European Union Network for the Implementation and Enforcement of Environmental Law

IMPEL – TFS Enforcement Actions

Project Report 2016 – 2017

Enforcement of the European Waste Shipment Regulation

Date of report: 6 July 2018

Report number: 2018/04

Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) is an international non-profit association of the environmental authorities of the EU Member States, acceding and candidate countries of the European Union and EEA countries. The association is registered in Belgium and its legal seat is in Brussels, Belgium.

IMPEL was set up in 1992 as an informal Network of European regulators and authorities concerned with the implementation and enforcement of environmental law. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. The core of the IMPEL activities concerns awareness raising, capacity building and exchange of information and experiences on implementation, enforcement and international enforcement collaboration as well as promoting and supporting the practicability and enforceability of European environmental legislation.

During the previous years IMPEL has developed into a considerable, widely known organisation, being mentioned in a number of EU legislative and policy documents, e.g. the 7th Environment Action Programme and the Recommendation on Minimum Criteria for Environmental Inspections.

The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on both technical and regulatory aspects of EU environmental legislation.

Information on the IMPEL Network is also available through its website at: www.impel.eu

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1.0 EXECUTIVE SUMMARY

The European Regulation (EC) No 1013/2006 on shipments of waste concerns the prevention of the illegal shipment of waste. Obligations are placed on Member States to carry out waste shipment inspections, to cooperate with each other, and to establish appropriate penalties and fines to deter illegal shipments. The Enforcement Actions V (EA V) Project is the ninth inspection project under the umbrella of IMPEL-TFS. It follows on from the Seaport projects I & II, the Verification projects I & II (running from 2003 up to June 2006), the Waste Enforcement Actions (EA I) Project (from 2006 to 2008), European Enforcement Actions II (EAII) Project (from 2008 to 2012), Enforcement Actions III project (from 2012 – 2013) and the Enforcement Actions IV project (from 2014 – 2015). It aims to promote and improve inspections and enforcement of waste shipments through and out of the European Union.

The project objectives included carrying out inspections on waste shipments, knowledge exchange and capacity building in order to harmonise the level of enforcement and expertise within the participating countries. For this purpose joint activities were carried out over six inspection periods throughout 2016 (Year 1) and 2017 (Year 2). This report covers the results for the inspection periods in both Years 1 and 2.

Thirty-four countries participated in the project; these were Austria, Belgium, Bulgaria, Croatia, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, England, Wales, Scotland and Northern Ireland of which, 27 countries submitted inspection results. Where joint border controls occurred, one country submitted the inspection results. Contact was also made with Iceland, Macedonia, Turkey and Ukraine with an attempt to involve them in the project.

A total of 3942 administrative and 6720 physical transport inspections were undertaken in Year 1, with the majority conducted on roads or at ports, combining a mix of random, on site and targeted inspections. Waste shipments accounted for 28.7% of these inspections, of which 33.4% (1020) were in violation of the Waste Shipment Regulation (WSR). Over the same period, 92 company inspections took place, of which, 91.3% were waste-related, with 42 violations detected.

A total of 2106 administrative and 9502 physical transport inspections were undertaken throughout Year 2. The proportion of waste shipments was 23.8% (2766) and, of these waste-related transport inspections, a total of 853 (30.8%) were in violation of the WSR. Over the same period, 700 company inspections took place, of which, 423 were waste related, with 94 violations detected.
When combining the transport and company inspections, the waste shipment violation level decreased from 29% in Year 1 to 26% in Year 2.

It should be noted that the reported figures do not reflect the overall number of inspections and violations in Europe, as the project gives a ‘snapshot’ of total inspection activity within the participant countries.

These results clearly show the active participation of the majority of Member States in the project. The sustained level of inspections, plus the participation of customs officers, police officers and port authorities indicate that enforcement of the EU waste shipment regulation remains a priority in many Member States. The violations captured in this project also clearly demonstrate that there is still effort needed to move towards a level playing field of enforcement.

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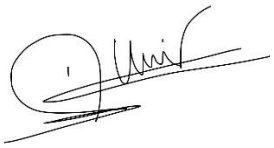
2.0 FOREWORD

The Enforcement Actions projects have long been the cornerstone of IMPEL members' practical work on tackling illegal waste shipments. This report marks the successful completion of the latest tranche of this work.
There is no doubt in my mind that illegal waste shipments remain a widespread and significant issue for Europe, both for intra-European shipments and those being exported from Europe to developing countries. Criminal waste shipments in particular have the potential to serious harm to the environment and human health in receiving countries.

The results of this project clearly show the active participation of IMPEL members in tackling illegal shipments of waste. The sustained level of inspections and the participation of customs officers and police indicate that enforcement of the EU waste shipment regulation remains a priority in most European countries. The IMPEL network hopes to use 'Enforcement Actions' as a model for a participatory approach to compliance monitoring and enforcement.

Let me conclude by emphasising that the IMPEL network hopes to take this work to the next level with the Shipments of Waste Enforcement Actions Project. I look to IMPEL members and partners to continue their cooperation and joint efforts to achieve success in preventing illegal waste shipments.



Chris Dijkens
Chair of the IMPEL Network

3.0 INTRODUCTION

Waste shipments can be a double-edged sword. If properly carried out in an environmentally sound manner, they can deliver resources to industries that use them; however, improper or inadequate treatment of waste can cause severe damage to the environment and human health. Increasingly demanding recovery targets coupled with the declining access to raw materials has led to the rapid rise in global waste shipments. Inadequate or incomplete implementation of environmental legislation can have the undesirable consequence of undermining policy makers' intentions and damaging third countries.

The European Community has set up rules for waste management and targets for recovery to minimise the risks associated with managing waste. European Regulation (EC) No 1013/2006 on shipments of waste (WSR) contains a number of measures to prevent the illegal shipment of waste. These include obligations on Member States (MS) to carry out waste shipment inspections, to cooperate with other MS and to establish appropriate penalties and fines. The WSR was amended in 2014 to strengthen the rules by clarifying 'burden of proof' requirements and ensuring that all Member States put inspection plans in place. These plans had to be in place by January 2016. Any future Enforcement Actions project will include refer to these plans and the progress regulators are making in meeting their objectives.

Currently, the work of IMPEL is grouped into expert groups; the Waste and TFS cluster covers the Transfrontier Shipment of Waste (TFS) regime. Since 2003 the IMPEL-TFS cluster has carried out several enforcement projects with the aim of supporting effective cross-border control of waste shipments and targeting those waste shipments suspected of being illegal.

The Seaport I & II projects focused on waste shipments via seaports; the Verification I & II projects concentrated on shipments within Europe. Both the Seaports and the Verification projects ran from 2003 until 2006. The objectives of these projects were continued in the Enforcement Actions I, II, III and IV projects. These projects clearly displayed the need for cross-border collaboration at an operational level in order to implement and enforce the WSR effectively. During these projects, valuable experience was gained on inspection methods, the planning of inspections and the exchange of staff and technical information. This latest tranche of IMPEL Enforcement Actions project has come to a successful end, after fulfilling six inspection periods. This report contains the results, conclusions and recommendations of this project, covering the inspection periods March 2016 to October 2017.

The Enforcement Actions work within IMPEL forms part of core work for the group, which is reported in two yearly inspection cycles. The 2016 - 2017 inspection cycle is termed 'Enforcement Actions V' in this report to enable comparisons with previous twenty-four month projects.

The main objectives of this project are similar to those of the previous Enforcement Actions projects including the following:

- To work towards an adequate level of inspections in all Member States;
- To introduce complete measures in order to prevent and detect illegal waste shipments and to deter illegal waste exporters;
- To verify waste destination and the treatment at destination within or outside Europe;
- To set up training and exchange programmes for inspectors; and
- To maintain and improve the network and collaboration of front line inspectors and other competent authorities.

The report includes comparison of data where there has been noticeable trend change compared to previous years. The results of this project will be distributed to various stakeholders such as the IMPEL network, the European Commission, Member States, IMPEL-TFS National Contact Points, the European Parliament, the Waste Shipment Correspondents Group, the Basel Secretariat and NGOs, and be published on the IMPEL website.

