

A case study on illegal localized pollution incidents in the EU

Work Package 4 "Case Studies"



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Abstract

This case study looks at illegal localised pollution incidents within the EU. The inclusion of this case study in the EFFACE project provides an example of smaller scale, localised crime to set within the wider EFFACE context. Since this environmental crime occurs at a local level, it is not possible within the case study to provide a complete picture for the whole EU; nevertheless, a limited number of sources are investigated that provide a broad impression of the number of such incidents across the EU, as well as the incidence of illegal landfilling in all EU Member States. The main part of the case study focuses on the issue of fly-tipping/illegal waste dumping, with a specific focus on the UK and Ireland. Relatively limited amounts of data (given lack of availability) are presented on the number, type and quantity of waste, and location of fly-tipping incidents. In addition, data that was found on the number and type of actions (including successful prosecutions) taken against identified fly-tippers is also presented. A short summary of waste-related legislation and instruments in the UK and Ireland is provided, to give some context for the case study. Attempts are made to identify the key causes, impacts, costs and victims of local pollution incidents. In addition, the available law enforcement responses and their effectiveness are addressed. The final section looks at potential options for tackling fly-tipping/illegal waste dumping, including some consideration of types of action that may be appropriate at the EU level.

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1. Introduction

This case study looks at illegal localised pollution incidents within the EU. These incidents are often not systematic, coordinated or large-scale illegal activity, but are nevertheless important threats to the environment, particularly at a localised level. Such incidents may be caused by individuals or businesses and can occur to all environmental media – fly-tipping¹ of solid waste on land, discharges of pollutants to water, and localised air pollution, e.g. from illegal or 'backyard' burning of waste or improperly managed/regulated industrial sites.

This case study covers a small selection of Member States. The UK and Ireland were selected due to the reasonable availability of data found during the initial literature review.

The inclusion of this case study in the EFFACE project is useful to provide an example of smaller scale, localised crime to set within the wider EFFACE context. The case study aims to focus on deliberate pollution (rather than minor inadvertent incidents), and aims to define clear instances of crime, look at different enforcement regimes and responses to incidents, different liability regimes, and to provide a clear context for communicating lessons learned from the case study.

With regards to the research questions contained in the DoW:

- 1. The case study has a somewhat limited role in contributing to understanding the concept of environmental crime, except in so far as smaller 'incidents' address the boundaries between civil and criminal activity as well as the public perception of environmental crime.
- 2. The case study helps to understand the main motivation to commit an environmental crime by examining the role of instruments to tackle pollution incidents or to stimulate more environmentally friendly management in deterring and preventing non-compliant behaviour. The case study will examine some of these, such as the role of taxation/charges as a (potential) stimulus for criminal activity.
- 3. A focus of the case study is to look at the extent to which the enforcement procedures for discouraging environmentally harmful conducts are effective. The ability of authorities to manage 'low level' environmental crime is a major challenge and the case study explores this.
- 4. Available data are somewhat disparate and the reliability/representativeness of some can be questioned. The case study highlights where this is considered to be problematic, and also makes some attempt to generate new data, e.g. views on whether EU level action on localized pollution would be desirable, and whether it is more effective to enforce existing pollution/environmental legislation or to incentivize 'good environmental behaviour'.
- 5. The case study is relevant to implementing a coherent framework for an effective fight against environmental crime at EU level since small incidents of pollution or contamination of the local environment are important for many communities. Indeed, it may be the ability of society to control incidents such as these which forms the basis for the public's judgment of the ability of authorities to tackle crime. Thus this case forms an important strand of evidence to sit alongside the higher profile subjects addressed by the other case studies.

¹ NB Fly-tipping is generally considered to be on a larger scale than littering (which is not considered in this case study). Nevertheless, illegally dumping/depositing even small amounts of waste can be considered as fly-tipping; e.g. the UK a single sack of rubbish is usually considered fly-tipping rather than litter (http://kb.keepbritaintidy.org/flytipping/Content/Publications/flylaw.pdf).

2. Literature review

The initial literature review undertaken for the case study focussed on a limited number of types of localised pollution where it was thought a good quantity of information would be available, namely: **illegal dumping/fly-tipping of waste**, **illegal discharges (of oil and/or waste) by ships** at sea, and **contamination of land/soil**. The most information was found on illegal dumping/fly-tipping of waste; several information sources were also found on illegal discharges from ships at sea, most notably oil spills; and some information was found on contaminated sites, including contamination resulting from technological accidents and pollutant releases.

With regards to **illegal dumping/fly-tipping of waste**, the data found was in several cases relatively robust in quality and also relatively recent; information found included numbers of illegal waste sites, prosecutions undertaken, the cost of tackling waste crime (including direct costs such as enforcement and clean-up, and also indirect costs such as evasion of landfill tax); limited information was found providing evidence to links to organised crime. Regarding **illegal discharges from ships at sea**, most information was found on **oil spills**. Information is available predominantly on the number of oil spills and the volume of oil spilled, with only one source attempting to quantify the economic/monetary costs of oil spills, and only broad assertions made about environmental impacts. A more limited amount of information has been found on **contaminated sites, technological accidents and pollutant releases**. Information found relates to the scale of local soil contamination/volume of spills/quantity of pollutants released, sources of contamination, expenditure on the management of contaminated sites, human fatalities from technological accidents, and only limited data on financial compensation paid by polluters.

A limited number of data sources were found that cover local pollution incidents across the whole EU territory, reflecting the fact that these incidents happen and tend to be recorded/researched at the Member State level. A broad search was therefore necessary, including websites of national environment ministries, reports by governmental organisations/agencies and academic reports/research undertaken by consultancies. This leads to questions of comparability of data, since different methods of measurement/robustness of reporting/data quality may well be in evidence in different Member States. Given the disparate information sources identified, the research in the initial literature review did not go very deeply into the subject matter; additional research was therefore required to ensure more systematic coverage of the Member States selected for the case study (see methodology section below).

3. Description of the methodology

Many of the information sources identified during the initial literature review were lacking in quantitative data, in particular data on costs. A greater amount of data was available on the quantity of polluting materials dumped or released into the environment.

There was also a lack of information on whether organised crime is suspected in many cases of pollution incidents. In addition, there was also a lack of clarity in several information sources (in particular on discharges from ships and contaminated sites, although also in some cases on waste dumping) as to whether the localised pollution incidents concerned can be considered as deliberate illegal or criminal activity; in several cases this is not specified, and in other cases pollution incidents may be accidental. This would need to be further clarified in the additional research within the case study.

It was decided that the case study on localised pollution incidents would focus on the **illegal dumping of waste**, including incidents of small-scale fly-tipping and larger-scale illegal landfills. From the literature review, this appeared to be the area with the best data available, both in terms of quantity and quality, and where there is the most information on the costs of the illegal activity concerned.

It was decided that one element of the case study would attempt to provide an overview of the extent of **illegal landfilling across the EU**, providing data for as many Member States as possible. This has the benefit of introducing a pan-European element to the case study, allowing a comparison to be made between the performances of the majority of Member States on this type of illegal waste dumping. Information on landfills that do not conform to the requirements of the Landfill Directive was found in Commission implementation reports and press releases concerning infringement proceedings launched against Member States. With regards to which Member States to cover in more detail, it was proposed that the **UK** and **Ireland** be included on the basis of information already found.

The following research questions were defined for the case study, and helped to guide the work to be done:

- 1. How effective is the identification of responsibility for incidents and why? Are there data limitations on ensuring clear identification of fault in the incidents?
- 2. Are there drivers for the illegal dumping of waste, such as use of financial instruments, poor enforcement, etc.?
- 3. What are the sanctions for the illegal dumping of waste, and how dissuasive are they? What is the role of the criminal and civil regimes?
- 4. What are the lessons for the design, review and implementation of regulatory regimes (at MS and EU level), e.g. from legal and institutional barriers/limitations to enforcement?

Following the initial literature review, a period of additional research was undertaken to find information sources that address the questions above. The methodology for this was predominantly additional literature review and desk-based research, including both qualitative and quantitative elements where available. The aim was to provide an overview of the issues surrounding the illegal dumping of waste, including motivating factors/causes, quantities dumped (where available), approaches to the prevention of dumping, sanctions/legal action available to prosecute offenders, and the level of success of enforcement of sanctions against those found to be responsible for illegal dumping. The method was mainly to scan relevant resources online, including the websites of Member State environment ministries and agencies, statistical agencies, NGOs, campaign groups and research projects, together with more general Google-based searches for relevant academic/consultancy reports and studies (search terms used included: illegal dumping, fly-tipping, illegal waste, waste enforcement, waste legislation, UK, Ireland etc). This approach was intended to provide a broad sweep of potential information sources in order to capture the main data available.

Information was then sought in order to respond to the research questions outlined above. For Question 1, this includes data on the number of incidents of illegal waste dumping, and success rates of the Member States in identifying responsibility for illegal dumping. This question will also address, where possible based on information found, the delineation between pollution incidents that can be considered as deliberate illegal or criminal activity and those that are accidental. For Question 2, a broad overview of relevant policies and instruments is presented, including waste legislation and the presence of waste taxes, pay-as-you-throw schemes and producer responsibility schemes. Research into waste legislation also provided some information to respond to Question 3 on sanctions for illegal dumping, complemented by information on the criminal and civil regulatory regimes in place in the case study Member States. In a final stage, attempts were made to draw conclusions/lessons from the case study Member States that may be useful in the design, review and implementation of regulatory regimes that aim to prevent/deal with illegal dumping of waste, in response to Question 4.

There were no major ethical considerations to take into account during the execution of this case study.

