	100%	8%
Service providers	3%	2%	100%
Total number	346	459	84

The geographical spread of respondents included representation from each of the Environment Agency areas. There was a range of organisational sizes, though most respondents represented smaller organisations (73% of respondents worked for organisations with fewer than 50 employees).

# Objective 1: Quantify the perceived scale and impact of waste crime in England

## Scale of waste crime

**Waste crime is widespread – respondents from the waste industry estimated that 18% of all waste is illegally managed.** Based on the 2018 England statistics on waste, this equates to 34 million tonnes. This finding was consistent with 2021 National Waste Crime Survey estimate (Environment Agency, 2021). In England, respondents estimated that 43% of waste industry organisations are affected by waste crime, and that 52% of landowners/farmers or managers are affected.

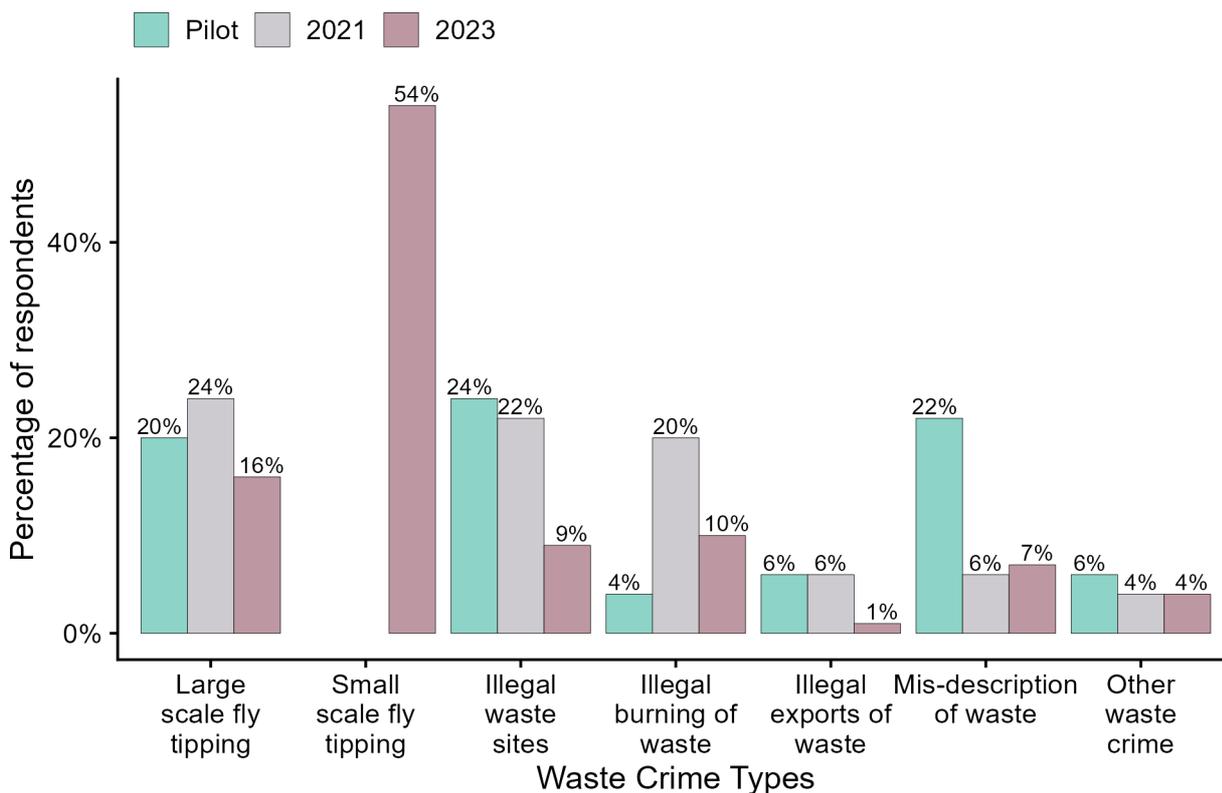
Respondents were asked to estimate what percentage of other organisations in their Environment Agency area were affected in any way by waste crime (therefore estimates will include those affected by small-scale fly tipping). This revealed geographical variation in the estimated scale of waste crime, along with variation between respondent groups. The waste industry estimated that Wessex and East Anglia have the highest proportion of waste organisations affected by waste crime (an estimated 48%, N=34 and N=32, respectively) compared to Solent and South Downs, which had the lowest estimated scale (30% of waste organisations, N=19). Within specific geographic regions landowners/farmers estimated the percentage of other landowners and farmers to be affected by waste crime was higher than the waste industry estimates, ranging from 73% in Kent, South London and East Sussex (N=47) to 38% in Greater Manchester, Merseyside and Cheshire (N=17). However, the lower number of respondents from some areas, such as landowners and/or farmers in Greater Manchester, Merseyside and Cheshire or waste industry respondents in Solent and South Downs limits the ability to compare across areas and estimates of crime specific to areas should be interpreted with caution.

Respondents were then asked about their own experiences of specific waste crime types and the impact this has had on their organisation, land, or clients. Table 3 shows that small-scale fly tipping has affected the greatest proportion of survey respondents compared to other waste crime types, regardless of the group. However, a higher percentage of respondents who were landowners/farmers were impacted by small-scale fly tipping than in other groups (86% of landowners/farmers have been impacted by small-scale fly tipping compared with 52% and 76% for the waste industry and service providers respectively). Across all groups, fewest respondents reported being impacted by illegal waste exports.

**Table 3 The percentage of respondents who reported being affected by each waste crime type (combining respondents who selected both ‘directly’ and ‘indirectly’), split into the three respondent groups: waste industry, landowners/farmers, and service providers.**

<b>Waste Crime Type</b>	<b>Waste Industry respondents affected (%)</b>	<b>Farmer &amp; landowner respondents affected (%)</b>	<b>Service provider &amp; local authority respondents affected (%)</b>
<b>Large-scale fly tipping</b>	28%	20%	59%
<b>Small-scale fly tipping</b>	52%	86%	76%
<b>Illegal waste sites</b>	33%	9%	56%
<b>Illegal burning of waste</b>	18%	15%	47%
<b>Illegal exports of waste</b>	7%	1%	14%
<b>Mis-description of waste</b>	27%	2%	23%

**Compared with 2021, there was a lower proportion of respondents directly affected by large-scale fly tipping, illegal waste sites and illegal burning of waste in the last 12 months (figure 1).** It is likely, however, that rather than a decline in waste crime, this seeming reduction reflects differences between surveys. Respondents in 2021 did not have an option to discuss small-scale fly-tipping within the survey, and therefore may have included this type of crime in their assessment of the impact of other waste crime types. However, this evidence may suggest there has been a decline in illegal burning of waste and future iterations of the survey will be needed to confirm this potential decline.



**Figure 1** Bar chart to show the percentage of respondents who were directly affected by waste crime in the pilot study, 2021 and 2023 (SYSTRA, 2023). This has decreased across most crime types, except for mis-description. Question: “*Have [you, or your organisation / the land you own or manage / your clients] been affected in any way by waste crime in the past 12 months, either directly or indirectly?*” N= 239 - Pilot survey, 813 – 2021 survey, 841 – 2023 survey.