4.0 PROJECT APPROACH, WORKFLOW AND PROGRESS

The IMPEL Enforcement Action project has enabled joint inspections and exchange programmes under Regulation EC (No) 1013/2006 to take place. These inspections took place on roads, harbours and railheads, as well as at waste producers' and waste management companies' sites.

Internal and external communications were established via an online communication platform (Basecamp), newsletters, press releases and physical and online meetings.

The coordinator of the project has been the Scottish Environment Protection Agency (SEPA) under the umbrella of the IMPEL. Funding for meetings, exchanges and inspection tools was provided by IMPEL. The participants contributed their time and expertise, and host countries also contributed financially during exchanges. It is estimated that over 2040 days a year was contributed each year by those taking part in the project (please see section 4.2 Time committed to the project) and 4080 days throughout the course of the two year inspection cycle. The project has also collected results from inspections conducted outwith the inspections periods to increase the data available to officers to assist them with targeting their work.

This report covers inspection results and project outcomes from March 2016 through to October 2017.

4.1 OVERALL DEVELOPMENTS SINCE ENFORCEMENTS ACTIONS IV

4.1.1 CHINESE NATIONAL SWORD CAMPAIGN

In July 2017 China announced to the World Trade Organisation their intentions to prohibit 24 categories of solid waste and apply strict contamination limits on many others. The move is part of the country's National Sword campaign, an initiative aimed at tackling China's ongoing problems with waste imports. As the world's largest importer of waste, the move is guaranteed to have repercussions for the global recycling industry. Initial predictions suggest an increased risk of stockpiling, landfilling and incineration as the world scrambles to find new markets for its waste. As the ban did not take effect until January 2018 the significance of this decision is not reflected in this report. The impact will become more evident in the following months and future Enforcement Actions projects.

4.1.2 REPORTING COUNTRIES

The number of participating countries within Enforcement Actions V was 34, of which 27 reported inspection activities. By comparison, the number of participating countries during EA IV was 31, of which 26 reported inspection activities. The countries now involved in IMPEL's Enforcement Actions work are Austria, Belgium, Bulgaria, Croatia, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Ireland, Latvia, Luxembourg, Malta, The Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom (England, Scotland, Wales and Northern Ireland).

Enforcement Actions V reported a total of 22,270 physical and administrative transport inspections, of which 5,821 (26%) were related to transfrontier shipment of waste. This is a lower proportion of waste inspections than EA IV which reported 17,183 inspections, of which 4,923 (28.7%) were waste

related. Transport inspections are most frequently carried out at the roadside, accounting for the high number of intra-EU movements reported in the project. This was also the case in EA IV.

The total number of company inspections related to transfrontier shipment of waste in EA V was 792 whereas 486 were carried out in EA IV. Overall, 12 countries reported company inspections in EA V, compared with 14 during EA IV.

Several countries, namely Switzerland, Scotland, The Netherlands and England provided full year data for the inspection period, i.e. this was reported in addition to their 'snapshot' inspection data. The idea behind this was to get a fuller picture of emerging trends in waste shipments. It is also hoped that the data obtained provide a clearer view of the daily work of competent authorities and their inspection methods.

4.2 TIME COMMITTED TO THE PROJECT

A breakdown of the contributions of days of participation spent on the EA project by all participating countries combined is provided in –Participation in Enforcement ActionsFigure 1. The number of days' contribution is broken down depending on the type of project contributor, and details are provided of the tasks associated with these days. The aim is to get a general picture of how much time resource IMPEL derives from its members.

Note: The total number of day's participation is indicative only, as individual contributions are not provided by each participating country.

Figure 1: Overview of participation for EA

Project role	Number of days participation a year	Details of time spent
Project Manager	60	Project management, report writing and technical editing, organising exchanges, data analysis and communicating to project team members
Project team	40	Data analysis of inspection results submitted by all participating countries. Originator for summary and final reports for Enforcement Actions
Project member(s)	1940	(100 inspectors (2 per country from competent authority and two from other regulatory authorities) participating in 18 days of joint inspections to October + report filling for countries) + best practice meeting of 30 member countries + best practice meeting

		preparation and fulfilling actions + WebEx participation + exchanges + drafting items for IMPEL newsletters
Cluster Secretary	2	Communicating with project and support in arranging best practice meeting
Overall Total	**2042**	

Figure 1 –Participation in Enforcement Actions

4.3 COMMUNICATIONS BETWEEN PARTICIPATING COUNTRIES

For each participating country, a co-ordinator was appointed responsible for the implementation and coordination of the project. The country co-ordinator is principally responsible for submitting inspection results to the Project Team. The EA project management was the Scottish Environment Protection Agency (SEPA) under the umbrella of the IMPEL Waste and TFS Cluster.

Communications between each of the participating countries has been carried out using the following methods:

- Exchange of inspectors
- Basecamp on-line data sharing
- Case studies
- Webinars
- Best Practice meetings
- An on-line survey

Details of each of these communication methods is provided below in sections 4.3.2 to 4.3.7.

Further efforts to strengthen communications between all of the project participants and interested parties include:

- Provision of news stories for IMPEL newsletters
- Participation in 30 Days of Action; a country-led operation initiated by INTERPOL's Pollution Crime Working Group
- Participation in DOTCOM waste project
- Regular updates and meetings with National Contact Points, IMPEL-TFS Steering Committee and IMPEL Board

4.3.1 GUIDANCE AND SYSTEMS DEVELOPMENT

The 2008 'A practical guidance for Managing illegal shipments of waste' has been re-drafted based on competent authorities' experiences with intercepting illegal shipments and dealing with them. The document is now entitled 'A guide to repatriating waste' and emphasises the importance of communication between the competent authorities involved. It was trialled in 2016 and has now been adopted.

The Waste (s)Watch was updated in 2016 in UK, Ireland, Switzerland, Germany and France. This was to include the latest amendments to the Waste Shipment Regulation and correct minor coding errors. It now forms part of the new WATCHIT! App that was launched in January 2018 which is a tool designed to aid Waste Shipment Inspections. This application enables searches to be done, provides guidance and can help with training for waste shipment inspections. The app is available on many platforms and will be a valuable tool for assisting TFS inspectors in the next few years.

A data visualisation system was released in April 2017. It uses Spotfire software and holds all the records of inspections submitted under the project. Participants are able to 'map' the flow of illegal shipments to assist them in their planning. Given its interactive nature, the Spotfire tool allows participants to tailor data visualisations according to the level of detail they need.

The following screenshots (Figure 2 - 4) show some of the 'dashboards' of data now available to project participants.