4. Case presentation

This case study looks at localised pollution incidents, and more specifically the illegal dumping of waste. The geographic area covered is the EU Member States (with a focus on the UK and Ireland). The main institutions concerned are those at the national and/or regional/local levels of governance, since the incidents addressed occur at the local level. It is often national authorities, such as environmental agencies or ministries, that are responsible for the creation and enforcement of relevant policy, although regional/local authorities may also be involvement in enforcement related to localised incidents since they are the closest level of governance to the level at which the incidents take place. In serious pollution cases, national authorities may become involved in enforcement activities. Taking the UK as an example, the Environment Agency works in partnership with the police, HM Revenue and Customs (HMRC), the Borders Agency, Interpol, the Vehicle and Operator Services Agency (VOSA), the Department of Work and Pensions and local authorities to tackle waste crime in general²; all of these organisations may not be involved in dealing with localised pollution incidents, however. In the UK, local authorities deal with small scale flytips on public land, the Environment Agency deals with large fly-tips or tips involving hazardous waste or criminal activity, private landowners are responsible for removing and legally disposing of waste tipped on their land (If the fly-tipper is caught and prosecuted, it may be possible to reclaim the costs involved), and local authorities and the Environment Agency have powers to require landowners to clear waste from their land, as well as powers to enter land and clear it (for which they may seek reimbursement for related costs)3. In Ireland, the Environmental Protection Agency works with local authorities and the Gardaí (police) to tackle illegal waste activity by coordinating a national enforcement network, targeting and prosecuting offenders, conducting investigations and overseeing remediation4. International level organisations do not deal directly with such incidents, given their local nature. Some EU legislation is however of relevance, most notably the Landfill Directive (1999/31/EC) which sets standards and requirements for the operation of landfill facilities across the EU. Key stakeholders include the competent authorities, but also notably local citizens, who are usually the first to come into contact with incidents of fly-tipping and are often relied upon to report incidents to the competent authorities.

1.1 Illegal/non-compliant landfilling in the EU

The nature of the pollution incidents investigated within this case study is that they are localised. The information is therefore not always easily comparable across Member States, and it is impossible within the scope of the case study to provide a comprehensive review of the instances and impacts of such pollution incidents across the whole EU. To introduce an EU-wide element to the case study, data has been sought on the extent of **illegal landfilling across the EU Member States**. Information on landfills that do not conform with the requirements of the Landfill Directive has been found in the latest European Commission implementation report for the Directive, and supplemented by press releases concerning recent infringement proceedings launched against Member States.

The following table summarises the total number of landfills reported, and the number reported as not being in compliance with the requirements of the Landfill Directive, according to the implementation

Environment Agency (2013) Cracking down on waste crime: Waste crime report 2012-2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/288604/LIT_8776_9 56402.pdf

³ Oliver Bennett (2010) Fly-tipping—the illegal dumping of waste, House of Commons Library Standard Note

SNSC-05672, www.parliament.uk/briefing-papers/SN05672.pdf

⁴ Environmental Protection Agency (2012) National Waste Report 2012: A Report for the Year 2012, http://www.epa.ie/pubs/reports/waste/stats/EPA_NWR12_Complete_to_web_5Aug14.pdf

report for the period 2007-2009⁵ (the latest period for which an implementation report is available, since the report was published in 2012). The Directive required landfill sites that were in operation in 2001 to be closed by 16 July 2009 if they did not comply with EU standards. Extended deadlines were given to Poland (for 305 sites, to be brought into compliance by 31 December 2011), Bulgaria (14 sites by 31 December 2014), and Romania (101 sites by 16 July 2017), and statistics gathered in 2008 for the EU-12 revealed that there were some 1,600 sub-standard landfills in operation⁶. In total, the table suggests that there were at least 3,286 non-hazardous landfills, at least 60 hazardous landfills, and at least 666 inert landfills that were operating outside of compliance with the Landfill Directive.

Member State Number of non-compliant landfills per total number of each type of landfills per total number of e		ndfill (2009)		
	Non-hazardous	Hazardous	Inert	Other
AT	0 / 175 non-hazardous	-	0 / 13 inert	Not specified / 462 other waste (for uncontaminated soil)
BE (Flanders)	0 / 4 non-hazardous municipal/company	0 / 4 hazardous	0 / 6 inert	-
	0 / 14 non-hazardous			
	0 / 4 non-hazardous inorganic company			
BG	147 / 175	-	-	-
СҮ	103 / 104 non-hazardous	No hazardous landfills	No inert landfills	-
CZ	17 / 157 non-hazardous	2 / 29 hazardous	-	-
DK	0 / unspecified total number	-	-	-
EE	0 / unspecified total number	0 / 15 hazardous	-	-
ES	23 / 229 non-hazardous	-	-	-
FI	4 / 83 non-hazardous	1 / 21 hazardous	-	-
FR	9 / 212 'collection centres'	-	-	-
DE	2,659 / 2,989 non-hazardous	57 / 88 hazardous	656 / 1,648 inert	-
GR	70 / 71 non-hazardous 0 / 1 non-hazardous industrial	0 / 2 hazardous	No inert landfills	-

⁵ European Commission (2012). Final implementation report for the Directive 1999/31/EC on the landfill of waste, http://ec.europa.eu/environment/waste/reporting/pdf/Annex%205-1%20Landf.pdf, 14 February 2012

⁶ European Commission, Press release: Environment: Commission calls time on sub-standard landfills in the EU, http://europa.eu/rapid/press-release_IP-09-1154_en.htm, 16 July 2009

Member State	Number of non-compliant landfills per total number of each type of landfill (2009)			ndfill (2009)
	Non-hazardous	Hazardous	Inert	Other
HU	0 / unspecified total number	-	-	-
IE	0 / 27 (type not specified)	-	-	-
IT	0 / 316 non-hazardous	0 / 10 hazardous	0 / 239 inert	
LV	0 / 10 non-hazardous	0 / 2 hazardous	-	Not specified / 20 other
LT	7 / 18 non-hazardous	No hazardous landfills	2 / 3 inert	-
LU	0 / unspecified total number	-	-	-
NL	0 / 22 non-hazardous	-		-
МТ	0 / 2 non-hazardous	No hazardous landfills	One third / unspecified number of inert	-
PL	134 / 760 non-hazardous	20% of unspecified number of hazardous	-	-
PT	0 / unspecified total number	-	-	-
RO	101 / 141 non-hazardous	0 / unspecified number of hazardous	1 / unspecified number of inert DOES comply	-
SK	Almost 0 / unspecified number of non-hazardous	0 / unspecified number of hazardous	-	-
SI	One third / unspecified number of non-hazardous	0 / unspecified number of hazardous	8 / 12 inert	-
SE	12 / 96 non-hazardous	-	-	-
UK	One third of unspecified number of non-hazardous landfills not permitted to continue	-	One half of unspecified number of inert landfills not permitted to continue	-
TOTAL EU-27	More than 3,286 / more than 5,610	More than 60 / more than 171	More than 666 / more than 1,921	Unclear

At the end of 2013, there were 353 infringement proceedings open against Member States in the environmental policy area; 112 (32%) of these related to waste⁷, although not all of these related to the

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⁷ European Commission, DG Environment website, Legal Enforcement: Statistics on environmental infringements, http://ec.europa.eu/environment/legal/law/statistics.htm, accessed 18/12/2014

Landfill Directive. Recent infringement proceedings (since the start of 2009) relating to the landfills that are non-compliant with the Landfill Directive include:

- Bulgaria: 113 non-compliant landfills still in operation in January 20148;
- Cyprus: six landfills were continuing to operate in breach of the Landfill Directive9;
- Greece: the Kiato landfill has been operating without a permit since 2002¹⁰;
- Greece: 78 illegal landfills were continuing to operate in violation of EU waste legislation and 318 were still in the process of being rehabilitated¹¹;
- Greece: a landfill site in a protected area on the island of Zakynthos, operating in breach of EU waste legislation¹²;
- Greece: deficient management of the landfill at Fyli-Skalistiri in the Attiki region (confirmed by an inspection on 12 December 2006)¹³;
- Italy: the Malagrotta landfill in Rome and other landfills in the Lazio region are accepting waste that has not undergone the treatment required by EU legislation¹⁴;
- Italy: 255 landfills (16 hazardous) still remained to be cleaned up; only 31 problematic landfills were scheduled to be cleaned up by the end of 2012; and a complete calendar for the completion of the works had only been provided for 132 of the 255 landfills¹⁵;
- Italy: failed to implement an ECJ ruling from 2004 concerning landfills near Milan two out of three landfills in question had still not been cleaned up by 2010¹⁶;
- Slovakia: no conditioning plan had been provided for the landfill site in Považský Chlmec¹⁷;
- Slovenia: 2 illegal landfills containing hazardous waste¹⁸; and

⁸ European Commission, Press release: Environment: Commission takes Bulgaria to Court over illegal landfills, http://europa.eu/rapid/press-release_IP-14-47_en.htm, 23 January 2014

⁹ European Commission, Press release: Environment: Commission urges Cyprus and Lithuania to comply with EU waste legislation, http://europa.eu/rapid/press-release_IP-12-655_en.htm, 21 June 2012

¹⁰ European Commission, Press release: Environment: Commission takes Greece to Court over landfill in Peloponnese, http://europa.eu/rapid/press-release_IP-13-483_en.htm, 30 May 2013

¹¹ European Commission, Press release: Environment: Commission takes Greece back to Court over illegal landfills and asks for fines, http://europa.eu/rapid/press-release_IP-13-143_en.htm, 21 February 2013

¹² European Commission, Press release: Environment: Commission takes Greece to Court over waste landfill and endangered turtles, http://europa.eu/rapid/press-release_IP-12-1023_en.htm, 27 September 2012

¹³ European Commission, Press release: Environment: Commission brings four Member States to Court for failing to implement EU laws, http://europa.eu/rapid/press-release_IP-10-830_en.htm, 24 June 2010

¹⁴ European Commission, Press release: Environment: Commission takes Italy to Court over inadequate treatment of waste landfilled in Lazio, http://europa.eu/rapid/press-release_IP-13-250_en.htm, 21 March 2013

¹⁵ European Commission, Press release: Environment: Commission refers Italy back to Court over illegal landfills, asks for fines, http://europa.eu/rapid/press-release_IP-12-1140_en.htm, 24 October 2012

¹⁶ European Commission, Press release: Environment: Italy faces Court for failing to implement EU law on waste, http://europa.eu/rapid/press-release_IP-10-1402_en.htm, 28 October 2010

¹⁷ European Commission, Press release: Environment: Commission takes Slovakia to Court for failing to comply with EU landfill legislation, http://europa.eu/rapid/press-release_IP-11-177_en.htm, 16 February 2011

• Spain: 28 non-compliant landfill sites remain to be closed, and 3 others still need to be brought up to the standards required¹⁹.