### Scale of mis-description

Respondents who had reported experiencing mis-description of waste were asked to estimate the number of individual incidents in the last 12 months. Respondents in 2023 estimated an average of 127 individual incidents, over double the number of incidents estimated in 2021. Likewise, whilst in 2021 a quarter of respondents thought that mis-description was a daily occurrence, in 2023, this increased to 38% of respondents. Waste industry respondents believed that **1 in 4 competitors mis-describe waste and estimated that organisations who mis-describe waste evaded 35% of their landfill tax bill** in the last 12 months (N=131). This finding was consistent with the 2021 survey.

During qualitative interviews a theme emerged that the rate of mis-description is likely to continue increasing. Furthermore, whilst important, evading landfill tax was not the only motivator that was highlighted. Some participants felt that mis-description of waste is driven by illegal operators mis-describing primarily to dispose of waste more easily in landfills, rather than being solely motivated by landfill tax evasion. Other participants felt

that regulations around waste processing and the categorisation of waste materials need clarification.

*'I would describe mis-description of waste as very common; I wouldn't always say it's deliberate. There is a lack of education in the industry as to how to classify waste properly and I do think that companies that do deal in waste need better technical education in how to deal in waste.'*

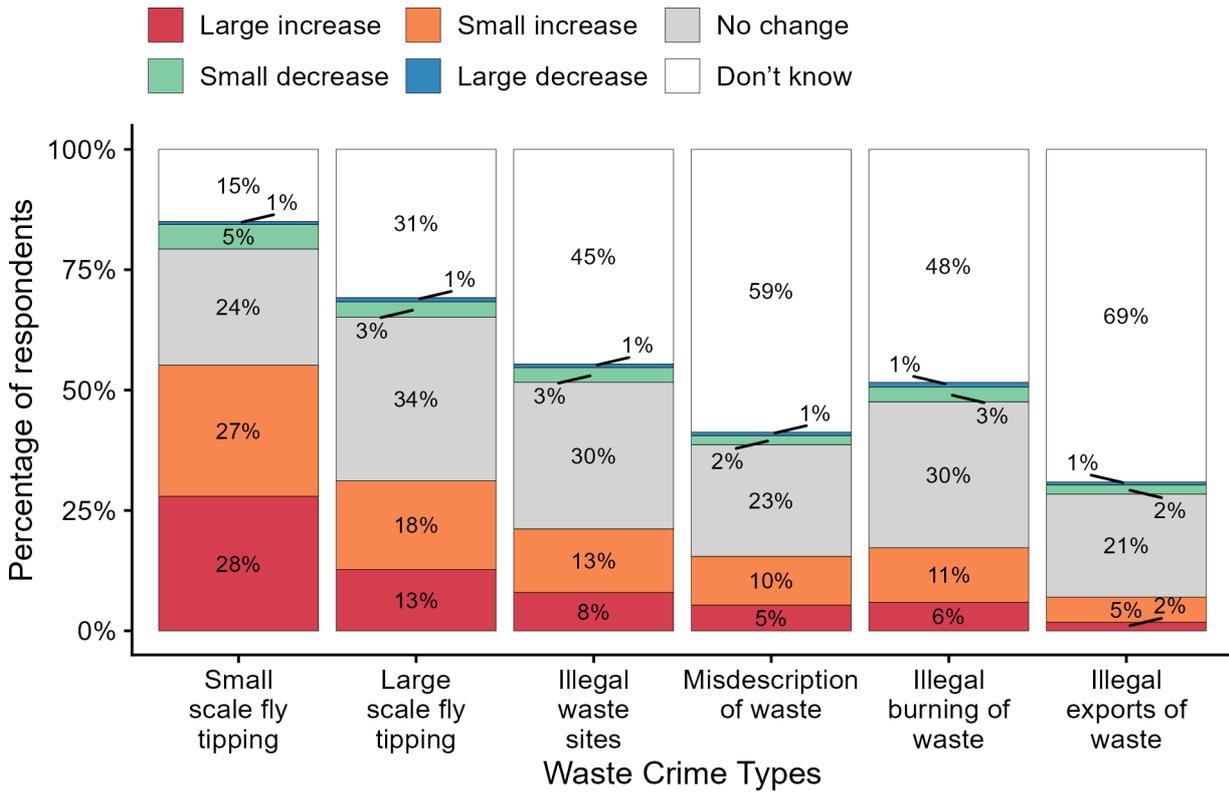
This may imply waste operators are neglecting their duty of care, potentially through a lack of understanding. However, within the waste industry there are several educational opportunities and qualifications, such as WAMITAB (HSEC Services, 2023). When asked 'to what extent do you understand waste duty of care requirements', 99% of respondents working in waste treatment and/or disposal stated they 'fully' or 'mostly' understand the requirements. Of those who understood duty of care requirements, 37% reported turning away waste that they suspected violated duty of care.

## **Producer responsibility regulations**

The Environment Agency also seeks to tackle producer responsibility fraud as part of its waste crime remit. Respondents in the waste industry were asked how accurate they felt nationally reported recycling rates are for batteries (respondents were informed that this was 46% in 2021) and packaging (63% in 2021). Only 8% of the respondents felt these proportions were accurate, or 'almost accurate' with the majority (40% for batteries and 45% for packaging) of respondents selecting 'somewhat accurate'. Respondents who felt the recycling rates were not accurate were asked what they estimated the actual rate to be. For batteries the average estimate was 42% (4 percentage points lower than the reported statistic) and for packaging this was estimated to be 38% (25 percentage points lower than the reported statistic). Similarly, when asked about their perception of accuracy in waste electrical and electronic equipment data and evidence notes, only 13% of respondents from the waste industry considered these to be accurate or 'almost accurate' and 36% of respondents felt these were 'somewhat accurate'. However, 37% of waste industry respondents selected 'Don't know' for this question.