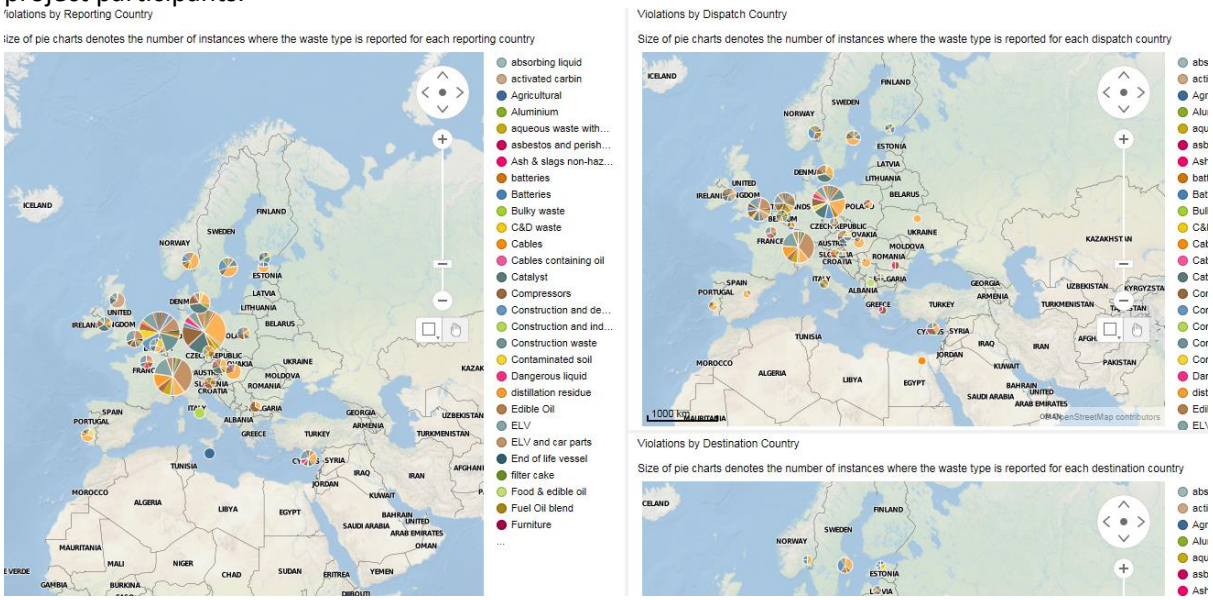


Figure 2 - Example of geographical visualisation

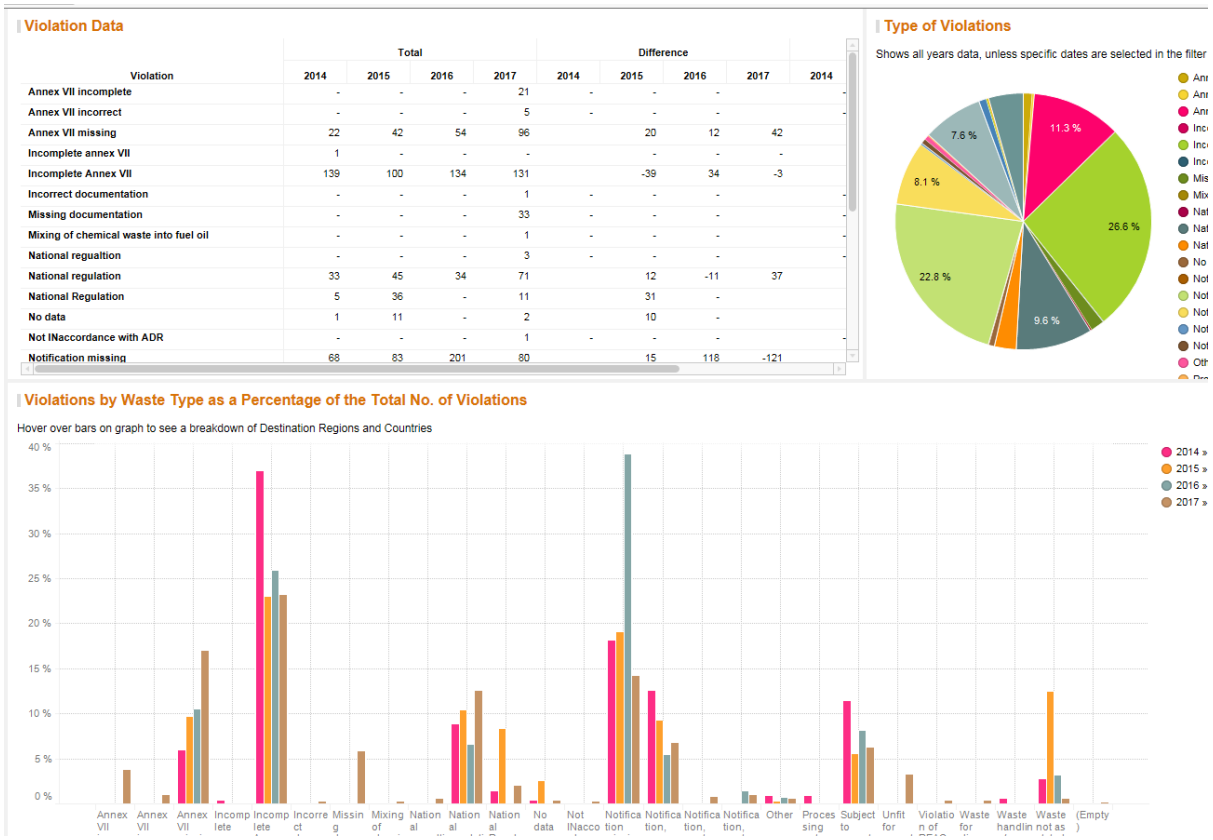


Figure 3 - Screenshot of violation data visualisations

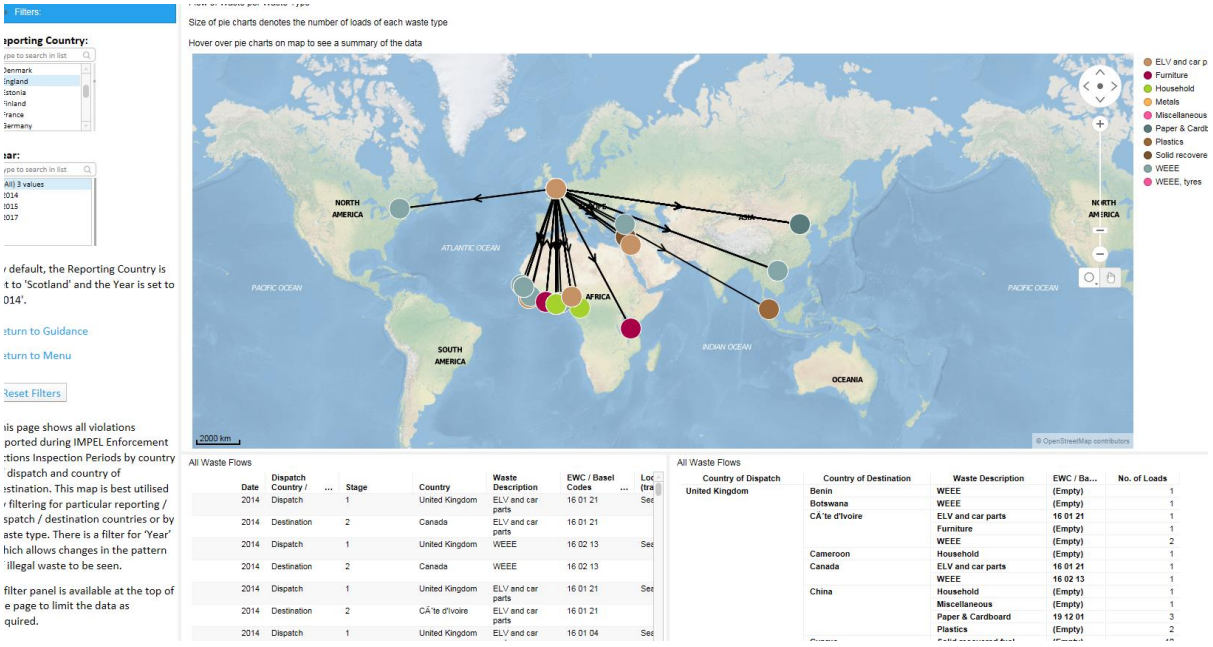


Figure 4 - Screenshot of illegal shipments stopped in England

It is intended that the tool will be further refined to include customs data and commodity values.

4.3.2 EXCHANGE OF INSPECTORS

Joint inspectors and exchange programmes under the project took place in accordance with Regulation EC (No) 1013/2006, which requires Member States (MS) to co-operate bilaterally or multilaterally in order to facilitate the prevention and detection of illegal shipments. The project also funded a successful exchange programme. This enabled inspectors from one or more countries to visit a host country and either observe inspection and enforcement practices in another jurisdiction, or participate in joint inspections at a border point. These exchanges included road inspections and inspections at ports, as well as inspections at waste producers and waste management companies' sites.

The focus of the exchange programme was agreed between the participating inspectors. It typically involved targeting priority waste streams, e.g. End-of-life vehicles (ELVs), Waste Electrical and Electronic Equipment (WEEE) and Refuse Derived fuel (RDF). Some of these exchange visits were written up and presented back to the project group via a 'webinar', and it was clear to see that sharing experiences and opinions on the ground continues to be a very effective training tool. Exchanges are central to introducing competent authorities and new officers to the practicalities of waste shipment inspections. They also strongly increase communications between the competent authorities involved.

There were several productive outcomes from the exchanges, such as trialling new technologies and training new officers. As can be seen in the survey of participants discussed in section 4.3.7, the vast majority of exchange participants thought the experience was valuable and would like to take part in an exchange again.