Together, these recent infringements concern a total of 90 landfill sites designated as operating illegally, and a further 607 requiring either closure or clean-up. This is likely to represent only a small proportion of the actual number of sites operating in breach of the Landfill Directive, or requirement closure or clean-up.

1.2 Illegal dumping of waste at local level

Some information sources are available that provide an indication of the extent of illegal dumping of waste in all EU Member States. However, these tend to be rather informal in nature (e.g. citizen-led initiatives) and should not therefore be seen as wholly scientific or representing a completely accurate picture, in particular since they rely on the engagement of individual citizens which may be more extensive in some countries than in others. These sources do, however, give an overall sense of the extent of the problem within the EU. For example, one source indicates that on an annual basis, around 2,871,186 tonnes of waste are illegally dumped in the EU-28 (ranging from 2,174 tonnes in Luxembourg to 371,119 tonnes in Poland)²⁰. Another source, which collates real-time information from citizens on fly-tipping (often accompanied by photographs taken by citizens of the fly-tips in question), reported that around 12,628 incidents of fly-tipping had been observed in the EU-28 at the end of December 2014²¹.

In **England and Wales (UK)**, activities were stopped on 1,279 **illegal waste sites** between April 2012 and March 2013. This mainly involved enforcing closure of the sites, or bringing them into line with regulation. Just over 60% of the cases involved tyres, construction and demolition (C&D) waste, end-of-life vehicles (ELVs), scrap metal and waste electrical and electronic equipment (WEEE). 107 large, serious and organised incidents of waste dumping were also addressed (the most common waste streams concerned were C&D, household/commercial, chemicals/fuel/oils and tyres). There were 820 identified active illegal waste sites still in existence in England at the end of March 2013 (around 65% of which dealing with tyres, C&D waste, ELVs, scrap metal and WEEE). Many of the sites were to be found in clusters centred around areas of dense population and motorways.²² Common locations include highways (47% of total incidents in 2013-2014)²³, footpaths, bridleways and back alleyways (29% of total incidents in 2013-2014)²⁴, council

¹⁸ European Commission, Press release: Environment: European Commission takes Slovenia to Court for pollution problems from waste disposal, http://europa.eu/rapid/press-release_IP-14-51_en.htm, 23 January 2014

¹⁹ European Commission, Press release: Environment: Commission takes Spain to Court over non-compliant landfills and high-speed rail link, http://europa.eu/rapid/press-release_IP-14-814_en.htm, 10 July 2014

²⁰ ChartsBin statistics collector team 2011, Global Illegal Waste Dumping by Country, ChartsBin.com, viewed 19 December 2014, http://chartsbin.com/view/576 (original data source data Global Illegal Waste Dumping by Country, www.letsdoitworld.org, viewed 4th February, 2011, www.letsdoitworld.org)

²¹ Trashout website, http://www.trashout.me/statistics/europe, accessed 19/12/2014

²² Environment Agency (2013) Cracking down on waste crime: Waste crime report 2012-2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/288604/LIT_8776_9 56402.pdf

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/368513/Flycapture_201314_Statistical_Release_FINAL_2_.pdf

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/368513/Flycapture_201314_Statistical_Release_FINAL_2_.pdf

land (e.g. housing estates, car parks, parks and other open spaces) and country paths. Around one-third of all incidents consisted of a small van load of material or less 25 .

Figure 1 to Figure 3 are based on UK data (for England only) related to fly-tipping for the period 2007-2011, and illustrate the number, volume, location and type of fly-tipping incidents. There were a total of 4,203,824 incidents from 2007-2011, with the number decreasing on an annual basis (1,272,349 in 2007-8; 1,164,998 in 2008-9; 946,906 in 2009-10; and 819,571 in 2010-11).²⁶

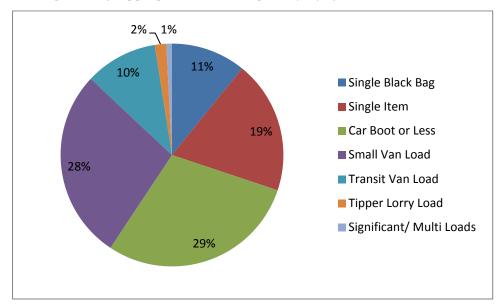
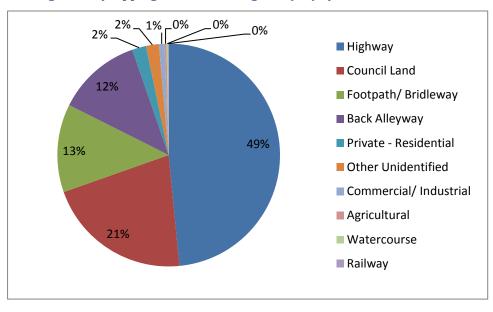


Figure 1 Fly-tipping incidents in England (UK) by size, 2007-2011





https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/368513/Flycapture_201314_Statistical_Release_FINAL_2_.pdf

http://publicdata.eu/dataset/fly-tipping_in_england/resource/87639a14-4c81-4d46-8547-3df9c5c717c1

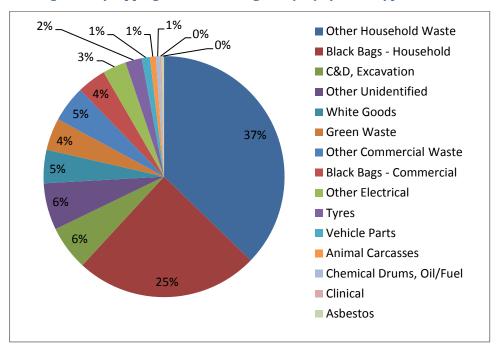


Figure 3 Fly-tipping incidents in England (UK) by waste type, 2007-2011

At the end of March 2012, 120 sites in the **UK** were involved in the **illegal burning of waste**. During 2012-2013, English local authorities dealt with over 711,000 incidents of **fly-tipping**; around 67% of fly-tipped waste was household waste²⁷. During 2013-2014, the number of incidents rose by 20% to 825,000, with nearly two-thirds of fly-tipping incidents involving household waste²⁸. The true figures of fly-tipping incidents are likely to be considerably higher, since many will go unreported. Whilst a majority of fly-tipping incidents involve household or household-type waste, some incidents do involve larger scale and more organised criminal activity, for example involving industrial wastes, tyres, C&D and liquid wastes²⁹.

1.3 Summary of waste-related legislation and instruments

In order to provide some background context for the case study analysis, a brief summary of waste-related legislation and policy instruments (including waste taxes, pay-as-you-throw schemes and producer responsibility schemes) in the UK and Ireland is presented in this section.

²⁷ Environmental Services Association Education Trust (2014). Waste Crime: Tackling Britain's Dirty Secret,

http://www.esauk.org/reports_press_releases/esa_reports/ESAET_Waste_Crime_Tackling_Britains_Dirt y_Secret_EMBARGOED.pdf

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/368513/Flycapture_ 201314_Statistical_Release_FINAL_2_.pdf

http://www.tacklingflytipping.com/Documents/NFTPG-Files/20140410%20Fly-tipping%20framework%20FINAL.pdf

The legislative and policy context for waste management

In the **UK**³⁰, waste management policy and strategy is devolved to the national administrations of Scotland, Wales and Northern Ireland. National priorities for waste have consistently aimed to drive waste management up the waste hierarchy, to transition from landfill towards prevention, re-use and energy recovery through the establishment of increasingly ambitious targets for recycling of household and municipal waste, and for landfill diversion. By 2009 the UK had already exceeded the 2013 target for diversion of biodegradable municipal waste (BMW) from landfill. The landfill allowance trading schemes (LATS) introduced in 2004 (England, Wales and N. Ireland) and 2005 (Scotland) appear to have been a major driver for achieving rapid diversion rates; they allocated tradable allowances to each waste disposal authority to allow each devolved region to cost-effectively meet its obligations. However, in 2010 the landfill tax was deemed to be a more important driver than the LATS, which were subsequently scrapped from 2013. The continuing escalations in the landfill tax (which was introduced at a rate of £7 in 1996 and is now at a rate of £80 per tonne for municipal waste) are believed to continue to drive the diversion of BMW from landfill. The UK has producer responsibility schemes in place for packaging waste (guided by the Producer Responsibility (Packaging Waste) Regulations which created a system of Packaging Recovery Notes (PRNs), which packaging producers buy from recycling businesses at the market rate), end-of-life vehicles (ELV), waste electrical and electronic equipment (WEEE) and batteries, as required by the various EU recycling Directives³¹. The UK does not currently have an incineration tax. Indeed, energy recovery from MSW has been driven to some extent by the market for Renewable Obligation Certificates (ROCs) established by the Renewable Obligation Orders of 2002, 2003 and 2005, under which electricity distributors must deliver an increasing percentage of electricity from renewable sources (which can include incineration and anaerobic waste composting facilities). 'Pay-as-you-throw' schemes, which charge for the collection of non-separated waste based on the amount of waste collected, have not been used in the UK to date. The establishment of WRAP (an organisation that establishes voluntary partnerships between waste producers/recyclers and the users of products with recycled content) in 2001, also appears to have contributed to increasing recycling rates for MSW, e.g. through the Cortauld Commitment, a voluntary agreement to engage retailers in reducing food and packaging waste.