## **Perceptions of the changing scale of waste crime**

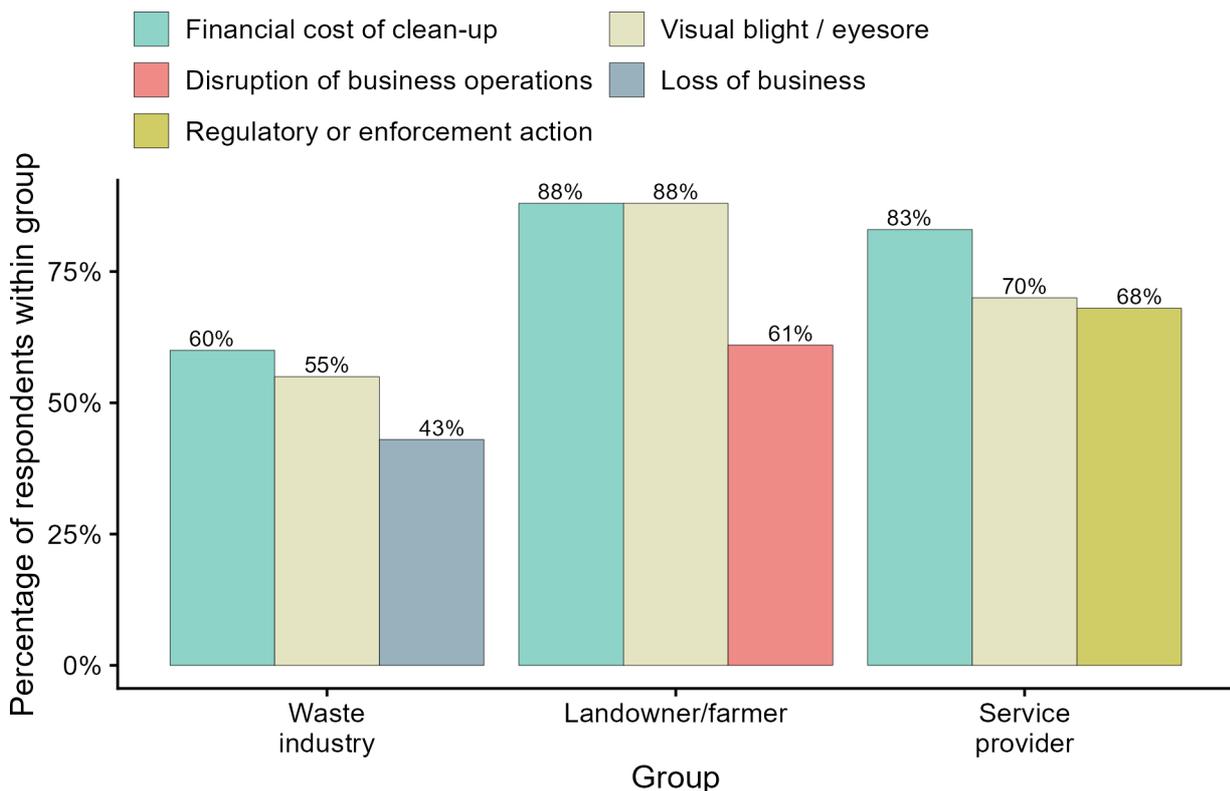
Respondents were asked if they felt specific waste crimes had increased (or decreased) over the last 12 months. This revealed the common perceptions are that waste crime has increased (small-scale fly tipping) or remained the same as previous years (figure 2). Very few respondents felt that any waste crime type had decreased in scale over the last 12 months. However, this finding should be treated with caution given the high percentage of respondents who selected "don't know", particularly for changes in illegal waste exports or mis-description of waste. Furthermore, this contrasts the finding that a lower percentage of respondents have been directly affected by large-scale fly tipping, illegal waste sites and illegal burning of waste (figure 1). The waste industry were more confident in their perception of change in the scale of mis-description (43% of the waste industry selected "don't know"), with 24% stating it had increased over the last 12 months.



**Figure 2** Stacked bar chart to show the percentage of respondents who perceived there to be a change in the prevalence of waste crime in the last 12 months, from a large increase through to a large decrease. All percentages are rounded and may not total to 100% within each bar. Question: “Which best describes the change in number of waste crimes committed in England over the last 12 months?” (N= 841).

## Impact of waste crime

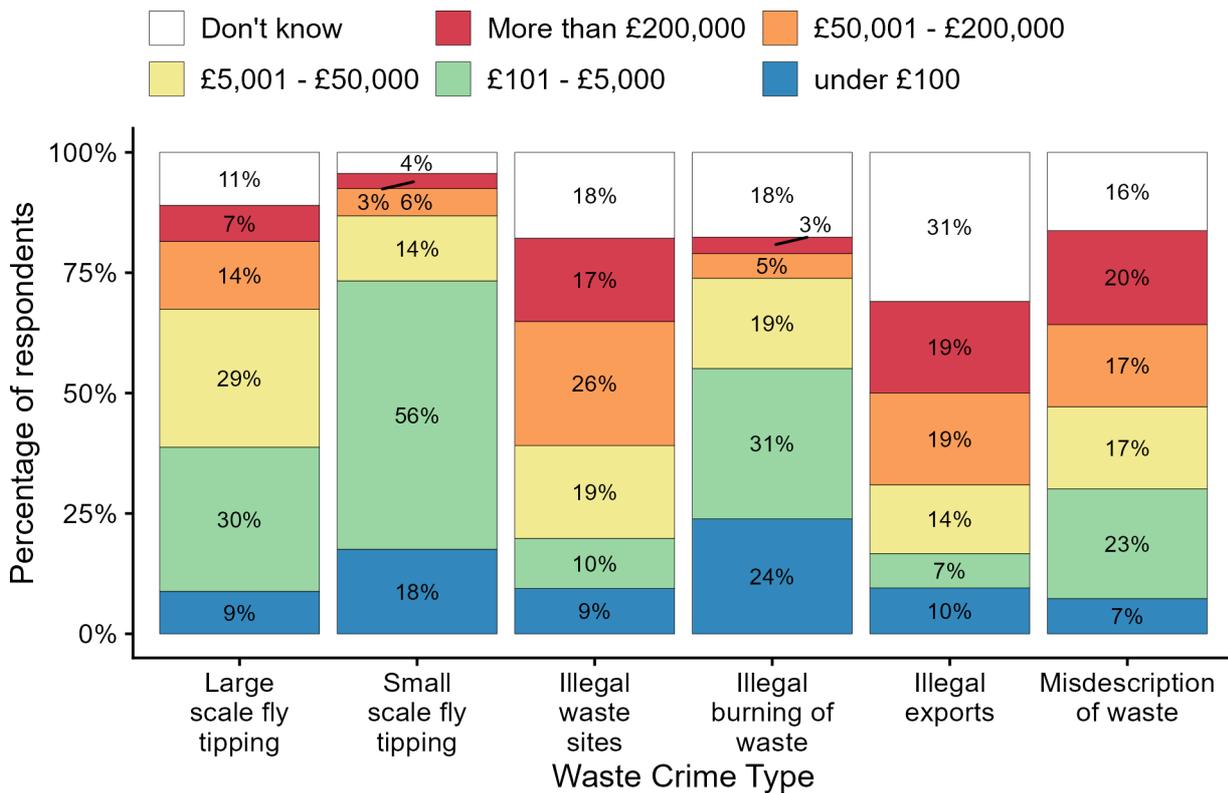
Whilst the survey cannot address the long term environmental or amenity impacts, respondents were asked about their experiences over the last 12 months to better understand the immediate impacts of waste crime. Of respondents who had been impacted by waste crime, **the financial costs (of clean-up and otherwise) and the disruption to business affected the highest percentage of respondents**, though impacts varied between groups (figure 3).



**Figure 3** Bar chart to display the top three most selected impacts of waste crime by respondent group. Question: “*In what way have waste crime incidents impacted [your organisation / the land you own or manage / your clients], the wider community, and the environment in the past 12 months?*”, N= 217 (waste industry), 138 (landowners/farmers), 60 (service providers), asked only to those impacted by waste crime.

In addition to these common impacts, 27% of respondents were impacted by air pollution and pollution to river or water course, and 13% reported waste crime having a negative impact on mental health (amongst other impacts). Respondents also used free text boxes to report other impacts that included loss of reputation to their sector and specific health concerns relating to dumping of waste.

During qualitative interviews, the main impact of waste crime discussed by participants was loss of business. Waste criminals can avoid fees through a range of avenues, including operating without a permit, dumping waste or mis-describing it. This not only lowers overheads relative to legitimate business, but it also allows criminals to artificially undercut the market and attract more business, further enhancing profits.