During the last round of the EA project (referred to as EA V, covering the 2016-2017 inspection period), there were 7 official exchanges of inspectors financed by IMPEL, with 17 participating countries. An overview of each exchange is provided in Figure 5.

As with the previous enforcement actions project, this year also saw many multi-country exchanges. These were found to significantly reduce the administrative burden for the Project Manager and the host country, and also to save time for the host officers.. Most importantly, they allowed a wider range of approaches to be discussed.

Host country	Visitors	Date	Focus
The Netherlands	Germany, Switzerland	August 2016	Container selection, road and ferry inspections
Germany	The Netherlands, Austria	April 2017	Road inspections; classification green/not-listed waste; thresholds
Republic of Ireland	England, Portugal, Belgium, The Netherlands	September 2017	Household waste recyclates and port inspections
The Netherlands	Norway, Republic of Ireland, Scotland, Cyprus, England	November 2017	Offshore wastes
Sweden	Hungary, Poland, Northern Ireland, The Netherlands,	December 2016	Refuse derived fuel, export and import criteria, receiving

	Germany, England, Scotland, Republic of Ireland, Denmark, Norway, Estonia		plants, road inspections
Sweden	Finland	June 2016	Operation Midnight Sun, road inspections
Sweden	Germany	June 2017	Operation Midnight Sun, road inspections, authority collaboration

Figure 5 - Overview of exchanges 2016-2017

Further details of these exchanges are included in the annexes.

4.3.3 BASECAMP DATA SHARING

Basecamp – an online communication platform – is used by participants to discuss Enforcement Action issues, such as inspection planning, best practice techniques, arrange meetings, exchange arrangements and to upload inspection results. It is a well-established platform for IMPEL participants and is used regularly, with frequent posts from most member countries.

4.3.4 NEWSLETTERS

The project participants have contributed to IMPEL newsletters over the last two years and these can be seen on the IMPEL website. These newsletters often focused on exchanges.

4.3.5 WEBINARS

A few 'webinars' (internet enabled conference calls which allow participants to access a presentation and discussion at their own desks), were hosted within 2016 and 2017. They proved to be useful tool in sharing best practice information between meetings. Following each presentation there was an opportunity for those attending to discuss issues and to put questions to the presenter in an open forum.

The content and host country was rotated as the primary objective of the webinars was to maximise communications and sustain project momentum throughout inspection periods and in between annual conferences.

The following webinars were hosted:

- Online visualisation tool demonstration
- EA proposal for June 2017 inspections
- DOTCOM Project training in China

The presentations given are available to participants on Basecamp.

4.3.6 BEST PRACTICE MEETINGS

Best Practice Meetings took place in Bern in April 2016 and in Lisbon in April 2017. The principal objective of both meetings was to discuss the barriers encountered by regulators in different countries on a day-to-day basis in enforcing the WSR, and to learn from each others' inspection and enforcement experiences. Further details of these meetings remain available for participants on Basecamp, including copies of the presentations given at each meeting.

The programme for the 2016 meeting included a variety of presentations and three workshops each with a different country Group Leader to co-ordinate the main discussion points:

- Control and classification of waste automobile parts
- 'Intelligence clinic'
- E-waste inspections and safety testing

Actions were recorded and published in a meeting report that was circulated to the full project group on Basecamp. These actions could form discussion topics and objectives to build upon in future projects.

4.3.7 ON-LINE SURVEY

A survey was conducted in 2017 which allowed all participants to express their views on the progress of the project, highlight details of the types of inspections carried out, how they experience their working environment and highlight the areas in which they need further assistance.

In total, there were 29 respondents from 15 different countries. A summary of the main results is provided in Figure 6, alongside a comparison of the previous survey results (undertaken in 2013 and 2015).

Topic	2017 Findings	2015 Findings	2013 Findings	Highlights
Intelligence and Risk Assessment	• 44% have intelligence capacity • 79% use risk assessment • 64% concentrate on specific waste streams • 64% concentrate on specific operators	• 47% have intelligence capacity • 68% use risk assessment • 72% concentrate on specific waste streams • 61% concentrate on specific operators	• 70% have intelligence capacity • 75% use risk assessment • 85% concentrate on specific waste streams • 90% concentrate on specific operators	• Further reduction in intelligence capacity • Fewer authorities concentrating on specific waste streams • Increase in the use of risk assessment
The Inspectors and Inspections	• 57% had taken part in an exchange under the Enforcement Actions projects • 90% would like to take part in one again • 0 to 240 inspectors on TFS in organisation, median around 3.5 officers • 59% inspect other regimes too, e.g REACH	• 50% had taken part in an exchange under the Enforcement Actions projects • 87% would like to take part in one again • 0 to 240 inspectors on TFS in organisation, median around 2.5 officers • 65% inspect other regimes too, e.g REACH	• 72% had taken part in an exchange under the Enforcement Actions projects • 77% would like to take part in one again • 1 to 52 inspectors on TFS in organisation, median around 6 officers • 83% inspect other regimes too, e.g REACH	• Popularity of exchanges has increased • Number of inspectors has remained largely unchanged • Continued reduction in inspection of other regimes
Co-operation	• 69% cooperate with Police • 81% cooperate with Customs • 38% cooperate with harbour/train operators • 54% have formal agreements with other partners • 52% do joint inspections with neighbouring countries	• 66% cooperate with Police • 83% cooperate with Customs • 22% cooperate with harbour/ train operators • 52% have formal agreements with other partners • 48% do joint inspections with neighbouring countries	• 66% cooperate with Police • 89% cooperate with Customs • 44% cooperate with harbour/ train operators • 50% have formal agreements with other partners	• Slight increase in formal agreements with other partners and joint inspections • Minimal changes
Legal Issues	• 67% encounter problems in bringing prosecutions • Only 33% always get feedback • Majority of cases are closed before court	• 66% encounter problems in bringing prosecutions (11% of which, rarely) • Very few cases are passed on to/accepted by prosecutors	• Half encounter problems in bringing prosecutions • Prosecutors not willing to take action	• Issues remain constant from 2013 and 2015

	• More “serious” issues are prioritised • Prosecutors have a lack of knowledge in this area	• ‘significant quantity’ of contamination has to be demonstrated • Prosecutors do not have specialist knowledge and do not see TFS as a priority • Courts have a lack of understanding. Gives wriggle room for defence. • Weak regulations. Export attempts not illegal until 2015. • No authority to undertake investigations by the competent authority and police are reluctant to take on cases • Gathering information from abroad	• Lack of experience • Waste definition issues • When export stats (can’t prosecute for an attempt to ship) • Police prioritise other crimes • Time-consuming to prepare cases • Hazardous waste classification issues

Figure 6 - 2017 Survey findings

The survey shows that the majority of participants monitoring waste shipments also cover other regimes, e.g. REACH, producer responsibility, etc. This is shown in Figure 7:

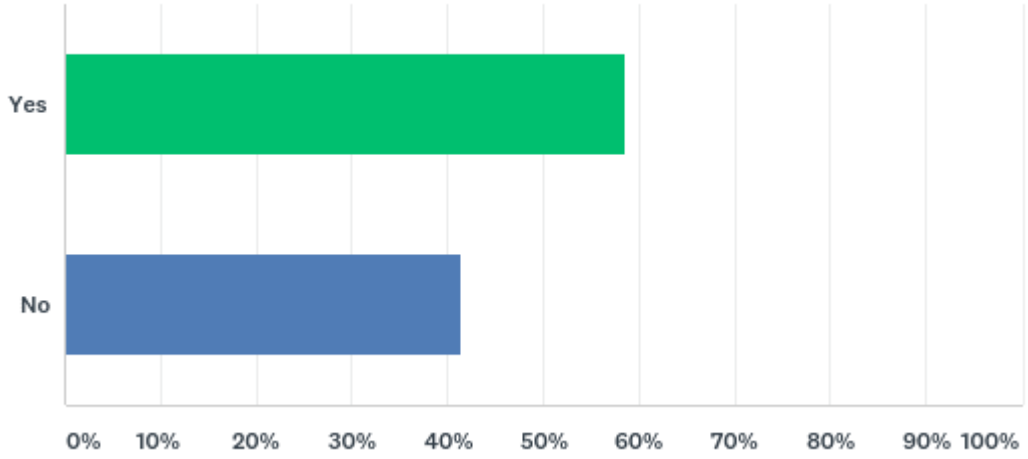


Figure 7 – Does your team/ department regulate other environmental regimes?