In **Ireland**³², the Waste Management Acts 1996 to 2012 govern the management of waste and outline the responsibilities of relevant bodies. Waste management policy at the national level is also guided by a set of policy documents including Changing Our Ways (1998), Delivering Change – Preventing And Recycling Waste (2002), Waste Management - Taking Stock and Moving Forward (2004) and A Resource Opportunity – Waste Management Policy in Ireland (2012). The most recent document sets out how the 10 local and regional waste management plans (covering all 34 local authority areas) will be more aligned with national policy in future, as well as promising a stronger waste collection permit system, further encouragement for households to reuse and recycle waste, and the introduction of Regulations to ensure the separate collection of organic waste from households. The Food Waste Regulations (2009) promote the segregation and recovery of food waste from the commercial sector, obliging major producers of food waste to segregate food waste and make it available for separate collection. Household waste collection services have been deregulated to create a competitive market-based system; this has led to a service that is rather fragmented (with only 72% of permanent private households served by a kerbside waste collection

³⁰ EEA (2013) Municipal Waste Management in the United Kingdom, http://www.eea.europa.eu/publications/managing-municipal-solid-waste/united-kingdom-municipal-waste-management

Watkins, E. et al (2012) USE OF ECONOMIC INSTRUMENTS AND WASTE MANAGEMENT PERFORMANCES: main report http://ec.europa.eu/environment/waste/pdf/final_report_10042012.pdf and Annex 1 MS factsheets http://ec.europa.eu/environment/waste/pdf/annexes_report10042012.zip

EEA (2013) Municipal Waste Management in Ireland, http://www.eea.europa.eu/publications/managing-municipal-solid-waste/ireland-municipal-waste-management

service³³), inadequately regulated service that suffers from rather low rates of householder participation and pricing structures that do not incentivise sustainable behaviours (most household schemes are fixed fee collections, whilst most commercial waste collections use weight-based fees³⁴). Ireland has producer responsibility schemes in place for packaging waste (guided by the Packaging Regulations 2003, amended in 2006), ELV, WEEE and batteries, as required by the various EU recycling Directives, as well as compliance schemes for tyres and farm plastics³⁵. A Landfill Levy was established in 2002; it does not appear to have been a strong driver in diverting waste from landfill between 2002 and 2007 due to its rather low and static level of EUR 15 per tonne. However, this increased by EUR 5 per year between 2008 to 2010 and more significant recent increases led to a rate of EUR 75 per tonne (for both authorised and unauthorised landfill facilities) by 2013; it is hoped that this will make the landfill levy a far more persuasive driver for landfill diversion. Ireland does not currently have an incineration tax.

Legislation specific to fly-tipping/illegal dumping of waste

In **England and Wales (UK)**, the main legislation relevant to fly-tipping/illegal dumping is the Environmental Protection Act 1990 (sections 33, 34 and 59). Section 33 states: 'It is illegal for any person to deposit controlled waste, knowingly cause or knowingly permit controlled waste to be deposited in or on any land unless a waste management licence is in force and the deposit is in accordance with the licence.' Household, commercial and industrial waste are all classed as controlled waste. Section 33 also makes it an offence for a person to treat, keep or dispose of controlled waste in or on land that does not have a waste management licence, or that is not in accordance with a licence. Section 34 places a 'duty of care' on waste holders (businesses etc) to ensure that waste materials from commercial activities are disposed of with due regard to the law. Householders also have a duty of dare to check that their waste is taken away and disposed of by an authorised waste carrier. Section 59 provides powers for waste regulation authorities such as the EA and local authorities to issue a notice requiring the removal of waste that has been unlawfully and knowingly deposited. The Control of Pollution (Amendment) Act 1989 requires waste carriers to register with the Environment Agency (EA) and gives the EA and authorised waste collection officers the power to stop and search vehicles used for illegal waste-related activities.³⁶

In **Ireland**, the Waste Management Act 1996 (as amended) grants local authorities significant powers to tackle illegal waste activity and to recover the costs of associated recovery or disposal from the person deemed by a court to be responsible for the incident (Sections 55 and 56 of the Act³⁷). The Act also states that responsibility and ownership of waste remains with the waste holder until it is collected by an authorised waste collector, meaning that if a householder/business hands over their waste to an unauthorised door-to-door waste collector (knowingly or unknowingly), they are breaking the law.³⁸

EPA, Bulletin 2: Household Waste Statistics for 2013 (2013) http://www.epa.ie/pubs/reports/waste/stats/household/EPA_HH_2013_bulletin_final_to_web.pdf

Watkins, E. et al (2012) USE OF ECONOMIC INSTRUMENTS AND WASTE MANAGEMENT PERFORMANCES: Annex 1 MS factsheets http://ec.europa.eu/environment/waste/pdf/annexes_report10042012.zip

Watkins, E. et al (2012) USE OF ECONOMIC INSTRUMENTS AND WASTE MANAGEMENT PERFORMANCES: main report http://ec.europa.eu/environment/waste/pdf/final_report_10042012.pdf and Annex 1 MS factsheets http://ec.europa.eu/environment/waste/pdf/annexes_report10042012.zip

ENCAMS (2006) Fly-tipping and the Law: a guide for the public, http://kb.keepbritaintidy.org/flytipping/Content/Publications/flylaw.pdf

Waste Management Act 1996, http://www.irishstatutebook.ie/1996/en/act/pub/0010/index.html#zza10y1996

³⁸ PURE project website, http://www.pureproject.ie/what-we-do/illegal-dumping/

1.4 Key causes, impacts, costs and victims of local pollution incidents

There are many different **causes** of and motivations for fly-tipping, although financial gain/savings are a key reason in most cases; other causes can include a lack of adequate waste disposal facilities or access to them, laziness and an attitude that waste is 'someone else's problem' to clear up³⁹. A 2006 report investigating the causes, incentives and solutions for fly-tipping suggested a series of potential causes and facilitating factors, including:

- Perceived benefits of fly-tipping exceeding the perceived costs (e.g. easier or cheaper to dump waste than dispose of it legally, and/or the offender feeling that they are unlikely to be caught);
- Weaknesses in collection and disposal services (e.g. inconvenient opening hours and/or location of legal tips, infrequent collections resulting in build-up of rubbish which can be an issue for those with lack of space to store it);
- Availability of locations where fly-tipping can happen easily and without detection (e.g. alleyways, poorly lit access roads, unused industrial sites, remote locations);
- Waste producers'/disposers' lack of knowledge of facilities and/or responsibilities relating to lawful disposal and/or collection;
- Unintended economic incentives due to the costs of legitimate disposal (landfill tax, application of the producer-pays principle); and
- Reductions in the economic return from sale of spent goods (e.g. a fall in the price of secondary materials).⁴⁰

The report highlighted that there is a range of different fly-tipping problems, depending on the type of waste, fly-tipping location and type of perpetrator (e.g. householder, organised criminals or travellers).

In 2009, the **UK** Government acknowledged a possible link between fly-tipping and the landfill tax, stating that 'future landfill tax rises could increase the incentive to flytip' but also stating 'it is difficult, if not impossible to estimate to what extent' and arguing that if enforcement/prevention activities are adequately funded, any increased incentive to flytip could be offset. In addition, the Government argued that long-term price indications (e.g. the landfill tax escalator in the UK) allow businesses to adapt their practices accordingly, and that over half of all flytipped waste is household waste; since householders do not pay landfill tax directly, increases in the tax rate are unlikely to create a direct incentive for small-scale tipping of household waste.⁴¹ The EEA has also previously suggested that 'if the user charge or tax is too high, or an increase too abrupt, the risk of illegal dumping will increase'⁴²; indeed such concerns have been expressed in some Member States (e.g. Hungary, where it was argued that significant increases in user charges (including pay-as-you-throw) could lead to increases in illegal waste dumping)⁴³. Policies to divert waste away from landfills can lead to unintended consequences such as illegal waste dumping if the waste

⁴⁰ Jill Dando Institute of Crime Science University College London (2006) Fly-tipping: Causes, Incentives and Solutions, http://archive.defra.gov.uk/environment/quality/local/flytipping/documents/flytippingcauses.pdf

EEA (2003) Europe's environment: the third assessment www.eea.europa.eu/publications/environmental_assessment_report_2003_10/europes-environment-the-third-assessment

³⁹ http://www.tacklingflytipping.com/aboutfly-tipping/1474

⁴¹ Oliver Bennett (2010) Fly-tipping—the illegal dumping of waste, House of Commons Library Standard Note SNSC-05672, www.parliament.uk/briefing-papers/SN05672.pdf

⁴³ EEA (2009) Diverting waste from landfill - Effectiveness of waste-management policies in the European Union http://www.eea.europa.eu/publications/diverting-waste-from-landfill-effectiveness-of-waste-management-policies-in-the-european-union/p21,p28

management system is not able to receive and manage the resulting waste flows, e.g. if there are not good separate collection and recovery infrastructures in place; in addition, the closure of non-compliant landfills may also generate fly-tipping in some cases where other landfills or collection means are not provided ⁴⁴. It is suspected that a significant reduction in the number of large-scale illegal dumps in Ireland, for example, led to fly-tipping and backyard burning of rubbish ⁴⁵.