**Figure 4 A** stacked bar chart to show the percentage of respondents who incurred financial costs (ranging from under £100 to over £200,000) due to experiencing waste crime, over the last 12 months. All percentages are rounded and may not total to 100% within each bar. Question: “What is the total financial cost (including loss of business) of [waste crime type] [to your organisation / on the land you own or manage / to individual clients] in the past 12 months?” N=613 (asked to those who had been affected by each waste crime)

To understand the financial impact that waste crime has, respondents were asked to estimate their total financial costs resulting from waste crime they had experienced during the previous 12 months (figure 4). Given the number of respondents per waste crime type and cost bracket and using the minimum and maximum range of each cost bracket, respondents’ total financial impact can be estimated for the period February 2022 – February 2023. This was found to be between £60.8 - £86.3 million (N=613 respondents). **Illegal waste sites had the greatest financial impact; 43% of respondents who had been impacted by this crime reported costs of more than £50,000.** This was followed by mis-description, with the estimate of financial impact across all respondents totalling at least £13.5 million (N= 123 respondents).

The proportion of respondents who experienced over £50,000 financial costs from each type of waste crime was higher in 2023 than 2021, suggesting the financial impact of waste crime is becoming worse. The greatest increase between surveys was found in illegal waste sites (15% more respondents in 2023 experienced costs over £50,000), followed by mis-description (13% increase).

## Objective 2: Understand what motivates people to commit waste crime in England, what enables it and what will deter people

### Who commits waste crime?

Waste industry employees estimated that 18% of organisations working in the waste industry in England commit waste crime. This overall estimate was the same as 2021, and when asked about specific waste crime types, **2023 respondents estimated a similar percentage of organisations commit each waste crime type relative to the estimates made in 2021** (Table 4). Furthermore, 39% of waste industry respondents felt that waste crime is a daily occurrence, with 72% and 73% of waste industry respondents considering mis-description and illegal waste sites to occur at least weekly, respectively. Whilst this was a significant increase relative to 2021, further iterations of the survey would be required to confirm if there is a consistent trend or whether respondents' estimations for this question fluctuate year to year (perhaps due to lower knowledge of the subject).

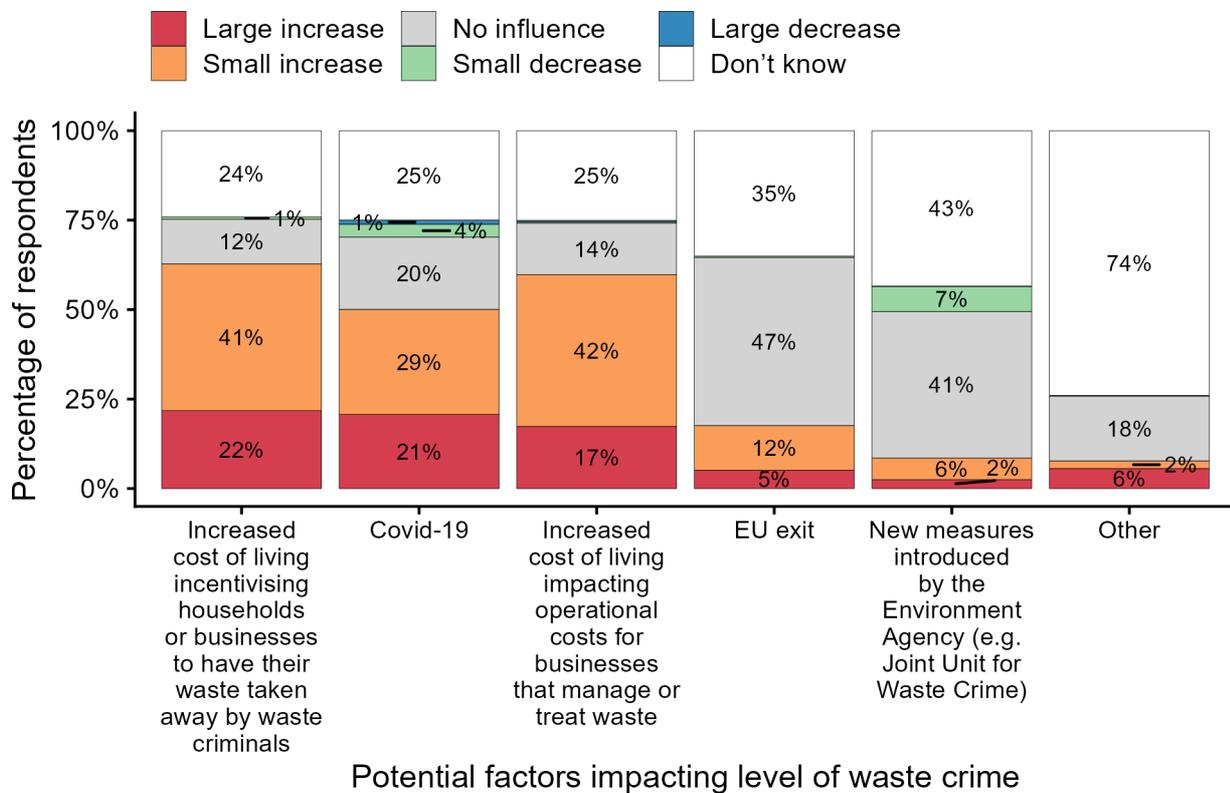
**Table 4 A comparison of the percentage of organisations committing waste crime, as estimated by respondents in the waste industry in 2021 and 2023.**

Waste Crime	2021 estimate	2023 estimate
Mis-description of waste	24%	27%
Illegal waste sites	18%	19%
Illegal burning of waste	13%	14%
Large-scale fly tipping	12%	16%
Illegal exports of waste	17%	16%
Small-scale fly tipping	NA	19%

Respondents reported that waste crime is committed by both individuals and in some cases by organised crime groups. A third (34%) of landowners/farmers and those in the waste industry felt that waste crimes are most likely to be committed by someone working alone and 87% felt that waste crimes are most likely to be committed by repeat offenders. **On average respondents (waste industry and/or landowners/farmers) estimated that 31% of all waste crimes are committed by organised crime groups.** When asked about if and where waste crime is organised or advertised online, 18% of respondents

were aware of waste crime activities being arranged via Facebook (including Facebook marketplace), though most were not aware of online activity at all (79%).

## Waste crime drivers



**Figure 5** Stacked bar chart to show the extent to which respondents felt waste crime was changed by a range of recent events. ‘Other’ potential factors stated in the free text response included closures and charges at recycling centres, and a lack of deterrence. All percentages are rounded and may not total to 100% within each bar. Question: “Have any of the following factors contributed to a change in the overall level of waste crime in England in the last 12 months?”, N= 841.

Respondents were asked if factors at a national scale had influenced the level of waste crime. The rising costs of living were thought to have impacted the level of waste crime activity by the highest proportion of respondents (figure 5), acting in two ways. Firstly, 63% of respondents felt this had contributed to an increase of the supply of waste to criminals (by business and households). Secondly, 59% of respondents felt the additional financial pressures on businesses working in the waste industry also increased waste crime activity.

This view was supported during the qualitative interviews. One example was given of a business experiencing increased insurance premiums due to waste crime in the area, whilst others suggested they were being undercut in the market by businesses not paying full licensing fees.