As noted previously, the Enforcement Actions work provides 'snapshot' data of the authorities' inspections and the results recorded in the project may not show the full range of the types of inspections undertaken. Consequently, a question on the types of inspections undertaken in 2017 was included in the survey. Figure 8 below shows the array of inspection types:

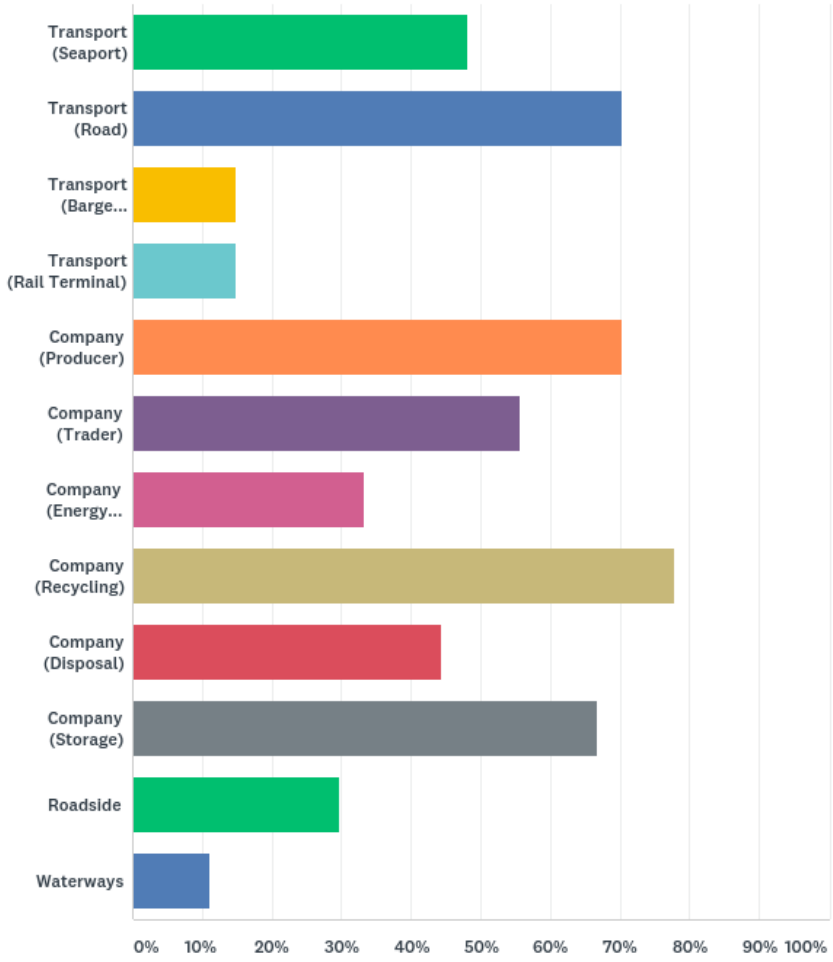


Figure 8 - Types of inspections undertaken in 2017

Officers reported various interesting findings during their 2017 inspections, including that WEEE to Africa is often mis-described as vehicle/car parts. Waste vehicles are used as packaging to store other items and are broken down on arrival in Africa. One authority reported the shipment of mixed paper/plastic waste for dumping in clay pits in Poland possibly as a result of the blocked route to China and high incineration prices. Other issues such as incorrectly filled in or incomplete annex VII forms remain a problem, as in previous years.

The survey highlighted that inspection authorities' intelligence capacity has declined further from the previous survey undertaken in 2015, with only 44% of authorities now having access to intelligence. The 3% decline is significantly smaller than the 20% reduction in intelligence between 2013 and 2015 but continues to emphasise a downward trend in this area. An 'intelligence clinic' was held at the best practice meeting in Bern in 2016, which included information on possible intelligence-led inspection selection methods.

It was found that the majority of inspectors (79%) are using risk assessment methodologies to organise their inspections. Participants were asked two questions on inspection selection: whether they focus their inspections on specific waste streams and whether they focus on specific operators. Figure 9 shows that inspections generally focus on specific waste streams and operators. It is important to remember that ad-hoc/random inspections are necessary to discover the extent of waste shipments, to test assumptions made during risk assessments, and to rule out certain transport routes for the next inspection period.

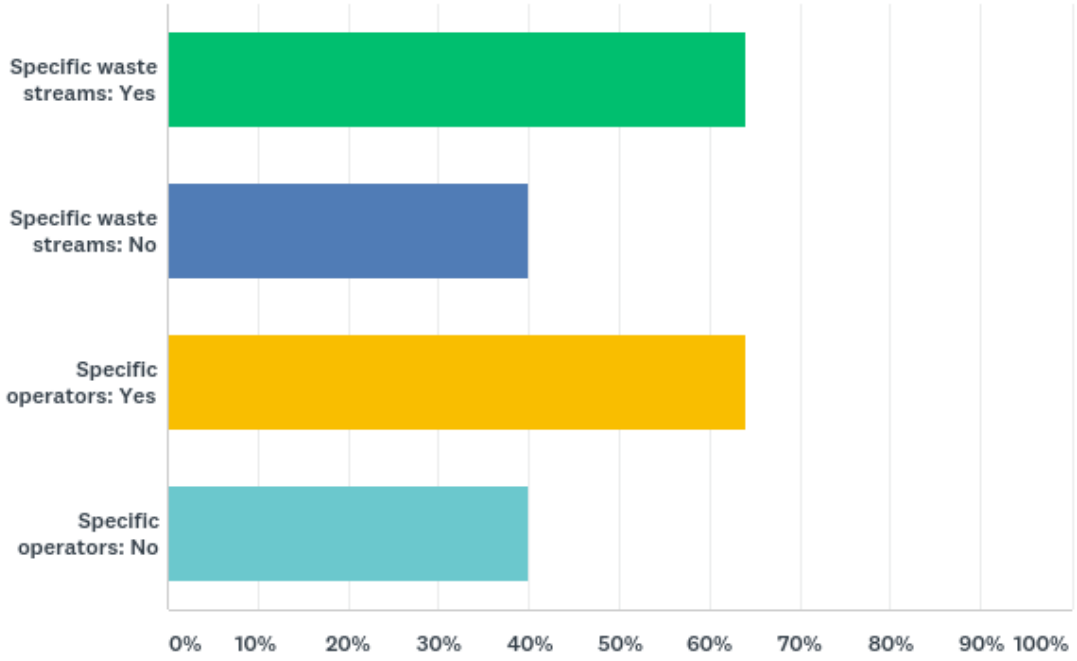


Figure 9 – Inspection Prioritisation: Do regulators have priority waste streams and operators?

The survey revealed that the majority of inspections undertaken by authorities are done in co-operation with other regulatory bodies, such as the Police and Customs (Figure 10). Eighty-one percent of authorities co-operate with Customs and sixty-nine percent have regular and effective co-operation with their Police forces. Answers to another question revealed that fifty-four percent have formal agreements with partners on the regulation of the WSR. The survey also showed that 52% of countries regularly carry out inspections with colleagues from bordering countries. The results show that overall co-operation with other regulatory bodies has increased since the last report, although not significantly. It is hoped that increased and improved inspection planning will encourage further effective co-operation.