In **Ireland**, a major problem with regards to illegal dumping/fly-tipping is householders and businesses giving their waste to unauthorised door-to-door waste collectors⁴⁶. There is a relatively high level of privatisation of waste collection services in Ireland; in 2013 there were 90 operators authorised for the kerbside collection of household waste (86 of which were private sector) and there were between four and 15 collectors operating in each local authority area, yet only 72% of permanent private households availed of a kerbside waste collection service⁴⁷. This may be a contributing factor in fly-tipping by private households, since not only do a number of households not have a permanent kerbside collection service, the number of different licenced waste collectors presents a confusing picture to householders which may allow unscrupulous waste collectors to go door-to-door more easily without being challenged to produce a waste collection permit. It is also possible that the recent economic downturn led to an increase in small scale illegal dumping, in particular of domestic rubbish bags, since fly-tipping is a way to avoid paying waste disposal fees⁴⁸. It has been suggested that the introduction of the WEEE Directive led to a significant decline in the illegal dumping of WEEE in Ireland⁴⁹, presumably since it led to the development of collection systems for this type of waste in order to regain the value and recycle the materials.

With regards to the **victims** of illegal dumping, such crime can damage the environment and human health, and cause pollution and harm to local neighbourhoods.⁵⁰ Localised pollution incidents can have an important role to play with regards to the public perception of environmental crime. Such crimes are committed on a local scale and therefore have a direct, visible impact on local populations, and can affect public attitudes towards environmental pollution and crimes. Localised illegal dumping takes place in both urban and rural locations. The cost of cleaning up fly-tipping incidents falls on both taxpayers and private landowners.

Concerning **environmental impacts**, the illegal dumping of waste can lead to pollution of water courses and land. Waste dumped in the environment can take a long time to decompose (e.g. several weeks for paper, six months for orange peel, 10-20 years for a plastic bag, 12 years+ for a cigarette butt, 50 years+ for a metal can, 75 years+ for a disposable nappy, and hundreds of years for plastic and glass bottles⁵¹), meaning that illegally dumped waste will remain visible, and cause environmental harm, almost indefinitely if it is not removed. Waste electrical and electronic equipment contains numerous hazardous materials that can cause substantial environmental damage. Illegal burning of waste can generate smoke

⁴⁴ EEA (2009) Diverting waste from landfill - Effectiveness of waste-management policies in the European Union http://www.eea.europa.eu/publications/diverting-waste-from-landfill-effectiveness-of-waste-management-policies-in-the-european-union/p44

⁴⁵ EEA ????? SOER 2005 www.eea.europa.eu/publications/state_of_environment_report_2005_1/SOER2005_Part_C.pdf

⁴⁶ PURE project website, http://www.pureproject.ie/what-we-do/illegal-dumping/

EPA, Bulletin 2: Household Waste Statistics for 2013 (2013) http://www.epa.ie/pubs/reports/waste/stats/household/EPA_HH_2013_bulletin_final_to_web.pdf

⁴⁸ PURE project website, http://www.pureproject.ie/what-we-do/pure-statistics/

⁴⁹ PURE project website, http://www.pureproject.ie/what-we-do/pure-statistics/

⁵⁰ https://www.gov.uk/government/policies/reducing-and-managing-waste

Wastewatch, Lesson Plan for Key Stage 3 and 4: Understanding littering and the audience, http://www.wastewatch.org.uk/data/files/resources/17/5-Lesson-Plan-Peer-Learning.pdf

and emissions (including particulates, carbon dioxide, carbon monoxide and mercury⁵²) that are harmful to the environment and to wildlife. Illegal dumping of waste tyres can cause significant environmental pollution, and also presents a potential risk for uncontrolled fires to occur⁵³.

With regards to **social impacts**, water and land pollution from dumping and emissions from illegal burning of waste can be harmful to human health. In addition, dumped waste spoils landscapes and local areas, spoiling the enjoyment of visitors and residents, and discouraging use of the affected areas. It has also been suggested that fly-tipping undermines legitimate waste businesses, allowing illegal operators to undercut those operating within the law due to avoidance of the costs of legitimate waste disposal; this can also undermine the reputation of legal operators in the public's eyes. In addition, areas that suffer from repeated fly-tipping incidents may suffer declining property prices and local businesses may suffer as people stay away.⁵⁴ If illegally dumped waste is not cleared from a site quickly, it can attract the dumping of further waste as the site becomes known as a local 'dumping ground', thereby exacerbating the problem.

The **economic costs** of illegal waste dumping/burning are significant. One report estimates that waste crime in the UK diverts as much as £1 billion per annum from legitimate business and HM Treasury⁵⁵. During 2012-2013, the Environment Agency for England & Wales spent around £17 million on tackling waste crime (around 7% of the Agency's total spend on environmental protection and 20% of expenditure on waste regulation). In addition, almost £5 million was invested in the Environment Agency illegal waste sites task force over an 18-month period.⁵⁶ The UK Government announced an additional £5 million of funding for the enforcement of waste crime in its 2014 Budget, which effectively increased the planned expenditure on waste crime enforcement during the 2014-2015 financial by almost 40%; the funding is being used to help the Environment Agency to pursue additional enforcement initiatives to combat waste crime⁵⁷.

One report estimates the costs of waste crime to the **UK** economy as: £224.3m per year for illegal waste sites; £157m per year for tax evasion; and £186.6m per year for fly-tipping. The annual lost taxes and profits from illegal waste (C&D, WEEE, tyres, ELV, hazardous waste) in England and Wales are estimated to total £668.3m (of which £224.3m is lost landfill tax and lost VAT). The misclassification of waste sent to landfill (i.e. waste classed as inert when it is not, to qualify for the lower rate of landfill tax) may cost as much as £200m to HM Exchequer. Recent estimates of the cost to English local authorities of dealing with fly-tipping clearance and enforcement annually range from £36m⁵⁸ to £45.2m⁵⁹ to £51.6m⁶⁰. English local

 $^{^{52}\,}$ http://www.letsdoitworld.org/news/science-blog-trash-burning-worldwide-significantly-worsens-air-pollution

⁵³ Environmental Protection Agency (2012) National Waste Report 2012: A Report for the Year 2012, http://www.epa.ie/pubs/reports/waste/stats/EPA_NWR12_Complete_to_web_5Aug14.pdf

⁵⁴ National Fly-Tipping Prevention Group (2014) Website: http://www.tacklingflytipping.com/aboutfly-tipping/1474, accessed 18/12/2014

⁵⁵ https://www.gov.uk/government/policies/reducing-and-managing-waste, p7

Environment Agency (2013) Cracking down on waste crime: Waste crime report 2012-2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/288604/LIT_8776_9 56402.pdf, p8

⁵⁷ https://www.gov.uk/government/policies/reducing-and-managing-waste

http://www.tacklingflytipping.com/Documents/NFTPG-Files/20140410%20Fly-tipping%20framework%20FINAL.pdf

National Fly-Tipping Prevention Group (2014) Website: http://www.tacklingflytipping.com/keystatistics/1494, accessed 18/12/2014

⁶⁰ Environmental Services Association Education Trust (2014). Waste Crime: Tackling Britain's Dirty Secret,

authorities carried out nearly 500,000 enforcement actions during 2013-2014 at an estimated cost of £17.3m, equating to an increase of 18% on enforcement actions and £2m in cost from the previous year⁶¹. In addition, the cost to private landowners of clean-up and disposal associated with fly-tipping is estimated to be in the region of £50-150m per year⁶². The total financial cost of dealing with fly-tipping in the UK (including incidents on private and public land) is estimated at around £186.6m for 2013/13, with a cost to local authorities of around £135m for 2012/13⁶³. Table 1 below offers data on the clearance and enforcement costs incurred in relation to fly-tipping in England between 2007 and 2011.

Table 1 Clearance and enforcement costs related to fly-tipping in England, 2007-2011

	Clearance Cost (£)	Enforcement Cost (£)
2010/11	41,276,026	20,647,763
2009/10	45,778,579	19,094,665
2008/09	54,966,562	18,310,392
2007/08	63,660,866	17,520,948
TOTAL	205,682,033	75,573,768

In 2012, 2,354 tonnes of household waste was reported as fly-tipped and delivered to landfill in **Ireland**⁶⁴; 13,700 tonnes of fly-tipped waste was accepted for disposal in landfills in 2011, 14,958 tonnes in 2010 and 16,573 tonnes in 2009⁶⁵. It is unclear why the amount reported for 2012 is so much smaller. The PURE project was set up in 2006 as a pilot to tackle small scale illegal dumping/fly-tipping in the Wicklow/Dublin upland regions⁶⁶. The project was continuing to receive funding at the time of writing of this case study in early 2015. From 2006 to 2014, the PURE project's dedicated phone-line and the PURE office received over 7,650 reports of illegal dumping resulting in over 7,350 collections and the removal of around 2,400 tonnes (2.4 million kg, the equivalent of around 340,000 standard household rubbish bags) of rubbish from the local landscape. This equates to an average of 266 tonnes of fly-tipped waste per year for the period 2006-2014. In 2007, over 500 items of electrical equipment were collected, rising to 800 in

http://www.esauk.org/reports_press_releases/esa_reports/ESAET_Waste_Crime_Tackling_Britains_Dirt y_Secret_EMBARGOED.pdf

nttp://www.esauk.org/reports_press_releases/esa_reports/ESAE1_Waste_Crime_Fackling_Britains_Dirt y_Secret_EMBARGOED.pdf

- EPA, National Waste Report 2012 (2014) http://www.epa.ie/pubs/reports/waste/stats/EPA_NWR12_Complete_to_web_5Aug14.pdf
- 65 EPA, National Waste Report for 2011 (2013) http://www.epa.ie/pubs/reports/waste/stats/EPA_NWR11_12Nov11_haz%20tables%20updated%20as %20per%20errata.pdf

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/368513/Flycapture_201314_Statistical_Release_FINAL_2_.pdf

http://www.tacklingflytipping.com/Documents/NFTPG-Files/20140410%20Flytipping%20framework%20FINAL.pdf

⁶³ Environmental Services Association Education Trust (2014). Waste Crime: Tackling Britain's Dirty Secret,
http://www.esauk.org/reports_press_releases/esa_reports/ESAET_Waste_Crime_Tackling_Britains_Dirt

⁶⁶ The PURE project, funded by the Department of Environment Community and Local Government, includes the following partner organisations: Wicklow County Council, Dun Laoghaire Rathdown County Council, South Dublin County Council, as well as Coillte, National Parks & Wildlife Service, and a number of non-statutory organisations represented by the Wicklow Uplands Council.