*‘There just seems to be more everywhere... especially tipping.... More people are getting drawn into waste crime because it’s an easy way to save and make money.’*

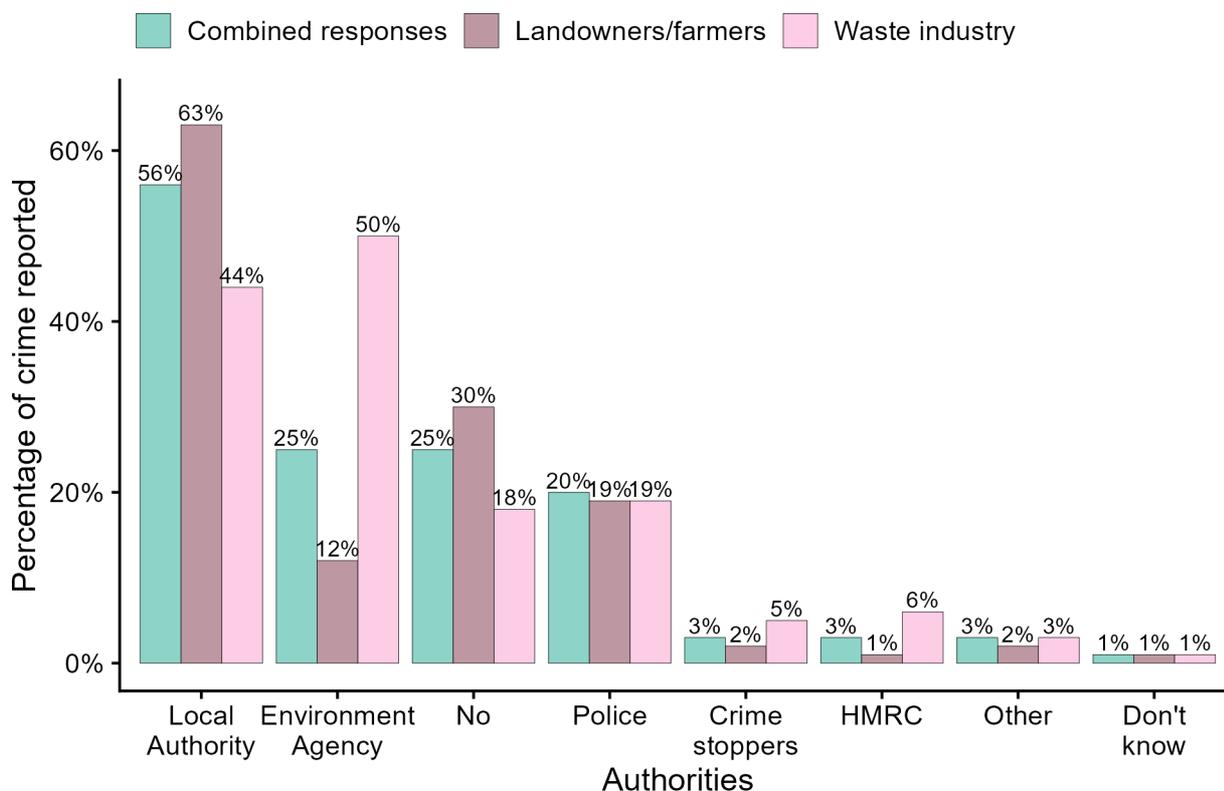
In 2021, respondents felt that the COVID-19 pandemic was the predominant factor increasing waste crime (62% of respondents stated it had increased waste crime). This year, COVID-19 was still thought to be contributing to increased waste crime by 50% of respondents. During the qualitative interviews it was suggested that this maybe because businesses are put off applying for a waste permit due to the perception of backlogs caused by Covid-19. The Environment Agency acknowledges there have been delays in the permitting process in the latest regulating for people, environment, and growth report (Environment Agency, 2022).

Respondents estimated that the biggest motivators for waste crimes were the size of financial gain, low likelihood of detection, and low likelihood of penalties/enforcement being applied (table 5). This is consistent with the findings in 2021.

**Table 5 The top 5 most selected motivators of waste crime, in rank order. Question: “Which of the following factors do you believe motivate waste crime?” (N= 749, waste industry and/or landowners/farmers).**

<b>Perceived motivators of waste crime</b>	<b>Percentage of respondents</b>
<b>Size of financial gains</b>	84%
<b>Low likelihood of detection</b>	78%
<b>Low likelihood of penalties/enforcement measures being applied</b>	68%
<b>Penalties/enforcement measures do not match the potential gains</b>	61%
<b>Slow delivery of penalties/enforcement measures</b>	49%

## Objective 3: Understand the willingness of the public and industry to report waste crime



**Figure 6** Bar chart to show the percentage of respondents (waste industry, landowner/farmers, and combined percentage) who have reported waste crime, and to which authority (based on their most recently experienced waste crime incident). ‘Other’ authorities stated in the free text response included fire department, DVLA, and local land manager. Question: “Please think about the most recent incident of waste crime that you, or your organisation, has experienced. Was the incident reported to authorities?”, N=539 (those in the waste industry (N=202) and/or landowners/farmers (N=375) who had experienced waste crime)

**On average, respondents estimated that one quarter (24%) of waste crime incidents are reported to the Environment Agency, consistent with 2021.** Respondents were also asked if they had reported their most recent experience of waste crime and similarly, only 25% of respondents had reported this incident of waste crime to the Environment Agency. A higher proportion of respondents in the waste industry reported the crime to the Environment Agency compared to the landowner/farmer group (figure 6), where the highest proportion of waste crime incidents were made to local authorities. This difference between groups may reflect the types of crime being experienced (table 3) and the remit of authorities in relation to waste crime types (the advice for most small-scale fly tipping incidents is not to report it to the Environment Agency).

Once a report had been made to the Environment Agency, 31% of respondents stated that they did not receive any follow up on this report. Only 19% of respondents reported that there was a follow up that detailed the action taken (a further 17% had follow up to confirm

no action would be taken, and the remaining 33% didn't know if there was follow up or if there was action). However, of the group who were informed action was taken, only 54% of respondents were satisfied with the action. This shows many respondents have been left unsatisfied with the outcome of their report, either due to uncertainty around the follow up, or when there had been follow up there was a lack of action (78% of the respondents who were told there would be no action felt this was an unsatisfactory outcome).

Given the low reporting rates found in 2021 (which have been replicated in the 2023 iteration), the survey explored why respondents may not report waste crime to the Environment Agency. This revealed variation in awareness of reporting routes. When asked about confidence in knowing where to report waste crime to, only 32% of landowners/farmers and 66% of waste industry employees were 'very confident' or 'quite confident' in reporting illegal exports of waste. In contrast, respondents were much more confident in knowing where to report fly tipping (72% of landowners/farmers were confident in reporting small-scale fly tipping and 67% in reporting large-scale fly tipping, this was 83% for small-scale and 84% for large-scale fly tipping for waste industry employees).

However, when asked why waste crime hasn't been reported to the Environment Agency, respondents stated they are unlikely to make a report to the Environment Agency as they feel there is little that the agency can do to bring perpetrators to justice. Other popular options selected were if a report has been made to another authority (or if respondents were unaware that the incident should be reported to the Environment Agency) or if the loss/damage was negligible. A quarter of landowners/farmers said they'd not reported to the Environment Agency because they have experience of the Environment Agency not acting on past reports.