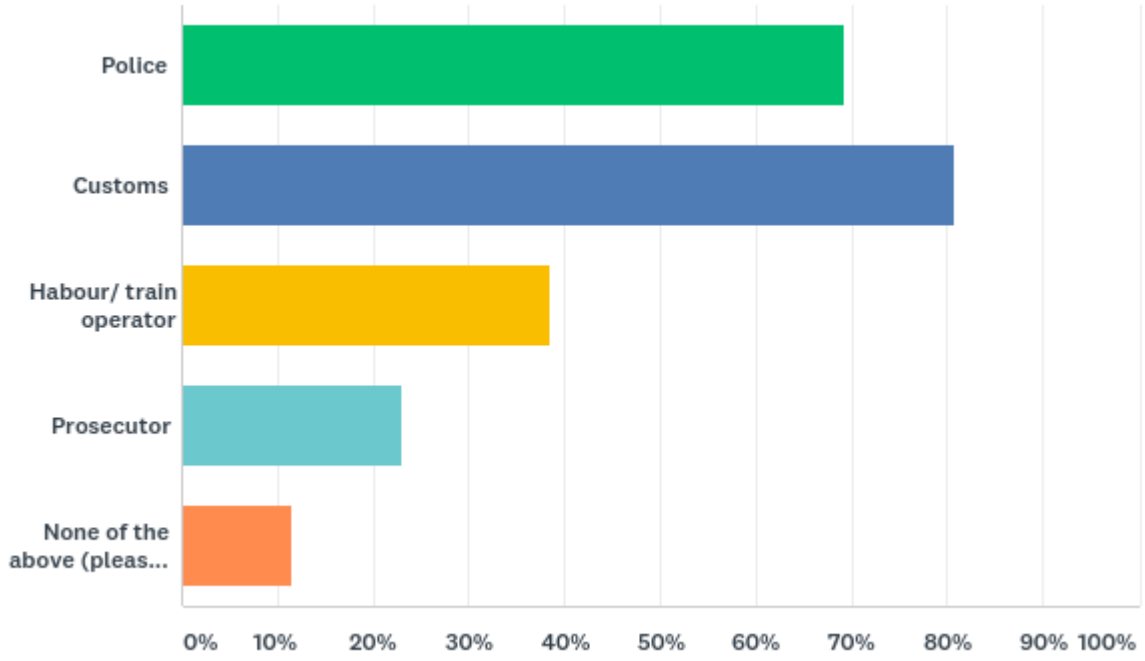


Figure 10 - Co-operation between competent authorities and other regulatory bodies

The picture for prosecutions across the EU is varied. Only one third of inspection authorities reported that they have no problems in bringing prosecutions. The majority of authorities stated that they get feedback on the outcome of cases they have submitted for prosecution at least 'sometimes', and 48% sometimes get asked to contribute their expert knowledge to cases; 24% are asked to input frequently. Four countries are prosecuting TFS cases on a regular basis (more than 10 cases per year) but the majority who responded to this question recorded 0-3 cases per year. As not all of the respondents answered this question it is difficult to get an overall view of the number of TFS cases being taken forward on a yearly basis in Europe.

The most serious cases reported were the export of hazardous waste to China, WEEE to Africa, household waste described as treated waste paper and large scale illegal dumping across borders. Punishments handed out by courts ranged from criminal convictions to monetary fines of 250 euros to 15000 euros; however half the participants skipped this question, and of those that responded, several had not had feedback from their judiciary.

Participants were asked whether they had been able to put what they had learned on exchanges organised through Enforcement Actions in to practice. Eighty-five percent of those replied that they had (Figure 11). Officers reported learning:

- How to report inspection results
- How to establish risk assessments
- Importance of co-operation between authorities
- How to categorise specific waste types
- How to deal with notifications

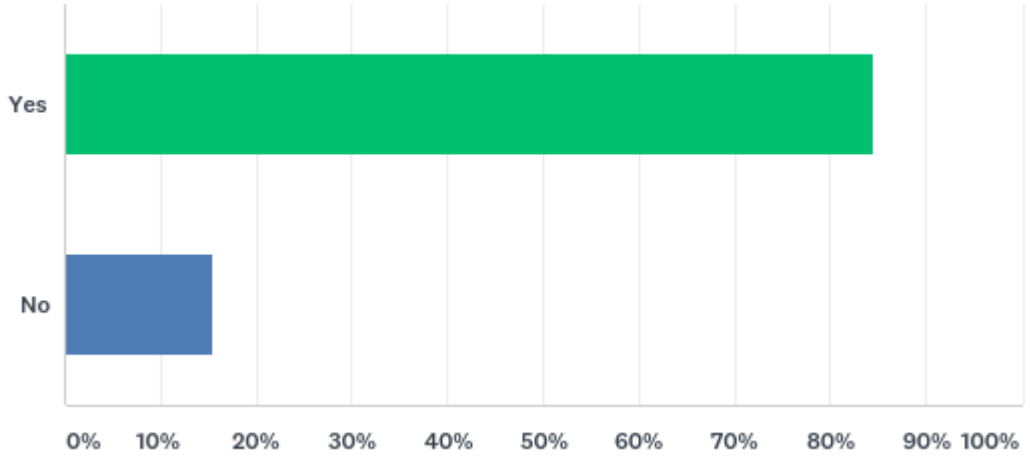


Figure 11 – Have you put into practice what you learned on an exchange?

Survey respondents were asked about what guidance would help them in their jobs. Seventy-nine percent of inspectors use the "IMPEL TFS Enforcement Actions" Guidelines and fifty-seven percent use the Waste (S) Watch; this is a pocket guide to enforcing the WSR with points of attention for specific problem waste streams. Respondents were asked their opinions on the Spotfire reporting tool which only 15% said they had used. The majority of those familiar with the tool said it was at least 'quite useful' and they would not recommend any changes. Several respondents had not heard about the tool, suggesting more effort should be made to ensure the maximum awareness of all guidance available. Participants were largely enthusiastic when asked if they would be interested in an app that could be used to record inspections however questions concerning data protection were raised by some.

Topics that participants would like to see covered in future projects include:

- Digitalisation of reporting
- Repatriation problems and possible solutions
- Environmental considerations in doing risk assessments
- Addressing the lack of prosecutions across member states
- How countries deal with the challenges associated with China's new position on certain imports

4.4 INSPECTION SELECTION METHODS

An objective of the Enforcement Actions Project is to encourage the use of risk assessment to pre-select and plan where and when inspections happen, with the intention to increase the levels of detection of waste shipments. It is anticipated that this approach may then lead to a subsequent increase in the number of violations recorded by participating countries. Risk Assessments was also one focus of another IMPEL project – the 'Waste Shipment Inspection Planning project'. This aimed to help regulatory authorities implement the 2014 amendments to the WSR, requiring Member States to put in place inspection plans which include an element of risk assessment.

Information on the selection methods used by authorities during inspections can be captured via the inspection forms. This aspect of inspection reporting has not featured heavily in previous projects, nor is it comprehensively completed by all participating countries, therefore it is difficult to draw conclusions and make comparisons to earlier projects on whether authorities' inspection methods are changing. In addition, competent authorities did not record the number of inspections that were

subject to a specific inspection process. Therefore it is difficult to determine the success of the different selection methods.

5. INSPECTION RESULTS

5.1 GENERAL CONSIDERATIONS REGARDING INTERPRETATION OF REPORTED DATA

It is emphasised that IMPEL-TFS Enforcement Actions V (EA V) did not aim and was not designed to provide a complete picture of TFS inspections performed by participating countries in that time period. Non-participation in this project does not mean that inspections did not take place. However, the project has developed over the last three years to accept countries' total annual inspection results where available. Countries submitting this data do not record the full range of fields used during the Enforcement Actions reporting periods. Total annual data is analysed in section 5.8 Total annual data (2016-2017).

The focus of the project was on transport inspections. Company inspections were introduced for verification purposes and for authorities that have limited opportunities to do transport inspections or where company inspections are a more effective tool for particular waste streams.

5.2 NUMBER OF TRANSPORT INSPECTIONS

Administrative inspections consist purely of a review of the paperwork associated with import/export traffic e.g. review of the port manifest documents to highlight any shipments for further inspection.

The physical inspections included a visual inspection of the consignment usually at a roadside location or a seaport if recorded as a transport inspection; however it could also take place at a known waste export site or reprocessing facility. It also usually involves an inspection of any paperwork travelling with the consignment but should not also be counted as an administrative inspection. From these physical inspections, authorities then identified how many of the consignments inspected concerned a trans-boundary shipment of waste and how many of these were in violation of the WSR. These inspections are explored in more detail in the sections 5.3-5.5 below.

The total number of transport inspections carried out and the violations found by each participating competent authority during the EA V 2016 and 2017 data period are shown in Table D. The inspections are recorded as either an administrative check or physical inspection.