2008; from 2009 to the end of 2014, however, the amount of electrical equipment dumped in the uplands decreased. The figures from the PURE project do not provide a complete picture, however, since they do not include fly-tipped waste collected by local authorities in the area from some of the most aesthetic, scenic, and frequented areas. Whilst some increase in small-scale dumping (e.g. of individual bag of household waste) was observed during the economic downturn, the PURE project reports that the larger-scale historic dumping sites appear to have gone.

1.5 Law enforcement responses and their effectiveness

Given the small scale of localised pollution incidents, in many cases there is not enough potential gain at stake for them to be the result of organised crime. It is possible that small-scale incidents occur more as a result of negligence and/or opportunistic attempts to avoid the cost/effort of carrying out 'proper' waste disposal, for example to avoid paying the gate fee for delivering bulky waste to a municipal landfill or arranging for the collection of bulky items, which may require a fee to be paid. Some incidents may, however, involve larger scale and more organised criminal activity, for example those involving industrial wastes, tyres, C&D and liquid wastes⁶⁷.

A general picture was found of the sanctions for illegal waste dumping in the EU Member States (albeit for 2007, so they may have changed in recent years) 68. For an intentionally committed offence that causes or is likely to cause substantial environmental damage, the average prison penalty in the EU is up to 2 years (ranging from 1 day for a misdemeanour in Austria to 10 years (for especially serious environment crime in Germany, crime resulting in death/grievous bodily injury in Greece, and conviction on indictment in Ireland) or even 15-20 years in the case of death of one or more persons or major damage to national economy in Romania). Criminal penalties exist for the unlawful dumping, dealing or elimination of hazardous waste in Germany, the Czech Republic, Italy, Latvia and Slovenia. Administrative fines apply to the unlawful dumping of non-hazardous waste in Germany and Italy. In Germany, acts are not punishable if there is no harmful environmental effect due to the small quantity of wastes involved. For offences committed by negligence that cause or are likely to cause substantial damage to the environment, most Member States do not distinguish between the penalties applicable to deliberate action and negligence; instead, the level of penalties is typically based on the amount of damage caused. The sanctions for an offence involving large-scale environmental harm or danger to human health range from 2 years to 10 years, with some countries (UK, France, Estonia, Greece) not imposing more severe penalties in the case of large-scale environmental damage.

In **England and Wales (UK)**, it is an offence for householders to dispose of waste in a way that is harmful to the environment or human health. This element of waste legislation is mainly targeted at fly-tipping and other illegal waste activities, and local government authorities have powers to penalise illegal fly-tipping, e.g. by issuing a fixed penalty notice or by prosecution of the person responsible (which can lead to imprisonment and/or a fine)⁶⁹. The Environment Agency (EA) is responsible for the enforcement of waste regulation. EA staff work with local government, other regulators/enforcement bodies, conservation bodies, voluntary groups and NGOs to ensure coherent regulation. In cases of non-compliance, advice/guidance is normally provided to the offender in the first instance, and solutions and timescales for improvements agreed where appropriate. The use of formal enforcement powers and sanctions may be

http://www.tacklingflytipping.com/Documents/NFTPG-Files/20140410%20Fly-tipping%20framework%20FINAL.pdf

⁶⁸ Huglo Lepage & Partners (2007) Study on environmental crime in the 27 Member States. Final report, http://ec.europa.eu/environment/legal/crime/pdf/report_environmental_crime.pdf, Annex I - Complete tables per Member State, http://ec.europa.eu/environment/legal/crime/pdf/crime_annex1.pdf and Annex III - tables per offence, http://ec.europa.eu/environment/legal/crime/pdf/crime_annex3.pdf

⁶⁹ UKELA, Law and your environment website, http://www.environmentlaw.org.uk/rte.asp?id=87, accessed 09/02/15

necessary if these approaches do not succeed. Formal options available to the EA include: issuing a warning; statutory enforcement notices and works notices (e.g. under the Environmental Protection Act 1990 a notice to remove waste can be issued (Section 59 and 59Z)); prohibition notices; injunctions; civil and financial sanctions (including Fixed Penalty Notices); formal cautions; and prosecution. The EA publishes information on its enforcement activities, where appropriate, to raise awareness of the need to comply (indeed the EA's guidance on enforcement and sanctions suggests that 'prosecutions, because of their greater stigma if a conviction is secured, may be appropriate even for minor non-compliances where they might contribute to a greater level of overall deterrence'⁷⁰), and seeks to recover the costs of investigation and enforcement proceedings in accordance with the 'polluter pays' principle.⁷¹

In **Ireland**, local authorities are responsible in the first instance for dealing with any illegal waste disposal incidents in their area and taking appropriate enforcement action. The Waste Management Act 1996 (as amended) granted local authorities significant powers to tackle illegal waste activity and to recover the costs of associated recovery or disposal from the person deemed by a court to be responsible for the incident (see Sections 55 and 56 of the Act⁷²). The Office of Environmental Enforcement (OEE), which was established in 2003 under the Environmental Protection Agency (EPA), has a supervisory role over the environmental protection activities of local authorities, and acts as a resource to members of the public who have exhausted all other avenues of complaint.73 The OEE's aims include: to improve overall compliance with environmental protection legislation; to ensure that local authorities carry out their statutory environmental protection functions; to achieve better and more consistent enforcement of the Waste Management Acts by local authorities (in particular with regards to unauthorised waste disposal and recovery); to take appropriate, coherent, consistent, objective and timely enforcement action; and to communicate its enforcement action to stakeholders74. In Ireland, the illegal disposal of rubbish on land that does not have a waste licence, or disposal that is done without approval or permission, is an illegal act and a criminal offence. It is punishable by fines ranging from €150 to €10 million upon conviction and/or 10 years' imprisonment. 75 When pursuing prosecutions, the OEE aims to ensure that sanctions are imposed that mean offenders do not derive economic benefit from their violation of environmental law⁷⁶. If a householder/business hands over their waste to an unauthorised door-to-door waste collector (knowingly or unknowingly), they are also breaking the law since the Waste Management Act states that responsibility and ownership of waste remains with the waste holder until it is collected by an authorised waste collector.⁷⁷ In addition to court cases, in Ireland the OEE may issue a warning letter to notify a suspected offender of the offence they have committed; this letter will be clear and will outline the remedial action

The Environment Agency (2014) Enforcement and Sanctions – Guidance, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/389349/LIT_5551.pd f, p12

Find the Environment Agency (2014) Enforcement and sanctions statement, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/389348/LIT_5197.pd f

Waste Management Act 1996, http://www.irishstatutebook.ie/1996/en/act/pub/0010/index.html#zza10y1996

Department of Environment, Community and Local Government (Ireland) website, http://www.environ.ie/en/Environment/Waste/WasteEnforcement/

⁷⁴ Environmental Protection Agency (no date) Office of Environmental Enforcement (OEE) Enforcement Policy, http://www.epa.ie/pubs/reports/enforcement/OEE%20Policy.pdf

⁷⁵ PURE project website, http://www.pureproject.ie/what-we-do/illegal-dumping/

⁷⁶ Environmental Protection Agency (no date) Office of Environmental Enforcement (OEE) Enforcement Policy, http://www.epa.ie/pubs/reports/enforcement/OEE%20Policy.pdf

⁷⁷ PURE project website, http://www.pureproject.ie/what-we-do/illegal-dumping/

that should be taken; it may also be referred to in subsequent legal proceedings. Legally binding statutory notices can be issued to ensure proper waste management and prevent environmental pollution from waste.

Both the **UK** and **Ireland** have dedicated telephone numbers and websites for members of the public to report incidents of illegal dumping (in the UK, the EA's free 24-hour hotline for reporting large fly-tips (in England and Wales), the Dumb Dumpers hotline (Scotland), and the Fix My Street/Fly-tipping Action Wales/Dumb Dumpers websites⁷⁸; and in Ireland, the Illegal Dumping Phone Line/National Environmental Complaints Line, a phone app launched in 2012, and the www.fixyourstreet.ie website⁷⁹).