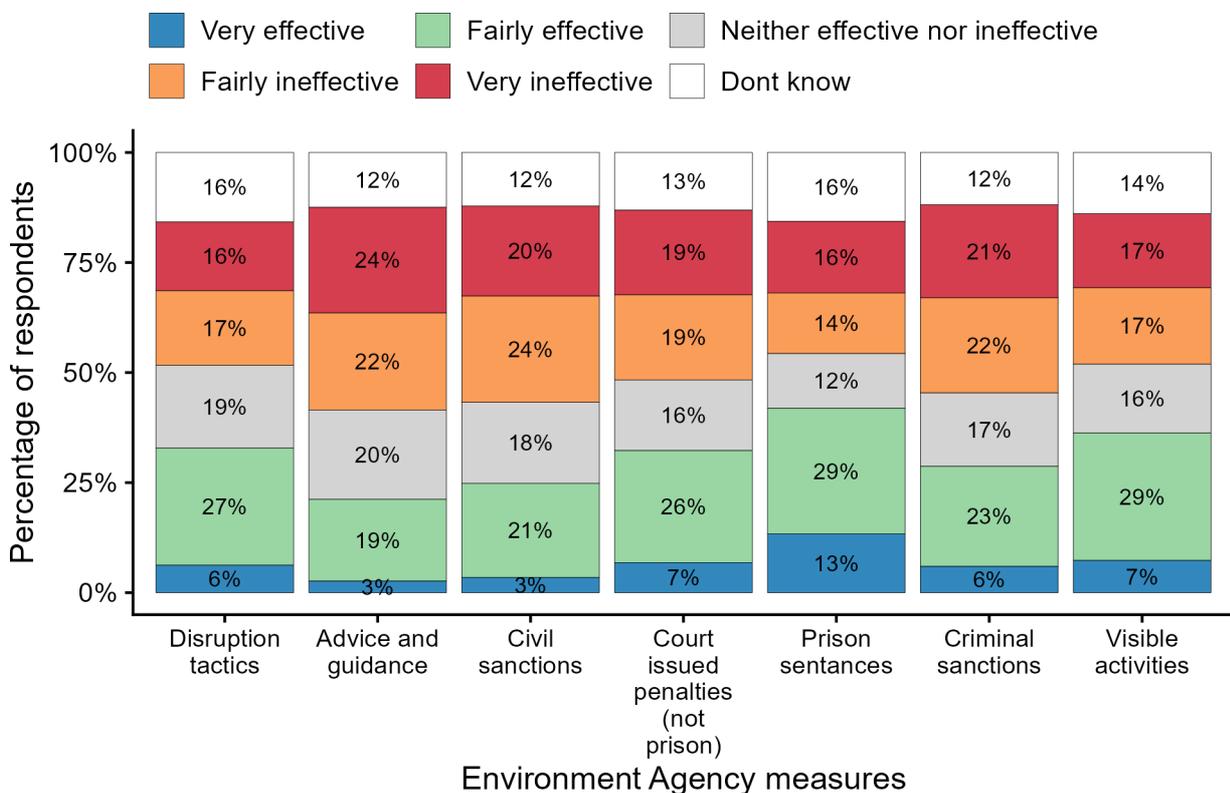
During the qualitative interviews it was clear that participants' experiences of reporting waste crime to the Environment Agency were generally considered unsatisfactory. Participants expressed dissatisfaction with the responsiveness of the Environment Agency and cited slow response times to reports along with a lack of feedback in terms of action taken.

*'I have a poor experience of reporting waste crime, I reported it to the hotline and what I felt was that, as an interested party who saw something that was wrong, there was no feedback to let me know that my concerns had been tended to and action was or was not taken. It was left with oh thank you and left... It has actively made me feel like what's the point in reporting it because no action was taken.'*

## Objective 4: Identify whether action taken by the Environment Agency and partners is perceived as being effective in reducing the scale of waste crime

Opinions on what makes an effective deterrent against waste crime mirrored the factors that were identified as motivators. The highest proportion of respondents selected financial penalties, followed by the likelihood of being caught, the likelihood of being imprisoned (or other enforcement), confiscation of vehicles and swiftness of sanctions.

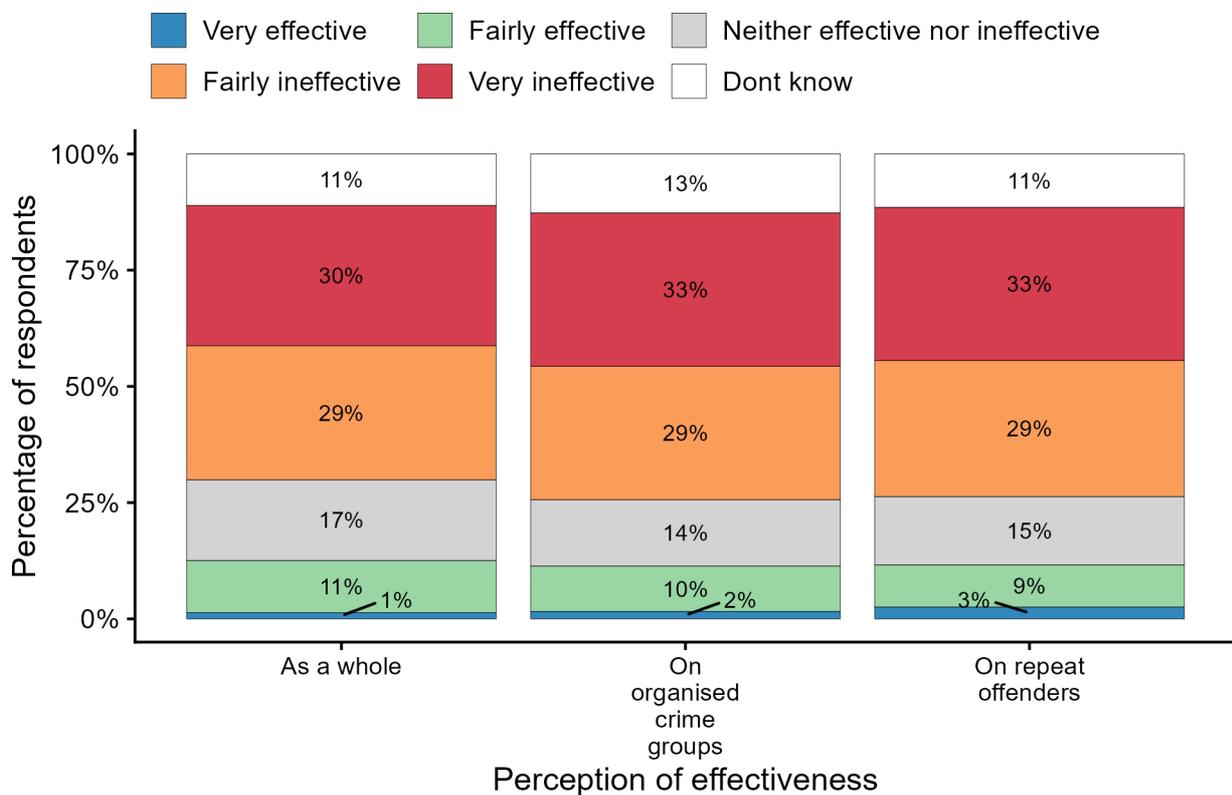
When asked how effective a selection of methods that the Environment Agency uses to deter and enforce against waste crime are, respondents' selections reflected this ranking (figure 7). Prison sentences were ranked 'very' or 'fairly effective' by 42% of respondents, making this deterrent the most favourably rated. In contrast, fewest respondents felt that advice and guidance was an effective deterrent and a further 46% of respondents ranked this as 'fairly' or 'very ineffective'.