Figure 12 summarises the total number of transport violations recorded for each of the participating countries. The percentage of waste inspections is calculated using both the number of physical and administrative inspections. Project EA IV also calculated the waste inspections in this way, allowing a direct comparison.

Combined 2016 and 2017 Transport Inspection Results							
Participant country	Admin Inspections	Physical Inspections	Waste Inspections	Waste Inspections (as a % of total inspections)	Waste violations (physical)	Waste violations (admin)	Waste violation (as a % of waste inspections)
Austria	875	732	388	24.14	46	0	11.86
Belgium	0	118	36	30.51	30	0	83.33
Croatia	0	105	105	100	6	0	5.71
Cyprus	159	106	221	83.40	27	27	24.43
Czech Republic	30	744	32	4.13	4	3	21.88
Denmark	0	553	553	100	66	0	11.93
England	0	114	63	55.26	63	0	100
Estonia	8	147	12	7.74	1	0	8.33
Finland	46	198	31	12.70	14	2	51.61
France	2091	342	663	27.25	281	0	42.38
Germany	0	2805	1111	39.61	316	0	28.44
Hungary	77	110	187	100	8	20	14.97
Ireland	37	106	75	52.45	13	1	18.67
Latvia	10	853	26	3.01	11	0	42.31
Netherlands	0	463	440	95.03	440	0	100
Northern Ireland	0	165	3	1.82	3	0	100
Norway	19	158	120	67.80	50	0	41.67
Poland	108	1905	150	7.45	12	0	8.00
Portugal	40	3943	195	4.90	17	0	8.72
Romania	0	246	195	79.27	64	0	32.82
Scotland	0	87	82	94.25	27	0	32.93
Slovenia	2483	1385	436	11.27	3	0	0.69
Spain	0	3	3	100	3	0	100
Sweden	65	275	153	45.00	17	50	43.79
Switzerland	0	559	541	96.78	248	0	45.84
Overall Total	**6048**	**16222**	**5821**	**26.14**	**1770**	**103**	**32.18**

Figure 12 - Reported transport inspections and violations by country for EA V periods 2016 and 2017

**Bulgaria and Serbia carried out joint inspections with Romania and Hungary. The results from these inspections were reported by just one country (Romania), as is the procedure.*

Of the 22,270 transport inspections, 5821 were found to be waste inspections over the EA V inspection periods. Figure 12 shows that the average ratio of waste inspections compared to the total number of inspections is 26.14%. As with the previous report, the ratio was calculated using the total number of both administrative and physical inspections. To allow a comparison, the average ratio of waste inspections compared to the total number in EA IV was 28.7%.

The percentage of transport inspection violations averages 32.18% over the EA V inspection period. This is the average number of violations found as a proportion of both the physical and administrative waste inspections that were undertaken. In EA IV, the percentage of transport inspection violations was 16.6%. Comparison of EA V and the previous inspection period reveals a reduction in the number of waste related inspections. This could suggest that officers are becoming less able to detect illegal waste shipments. This is despite the survey revealing an increase in the use of risk assessments as an inspection selection method and an increased focus in this area, such as

through the inspection planning project. However, the decrease is not substantial and definitive conclusions are difficult to establish as reporting forms do not state which violations were detected as a result of each selection method. This will be an area of research in future projects. On the other hand, violations have increased substantially over the same period. This would suggest that illegal waste shipments have become more prevalent. However, the results are not conclusive as they provide only a snapshot of all shipments over a two year period.

Figure 13 shows the number of violations detected as a result of the administrative and physical checks carried out by each reporting country.

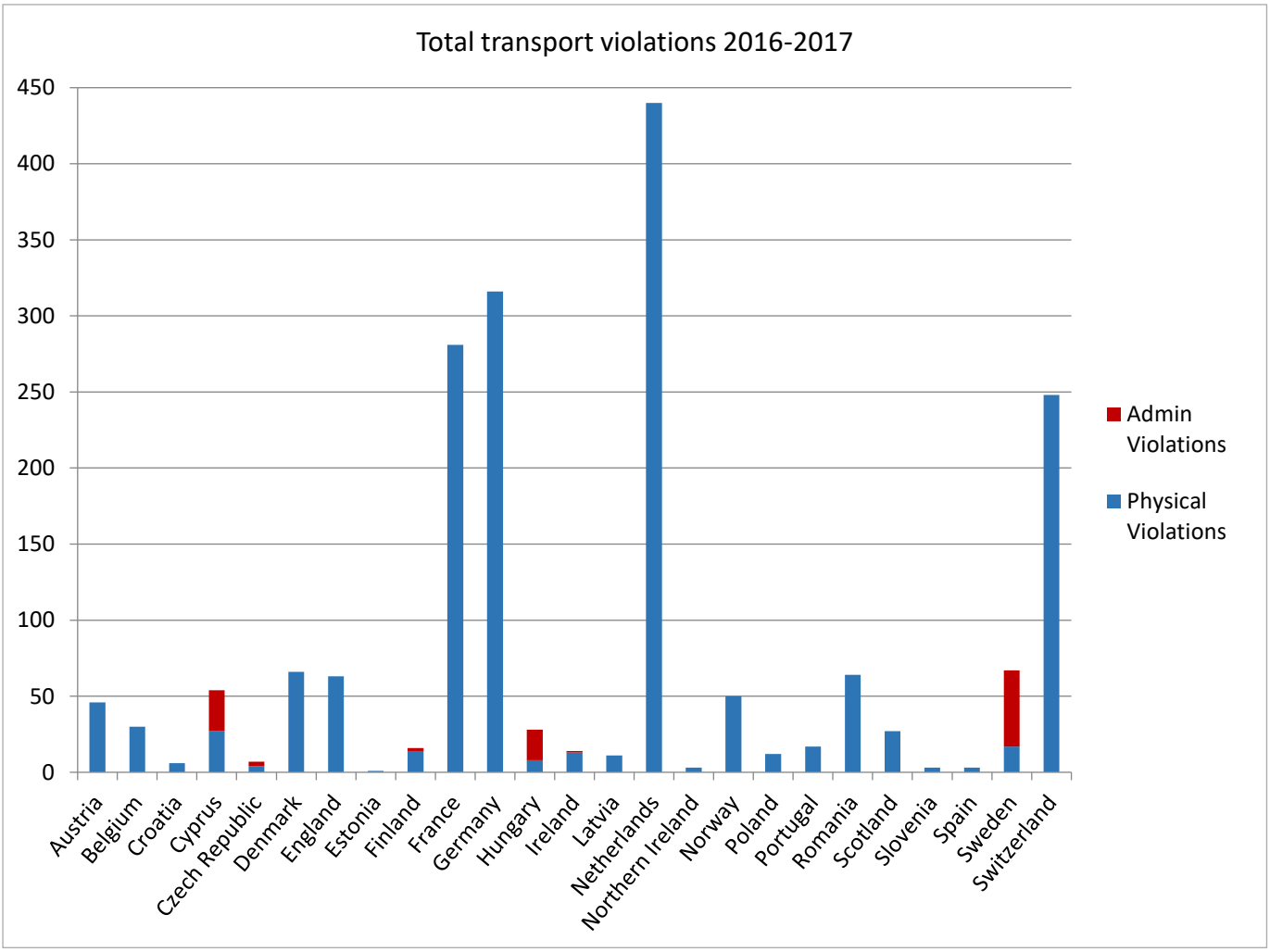


Figure 13 - Total transport violations

5.3 NUMBER OF COMPANY INSPECTIONS

Figure 14 shows the combined administrative and physical inspections of companies and associated violations identified by each competent authority for EA V periods 2016 and 2017. These inspections involved a visual inspection of the waste to assess its compliance with the WSR. The inspections were carried out either at waste producers' sites, waste exporting sites, waste storage sites or waste treatment facilities. It also summarises the total number of company violations recorded for each of the participating countries.

As with the transport inspections, the percentage of waste inspections is calculated using both the number of physical and administrative inspections enabling a direct comparison with EA IV.