In terms of enforcement activities in England and Wales (UK) between April 2012 and March 2013, 550 arrests were made and around 350 vehicles seized in relation to scrap metal theft and crime. In England, 171 successful prosecutions were made, and 62 formal cautions for waste crime were issued. Total fines imposed for waste crime amounted to £827,940 (the highest fine was £75,000 and the average fine £7,137). Five custodial sentences were also handed down, with the longest sentence being 18 months.⁸⁰ In addition to prosecutions, the Environment Agency tackles illegal activities through methods such as stop notices, injunctions and bail conditions (which can be used to stop illegal activity whilst awaiting a court case; if bail conditions are broken, this can help to ensure a custodial sentence); during 2012-2013, the Environment Agency successfully applied to the court for two injunctions, and had bail conditions imposed on 12 occasions. If offenders plead ignorance of the law as a reason for committing an environmental crime, the Agency provides advice and guidance on their legal obligations. Softer actions such as this tend to represent the vast majority of successful action against illegal activity, which prevents the need for formal enforcement action. Finally, the Environment Agency expects to receive £1,158,330 from the Proceeds of Crime Act (POCA) for confiscation orders issued between 2011 and 2013 (12 in 2012-2013, and 26 in 2011-2012). The POCA allows courts to remove offenders' assets when they have been gained from crime through a 'confiscation order', thereby creating a financial deterrent against criminal activity).81 English local authorities carried out nearly 500,000 enforcement actions during 2013-2014, an increase of 18% on enforcement actions from the previous year⁸².

Figure 4, Figure 5, and Table 2 are based on UK data (for England only) related to fly-tipping for the period 2007-2011, and illustrate the number, type, outcome and cost of actions taken in relation to fly-tipping. 2,133,633 actions in total were taken during the period, with the number increasing on an annual basis (503,662 in 2007-8; 524,796 in 2008-9; 537,123 in 2009-10; and 568,052 in 2010-11).83 Since there were a total of 4,215,603 incidents of fly-tipping over the period, it can therefore be assumed that the perpetrators of fly-tipping were identified in around 51% of cases.

⁷⁸ http://www.environmentlaw.org.uk/rte.asp?id=29

⁷⁹ http://www.epa.ie/pubs/reports/enforcement/OEEFoEE2014_8th%20FINAL%20PROOF.pdf

Environment Agency (2013) Cracking down on waste crime: Waste crime report 2012-2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/288604/LIT_8776_9 56402.pdf,

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Figure 4 Type of actions taken against fly-tippers in England (UK), 2007-2011

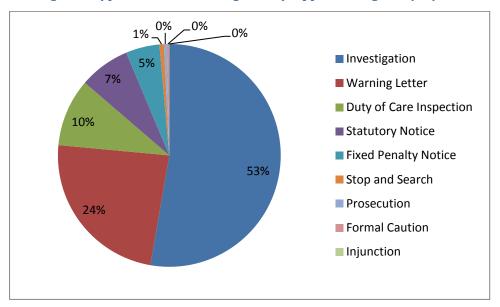


Figure 5 Outcome of actions taken against fly-tippers in England (UK), 2007-2011

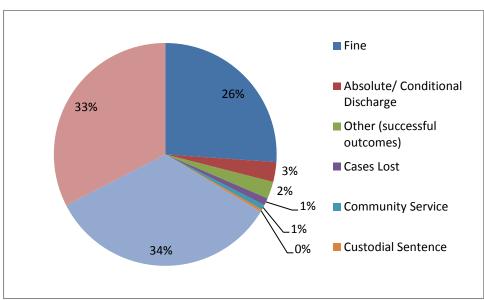


Table 2 Size of fines imposed for fly-tipping in England (UK), 2007-2011

	£0 to £50	£51 to £200	£201 to £500	£501 to £1,000	£1,001 to £5,000	£5,001 to £20,000	£20,001 to £50,000	over £50,000
2010/11	172	1,104	454	245	50	6	-	-
2009/10	274	947	452	110	70	6	-	-
2008/09	185	722	407	114	67	2	-	-
2007/08	134	963	330	95	92	9	1	-
TOTAL	765	3736	1643	564	279	23	1	0

Over the period 2007-2011, 9,070 total prosecutions were made, with 8,735 (96%) being successful. 88% of fines were in the range of £0-£500, and only 24 fines were for over £5,000.

In Ireland, according to the Environmental Protection Agency, in 2012 local authorities in Ireland received 50,000 direct complaints of illegal dumping of waste, plus 1,700 diverted from the EPA's 24-hour National Environmental Complaints Line (NECL). 47% of complaints to the NECL related to fly-tipping, and 18% to larger scale dumping of amounts greater than 20 bags of rubbish. The top three local authorities for complaints were Dublin City Council, Wicklow County Council, and South Dublin County Council, three of the local authority areas involved in the PURE Project. The number of prosecutions in 2012 was, however, variable: Cork City Council prosecuted 65 cases in 2012 for offences under the Litter Pollution Acts; Dublin City Council issued 1,461 fines for illegal dumping and initiated 256 prosecutions for non-payment of fines, obtaining 73 convictions in court; Limerick City Council brought 122 prosecutions for fly tipping, of which 66 were successful; there were no prosecutions for fly tipping by Galway City Council; and in Dún Laoghaire/Rathdown there were six successfully prosecutions.⁸⁴ Between 2009 and 2012, local authorities carried out 38,000 inspections in relation to unauthorised waste activities (including vehicle checkpoints, backyard burning, inspections relating to waste complaints, and unauthorised waste facilities); it is unclear how many of these related to the illegal dumping/fly-tipping of waste⁸⁵. Between August 2011 and January 2015, 27,547 separate reports were submitted in the littering/illegal dumping category on the www.fixyourstreet.ie website⁸⁶. Based on a scan of 10 random pages of reports, around 59% (16,253) of these could be considered as genuine fly-tipping/illegal dumping incidents, averaging 4,644 incidents per year⁸⁷.

5. Conclusions and policy implications

Existing laws and sanctions relating to fly-tipping/illegal waste dumping in the **UK** appear to be reasonably effective. In England (UK), during the period 2007-2011, the number of prosecutions rose, with the percentage of successful prosecutions remaining stable over that time period. This suggests that the enforcement and prosecution system in the England is functioning well (although there are of course still many hundreds of thousands of fly-tipping incidents per year). The fact that the perpetrators of fly-tipping appear to have been identified in around 51% of cases (based on the number of actions taken), it would seem that the system for identifying perpetrators has some degree of success. In addition, the number of fly-tipping incidents fell over the same time period, suggesting that the enforcement/deterrent measures in place have had an impact in reducing the incidence of fly-tipping/illegal waste dumping. Based on the limited data found for **Ireland**, enforcement measures/prosecutions there appear to be less successful.

A 2006 report investigating the causes, incentives and solutions for fly-tipping suggested several potential ways to prevent fly-tipping, including making it more difficult, increasing the (perceived) risk to fly-tippers, reducing (perceived) reward to fly-tippers, reducing provocation for fly-tipping and removing

⁸⁴ Irish Examiner (2013), '51,700 complaints but few prosecutions for dumping', 20 May 2013, http://www.irishexaminer.com/ireland/51700-complaints-but-few-prosecutions-for-dumping-231726.html

⁸⁵ http://www.epa.ie/pubs/reports/enforcement/OEEFoEE2014_8th%20FINAL%20PROOF.pdf

Fix Your Street website (2015) Litter and illegal dumping reports, http://www.fixyourstreet.ie/reports?c=6&page=1

⁸⁷ A scan of 10 pages of reports to assess the accuracy/legitimacy of reports resulted in around 41% of reports (81 out of 200) being revealed as either very small-scale littering or other incorrectly categorized incidents).

excuses for offenders⁸⁸. A report by the Irish EPA⁸⁹ also discussed a raft of potential actions that could be undertaken to tackle fly-tipping/illegal dumping of waste. Based on these sources, a range of actions could be considered as appropriate to tackle the issue, both including and in addition to the existing legislative framework and criminal/civil sanctions. These include:

- The development (by an appropriate authority) of a map/list of all known fly-tipping/illegal dumping sites. This could then be used as the basis for more targeted action, such as the installation of CCTV cameras, regular inspections or vehicle checks in order to provide further deterrents to fly-tippers and increase the success rate of identifying perpetrators;
- Continued efforts to bring those responsible for (serious) cases of illegal waste dumping before the courts with a view to securing prosecutions;
- The use of media/online/public information campaigns, e.g. to advertise telephone hotlines to report dumping and to raise awareness both of the issue and of the sanctions that can be taken against perpetrators. This could help to act as a deterrent;
- Ensure that local authorities/enforcement agencies have adequate, and adequately trained, staff
 resources to deal with incidents of fly-tipping/illegal waste dumping, and to undertake
 inspections/checks to help prevent them. This may also involve the provision of guidance or
 training, e.g. from central government;
- Ensure that all relevant bodies involved in waste enforcement (local authorities, national enforcement agencies, police, courts, revenue/tax authorities etc) are in regular contact to enable them to work together effectively on preventing fly-tipping and identifying and prosecuting those responsible, e.g. through regular meetings, working groups, information sharing etc;
- Ensure that all local authorities/responsible bodies in a Member State are applying the legislation and associated sanctions for fly-tipping consistently. This will ensure that no single area of the country is seen as a 'soft touch' and therefore becomes a particular target for fly-tipping/illegal dumping of waste; and
- Where a landfill tax is in place, this (or perhaps the rate multiplied by a factor to be determined) could be applied retrospectively to those found to be responsible for illegal dumping.

Given the localised nature of fly-tipping/illegal dumping incidents, it is not an area where EU level involvement is necessarily obvious. Member States would likely be resistant to any attempts to introduce EU legislation on fly-tipping, since it is an issue that is largely dealt with at the local/regional level. However, EU contributions to the issue could perhaps include making available funding (e.g. through the LIFE or INTERREG programmes) for exchange of information and best practices between local authorities in different Member States, to allow those with lower rates of success of dealing with fly-tipping/illegal waste dumping to learn from those who have had greater successes with tackling the issue. Some efforts could also be made to encourage Member States to gather more systematic data on fly-tipping incidents, to help to assess the scale of the problem across the EU. This could help to identify whether it is an issue that could, in fact, usefully be the subject of more EU level action (whether legislative or not).