**Figure 7** Bar chart to show the percentage of respondents who ranked the different actions available to the Environment Agency in terms of efficiency (ranging from very effective to very ineffective). All percentages are rounded and may not total to 100% within each bar. Question: "To what extent do you think each of these individual measures undertaken by the Environment Agency have been effective in deterring people from committing waste crimes in England?", N= 749 (waste industry and/or landowners/farmers)

Participants of the qualitative interviews thought that they had good awareness of the full range of sanctions that the Environment Agency could use to tackle waste criminals. They felt that financial and custodial sentences were the most effective in tackling waste crime.

One person expressed the view that serious custodial sentences are more effective than financial penalties – citing an incident where waste criminals were sentenced to jail time, sending ‘shockwaves’ through the industry. However, some felt that seizing vehicles would be more effective, especially for smaller businesses (when asked during the survey “what is the most important feature of an effective waste crime deterrent?”, 30% of respondents selected ‘temporary confiscation of vehicles, plants, and machinery’). There was a consensus amongst interviewees that while the severity of the sanctions may be appropriate, sanctions are only effective as deterrents when individuals and businesses believe they will be implemented. Therefore, interpretation of figure 7 (for example, 42% of respondents considered prison sentences to be an effective deterrent) should be caveated with the evidence that waste crime known to the Environment Agency (and thus with the potential to be punished) is only a small proportion of the total waste crime activity the waste industry is aware of.



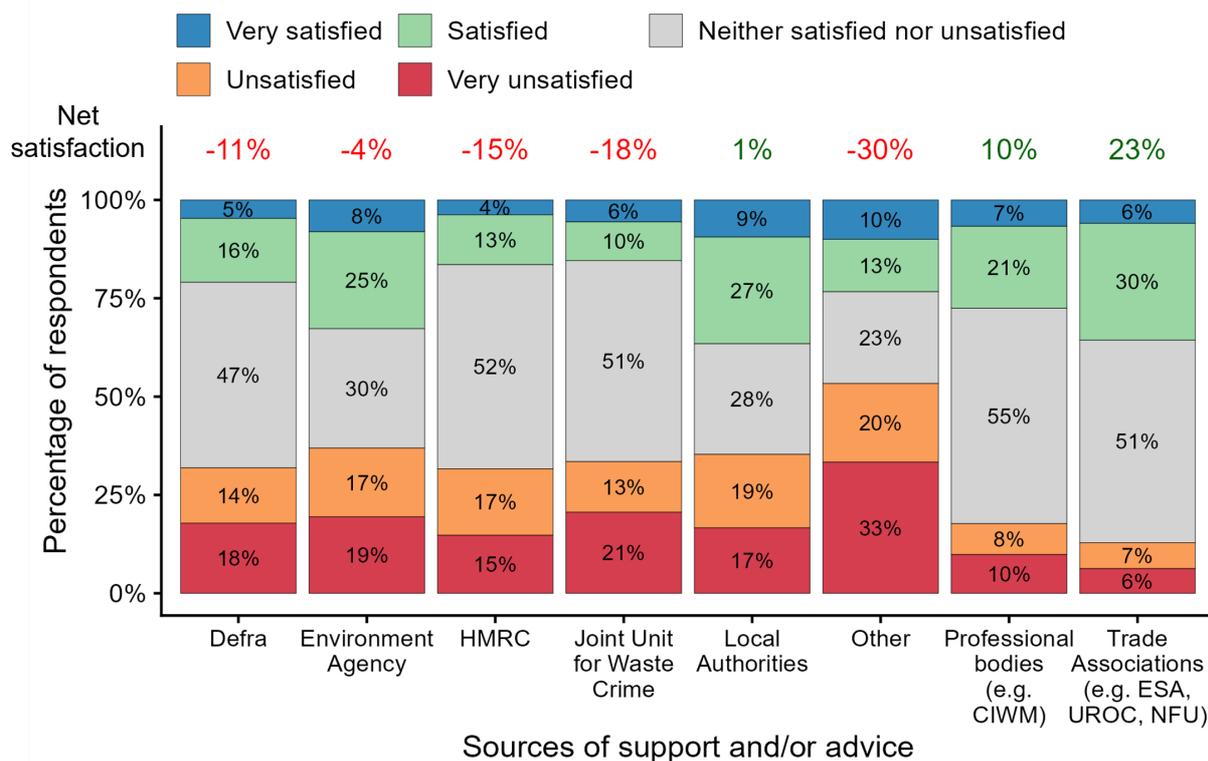
**Figure 8** Bar chart to show the percentage of respondents who ranked the Environment Agency’s deterrence in terms of effectiveness (ranging from very effective to very ineffective), in tackling waste crime. All percentages are rounded and may not total to 100% within each bar. Question: “At an overall level, to what extent do you believe measures undertaken by the Environment Agency have been collectively effective in deterring waste crimes in England”, N= 749 (waste industry and/or landowners/farmers)

Accordingly, at an overall level, **only 12% of respondents felt that the Environment Agency is effective (very or fairly) in deterring waste crime**, and respondents saw little differentiation in the effectiveness against organised crime and repeat offenders (figure 8).

When asked to rate the Environment Agency’s specific effectiveness against specific waste crime types, ratings were marginally improved, however the net opinion across all respondents was that the Environment Agency is ineffective in deterring each waste crime type (table 6). Excluding small-scale fly tipping (as this is mainly outside of the Environment Agency’s remit), large-scale fly tipping and illegal exports of the waste were seen as crime types that the Environment Agency is the least effective in deterring.