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7. Annex tables

Table showing sanctions for natural persons (individuals) and legal persons (companies) for illegal dumping of waste in the $EU27^{90}$.

Country	Type and level of criminal sanction for natural persons	Type and level of sanction for legal persons
Austria	Misdemeanour: prison from 1 day to 2 years Misdemeanour under aggravating circumstances: prison up to 3 years	No corporate criminal liability. In administrative penal law, pecuniary fine of up to €36,340 imposed on the (responsible) representative
Belgium	• Walloon District:	Criminal penalties:
	Illegal dumping: Prison 8 days to 3 years	Walloon district:
	Intentional offence: Prison 1 month to 5 years	Illegal dumping: €2.5 to € 50,000
	Illegal dumping causing harm to human	Intentional offence: Fine of €12.5 to €140,000
	health: Prison 6 months to 5 years Intentional illegal dumping causing harm to	Illegal dumping causing harm to human health: fine of €75 to €50,000
	Human Health: Prison 6 months to 5 years • Brussels:	Intentional illegal dumping causing harm to human health: fine of €75 to €280,000
	Illegal dumping of a person's own waste in	• Brussels
	Illegal dumping of waste other that own waste in violation of article 8 of the Order: Prison 1 to 6 months • Flanders:	Illegal dumping of a person's own waste in
		violation of art 8: Fine from €2.5 to €250
		If dangerous waste: fine from €5 to €500
		Illegal dumping of waste other that own waste in violation of article 8 of the Order: fine from €5 to €2,500
	rrison i mondi to 3 years	If dangerous waste: fine from €15 to €7,500
		• Flanders:
		Fine from €12.5 to €56,000
Bulgaria	If danger for people, animals and plants or unfit for using for cultural and household, health, agricultural and other economic needs: prison up to five years	Criminal fine: from €750 to €2,500
Cyprus	Prison: up to 3 years	Criminal fine up to €34,500
Czech Republic	Prison penalty up to 2 years (up to 5 years under very aggravated circumstances)	No corporate criminal liability The maximum administrative fine is €1,666,666

⁹⁰ Huglo Lepage & Partners (2007) Study on environmental crime in the 27 Member States, Annex III tables per offence, http://ec.europa.eu/environment/legal/crime/pdf/crime_annex3.pdf

Denmark	Prison: up to 2 years (if serious offence that causes damage to the environment or	Criminal fine: no limitation	
	imminent danger for such damage: up to 4 years)		
Estonia	Prison penalty up to 3 years (up to 1 year if negligence)	Criminal fine up to €16,000,000	
Finland	Prison penalty up to 2 years (except for aggravated impairment up to 6 years)	Criminal fine from €850 to €850,000	
France	Prison: up to 2 years	Criminal fine: Five times the fine established for natural persons: up to €375,000	
Germany	Prison up to five years (for especially serious	No corporate criminal liability	
	environment crime up to 10 years)	Administrative fine up to €500,000	
Greece	Prison:	Criminal fine from €147 to €14,673	
	• from 3 months to 2 years		
	• if danger of death or grievous bodily		
	injury: imprisonment of not more		
	than 10 years		
	• if negligence: up to 1 year		
Hungary	Prison up to 8 years	Criminal fine can range from €2,000 to a sum	
	If no danger to the environment: petty offence (administrative fine)	three times the financial advantage the crime originally aimed at	
Ireland	Waste management Act	The penalties applicable to legal persons are the	
	Summary conviction: Prison penalty up to 1 year Conviction on indictment: Prison penalty up to 10 years	same as those applicable to natural	
		waste management Act	
		Summary conviction: fine up to €2,260	
		Conviction on indictment: Fine up to	
		€15,000,000	
Italy	Dangerous waste: if the offender does not	No corporate criminal liability	
	repair the damages to the environment	No administrative sanction	
	and does not remove the waste, imprisonment up to $1\ \mbox{year}$		
Latvia	Repeated violation of provisions regarding	Criminal sanction:	
	elimination of hazardous waste: Prison up to 2 years	Monetary levy (no amount of fine is provided in	
	Repeated violation of provisions regarding elimination of hazardous waste causing substantial harm to the environment: Prison up to 4 years	the Criminal Code)	
	Unauthorized burial of hazardous substances in waters: Prison up to 4 years		

Lithuania	If the offence causes serious danger to life and health of people or which could involve significant damage to fauna and flora or other consequences for the environment: Prison up to 3 years	Criminal fine up to €362,025
	If the offence causes major harm to fauna and flora or other major consequences: Prison up to 6 years	
Luxembourg	Prison from 8 days to 6 months	No Corporate criminal liability
		No administrative fine
Malta	In case of re-offending: Imprisonment for a up to 2 years	Criminal fine from €1,157 to €2,315
Netherlands	In case of a felony: up to 6 years imprisonment	Criminal sanctions:
	In case of a misdemeanour: up to 1 year	Felony: fine up to €450,000
	detention	Misdemeanour: fine up to €45,000
Poland	Prison: 5 days to 5 years	Criminal financial penalty to a maximum amount of 10% of incomes
Portugal	Prison: 1 to 8 years	No corporate criminal liability
		Administrative fine: from €7,500 to €44,890
Romania	Strict imprisonment from 1 to 7 years	Criminal Fine from €296 to €222,649
	If death of one or more persons or in major damage to national economy: 15 to	
	20 years	
Slovakia	Prison penalty up to 2 months in case of minor offence	Criminal fine up to €2,168,818
	Prison penalty from 6 months to 3	
	years for more important offence	
	Prison penalty from 1 to 5 years in case of important offence	
	Prison penalty from 4 to 8 years for large scale offence	
Slovenia	prison up to 1 year	No Fine
Spain	prison 6 months to 7 years	No Fine
		Administrative fines (only for serious
		breaches) from €30,050 to €1,202,024
Sweden	Prison: up to two years	Administrative sanctions:
	Prison: from 6 months to 6 years if the offence is serious	Environmental sanction charges (from €500 to €100,000

United	England, Scotland, Wales:	England, Scotland, Wales:
Kingdom	Summary conviction: Prison up to 6 months	Summary conviction: Fine up to €30,000
	Indictable offence: Prison up to 2 years	Indictable offence: Unlimited fine
	Northern Ireland:	Northern Ireland:
	Summary conviction: Prison up to 6 months	Summary conviction: Fine up to €30,000
	Indictable offence: Prison up to 2 years	Indictable offence: Unlimited fine

The table and figure below provide an overview of illegal waste dumping in the EU-28. The year of the data is not clear, although it appears to be from 2011 or earlier⁹¹.

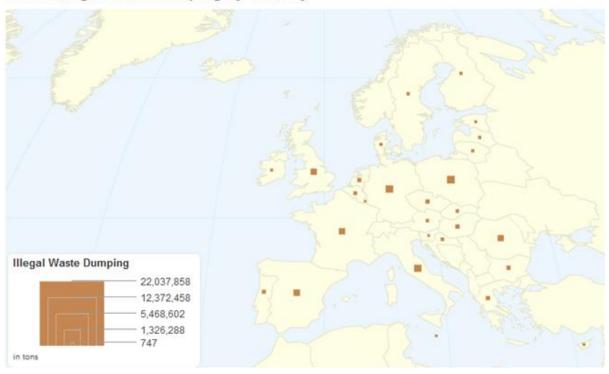
Member State	Illegal waste dumped per year (in tonnes)	Rank in EU (most waste dumped illegally = 1)
Austria	32,694	17
Belgium	56,212	14
Bulgaria	87,803	9
Croatia	39,700	16
Cyprus	7,778	26
Czech Republic	73,877	13
Denmark	24,261	20
Estonia	12,920	24
Finland	21,738	21
France	242,352	6
Germany	345,154	2
Greece	75,326	11
Hungary	89,393	8
Ireland	19,988	22
Italy	332,903	3
Latvia	19,285	23
Lithuania	30,353	19
Luxembourg	2,174	28
Malta	2,745	27
Netherlands	75,838	10

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⁹¹ ChartsBin statistics collector team 2011, Global Illegal Waste Dumping by Country, ChartsBin.com, viewed 19 December 2014, http://chartsbin.com/view/576 (original data source data Global Illegal Waste Dumping by Country, www.letsdoitworld.org, viewed 4th February, 2011, www.letsdoitworld.org)

TOTAL EU-28	2,871,186	-
United Kingdom	252,427	5
Sweden	32,660	18
Spain	260,313	4
Slovenia	12,727	25
Slovakia	44,538	15
Romania	230,489	7
Portugal	74,419	12
Poland	371,119	1

Global Illegal Waste Dumping by Country



The table below presents data from a website that collates real-time information from citizens on fly-tipping incidents observed worldwide 92 .

Member State	Number of reported fly-tips (19 December 2014)
Austria	16

⁹² Trashout website, http://www.trashout.me/statistics/europe, accessed 19/12/2014

Belgium	36
Bulgaria	14
Croatia	1,982
Cyprus	23
Czech Republic	1,424
Denmark	7
Estonia	975
Finland	5
France	374
Germany	540
Greece	96
Hungary	52
Ireland	8
Italy	437
Latvia	89
Lithuania	0
Luxembourg	0
Malta	324
Poland	492
Portugal	214
Romania	1,410
Slovakia	3,542
Slovenia	10
Spain	205
Sweden	47
The Netherlands	26
United Kingdom	280
TOTAL for EU-28	12,628