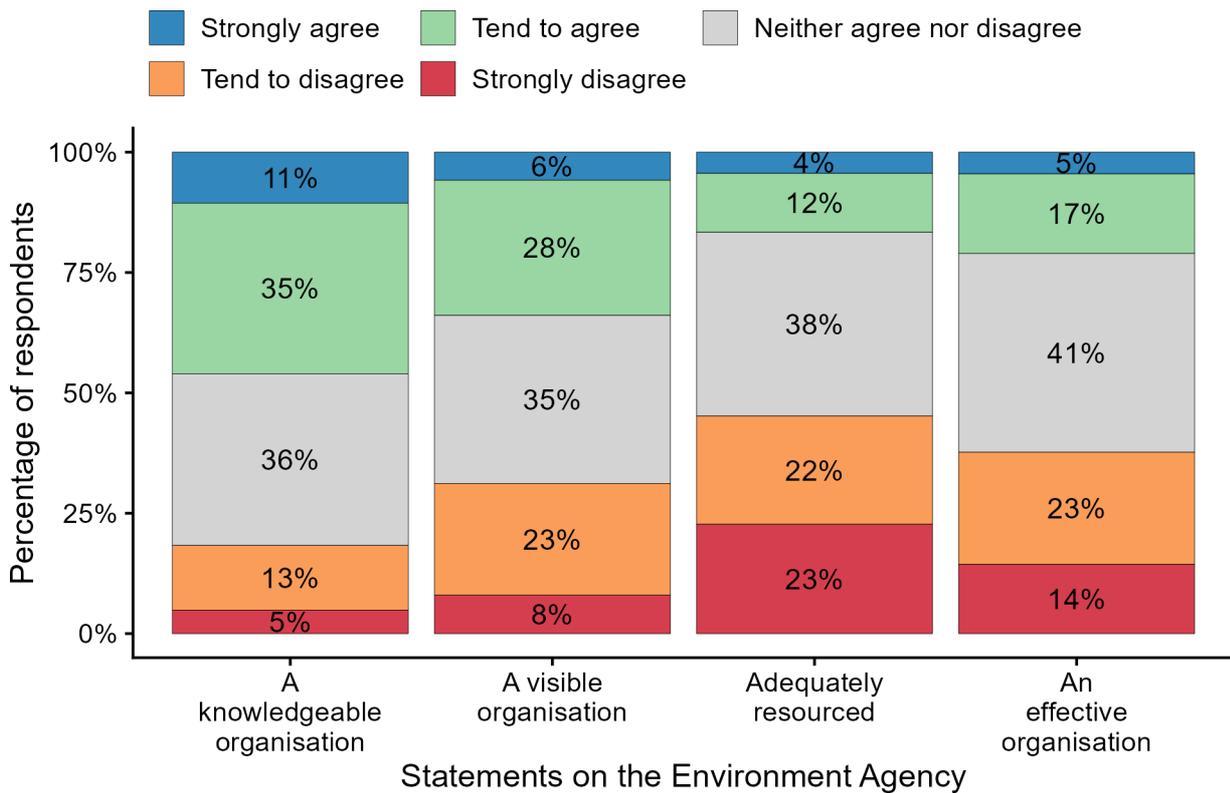
**Table 6 Percentage of respondents who felt Environment Agency measures were ‘very effective’ or ‘fairly effective’ compared with the percentage who felt measures were ‘very ineffective’ or ‘fairly ineffective’ in deterring crime, (N=749, landowners/farmers and/or waste industry).**

<b>Waste Crime Type</b>	<b>Effective (% respondents)</b>	<b>Ineffective (% respondents)</b>	<b>Net effective</b>
<b>Large-scale fly tipping</b>	17%	45%	-28%
<b>Small-scale fly tipping</b>	8%	67%	-59%
<b>Illegal waste sites</b>	19%	36%	-17%
<b>Illegal burning of waste</b>	17%	33%	-16%
<b>Illegal exports of waste</b>	4%	25%	-21%
<b>Mis-description</b>	13%	27%	-14%



**Figure 9 Stacked bar chart to show satisfaction with the support and/or advice obtained from the relevant authorities, with regards to waste crime. Net satisfaction (show in red and green above each bar) per authority was calculated by the percentage of respondents who were satisfied or very satisfied minus the percentage that were unsatisfied or very unsatisfied. All percentages are rounded and may not total to 100% within each bar. ‘Other’ sources of support and/or advice stated in the free text response included the police, local fly tipping groups and local environmental organisations. Question: “How satisfied are you with the support and/or advice you obtained from the following authorities, with regards to waste crime?”, N=841.**

Respondents were most likely to be satisfied with support and advice from professional bodies and trade associations (figure 9). The Joint Unit for Waste Crime, HMRC, Defra and Environment Agency received overall net negative satisfaction scores for their support and or advice. However, for each organisation the most popular option selected was ‘neither satisfied nor unsatisfied’.



**Figure 10** stacked bar chart to show to what extent participants agreed with assessments of the Environment Agency’s overall performance with regards to waste crime. All percentages are rounded and may not total to 100% within each bar. Question: “*To what extent do you agree or disagree with each of the following statements about the Environment Agency and how it operates as an organisation in relation to waste regulation?*”, N=841.

Respondents were asked to consider the Environment Agency’s operation in relation to waste regulation overall (figure 10). This revealed that 46% of respondents felt that the organisation is knowledgeable (in contrast only 18% of respondents disagreed with this statement). The outcome for visibility was less clear as 34% of respondents agreed that the Environment Agency is visible, whilst 31% disagreed. However, only 16% of the respondents felt that the Environment Agency is adequately resourced (and 45% disagreed that it is adequately resourced).

It was revealed during qualitative interviews this perception of underfunding links to the low proportion of respondents who felt the Environment Agency was effective in tackling waste crime (22% of respondents agreed the agency is effective, whilst 37% disagreed). One participant explained that they felt the Environment Agency is under-resourced and under-funded, meaning the industry has lost some faith in its effectiveness.

*“The likelihood of being caught is very small... it’s very difficult, the Environment Agency is understaffed and over worked, and they just don’t have the resources to do it because you can’t put cameras everywhere so they’re up against it - it’s a losing battle.”*

# Conclusions

The results of the 2023 National Waste Crime Survey show that the waste industry continues to perceive waste crime to be widespread across England, but the volume of waste thought to be criminally managed – whilst still very high at 18% of all waste - has not increased relative to the 2021 survey. Respondents felt that approximately half of the organisations in their respective sectors are impacted by waste crime, with dumping and illegal waste sites being the most likely offences experienced. This iteration of the survey was the first to look at producer responsibility fraud, showing that the waste industry suspects recycling rates of packaging are inflated. Despite the overall scale of waste crime being perceived to have remained constant since the 2021 survey, the financial impact of these crimes has increased.

The increased cost of living is seen as motivation for committing waste crime - businesses are thought to be more willing to supply their waste to criminals to save money, combined with illegal waste handlers looking for ways to undercut the legitimate market. Respondents estimated that financial gains are attracting organised crime, thought to be responsible for a third of all waste crime.

The Environment Agency is thought to be a knowledgeable organisation, but respondents also felt that the Environment Agency is not effective in its response to waste crime. Only 25% of waste crime is reported to the Environment Agency, and reasons provided for this low rate included negative experiences when having done so in the past. Less than one in five respondents who had reported waste crime to the Environment Agency were satisfied with the action that followed.

Accordingly, the waste industry feels the Environment Agency is ineffective in tackling waste crime. Respondents felt that waste crime requires severe sanctions with court issued penalties, visible activities, disruption tactics and criminal sanctions considered the most effective deterrents against waste crime. The certainty of sanctions being applied was also considered a crucial aspect a deterrence posture. Overall, the Environment Agency's deterrence against waste crime was not considered to be effective.

This report has provided evidence that waste crime is a large problem, impacting the waste industry, private landowners, the environment, and economy. This evidence supports the findings of other recent attempts to quantify the large financial impact of waste crime on individuals, the industry, and the economy (ESA 2021). The 2023 survey has also shown that the Environment Agency is not currently perceived to be tackling the scale of the problem effectively. Despite being considered a knowledgeable organisation, 45% of respondents feel that the Environment Agency is underfunded for this role in waste regulation. The Environment Agency's work to tackle waste crime has been previously shown to deliver good value for money with every £1 invested delivering £5 of benefits (Environment Agency 2017).

The findings of this report provide important and valuable insights into the scale and nature of waste crime, the motivating factors, and the perceived effectiveness of the

Environment Agency. It creates a better understanding of the challenges faced and the work still to be done. The findings will be used to inform the Environment Agency's strategic approach to tackling waste crime, where to direct its resources and how we work with industry, our customers, and our partners. The survey will continue to be developed in future iterations, remaining relevant to the current waste crime prevalence and nature.

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