Combined 2016 and 2017 Company Inspection Results							
Participant	Admin Inspections	Physical Inspections	Waste Inspections	Waste Inspections (as a % of total inspections)	Physical Violations	Admin Violations	Violations (as a % of waste inspections)
Croatia	59	3	62	100	2	0	3.23
Czech Republic	0	6	6	100	6	0	100
Ireland	79	99	96	53.93	16	12	29.17
Latvia	1	10	6	54.55	3	0	50
Malta	16	16	32	100	0	0	0
Netherlands	0	164	1	0.61	1	0	100
Northern Ireland	0	22	0	0	0	0	0
Poland	0	1	1	100	0	0	0
Romania	0	124	124	100	17	0	13.71
Scotland	2	128	128	98.46	67	0	52.34
Slovenia	23	15	27	71.05	10	0	37.04
Wales	5	19	24	100	1	1	8.33
Overall Total	**185**	**607**	**507**	**64.02**	**123**	**13**	**26.82**

Figure 14 - Reported company inspections and violations by country for EA V periods 2016 and 2017

5.4 TRANSPORT VIOLATION DATA ANALYSIS

The total number of transport violations recorded during the EA V inspection periods was 1873. The underlying offences can be grouped into three main categories:

- Administrative violations, including missing or incomplete Annex VII forms, which account for 522 violations (27.9%);
- More serious offences such as national regulations, or missing, incomplete and incorrect notifications, which account for 735 violations (39.2%);
- Shipments subject to export bans, which account for 245 violations (13.1%);

Another 371 violations (19.8%) were for other or unspecified offences. This data is broken down in Figure 15, which also shows violation totals from EA IV.

Type of Violation	Overall EA V Total	EA IV Total
Annex VII missing	210	63
Annex VII incomplete/incorrect	312	243
Notification missing	458	151
Notification document incomplete/incorrect	105	96
Waste handling/processing not compliant with environmental standards/in accordance with TFS information	12	5
Waste not as stated in documents	37	48
National regulation	123	118
Subject to export ban	245	74
Other	66	4
Non specified	305	13
Total	**1873**	**815**

Figure 15 - Types of transport violations EA V and EA IV

**In 2017, inspection results received from the Netherlands stated 'Annex VII' as the reason for 40 violations. The assumption was made that this description denoted missing annex VII forms.*

Figure 16- Figure 20 show the breakdown of transport inspections into the most frequent types of violations, a breakdown of the different waste streams shipped illegally, and the most common destination of illegal shipments.

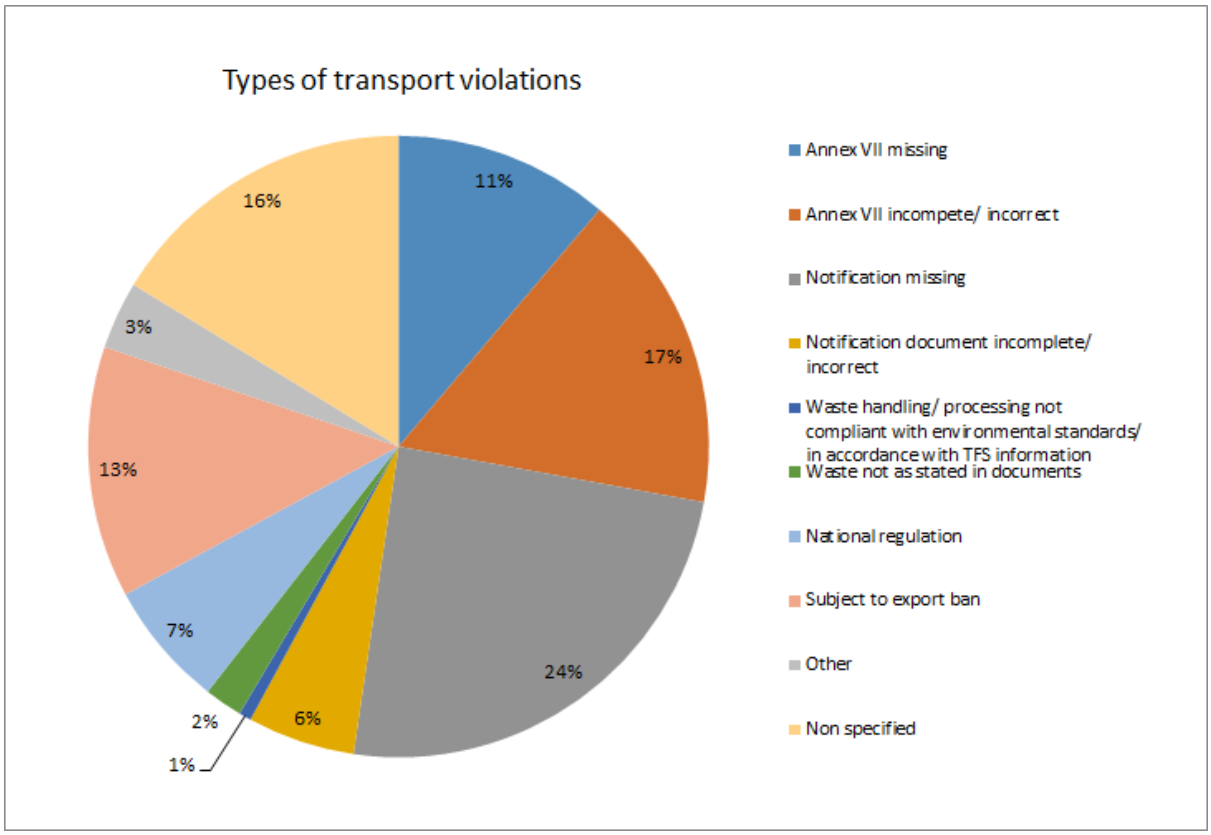


Figure 16 - Types of transport violations (overall) 2016-2017

As shown in Figure 16, the most common type of violation overall is a 'missing notification' (24%). However, there were also a significant number of reported violations relating to export bans and incomplete or incorrect annex VII forms (13% and 17% respectively).

The results show some notable differences between the reporting years. 2017 saw an increase in violations related to incomplete or incorrect annex VII forms and national regulation but a decrease in those relating to missing notifications. 2016 had a higher total number of violations but there were also significantly more 'other' or 'non-specified' violations.

Waste Description	2016	2017	Overall Frequency
Metals	215	161	376
Paper	117	74	191
Plastics	91	55	146
WEEE	110	70	180
ELVs & car parts	157	109	266
RDF	3	19	22
Household & mixed municipal waste	29	17	46
Wood	32	19	51
Tyres	41	58	99
Other non-hazardous	25	16	41
Other hazardous waste	66	35	101
Textiles	12	21	33
Not specified	27	91	118
Cables	4	9	13
Glass	16	4	20
Construction waste	36	25	61
Green waste	1	0	1
Sludges & filtercake non-hazardous	4	1	5
Ash & slags non-hazardous	2	1	3
Food & edible oil	1	6	7
Batteries	30	32	62
Mixed packaging	5	7	12
Oils	7	4	11
Other household & garden	3	5	8
Bulky waste	0	0	0
Total	**1034**	**839**	**1873**

Figure 17 - Transport violations by waste stream 2016-2017

** The description of some waste streams were considered difficult to categorise into existing waste descriptions for comparison with previous years. These materials have been categorised as 'Other hazardous, non-hazardous or household & garden waste'. Where several waste types were listed for one violation, only one of the waste types has been recorded.*

The waste streams identified in violations during the EA V project show that metals (20%) were present in higher amounts than all other materials. Other major waste streams involved in transport violations were paper (10%), plastics (8%), WEEE (10%), and ELVs and car parts (14%). These are the

same top categories identified in EA IV. There are some notable changes in the waste streams identified in violations between EA V and previous projects:

- ELVs and car parts have continued to increase from 70 violations (7%) in EA III to 89 (11%) in EA IV and 266 (14%) in EA V.
- Although plastics, paper and WEEE are still major categories all have decreased and the total violations are now dispersed across a wider range of waste types.

Figure 17 shows that the most notable differences between 2016 and 2017 include the large number of unspecified violations in 2017 (11%). This occurred as a result of a reporting issue with the 30 days of action data from Romania, Serbia, Bulgaria and Hungary which prevented the exact number of violations for each material being identified. Most violations decreased between 2016 and 2017; however RDF increased from 3 to 19 violations and tyres increased from 41 to 58 violations. There were also 195 more violations recorded in 2016 than 2017.

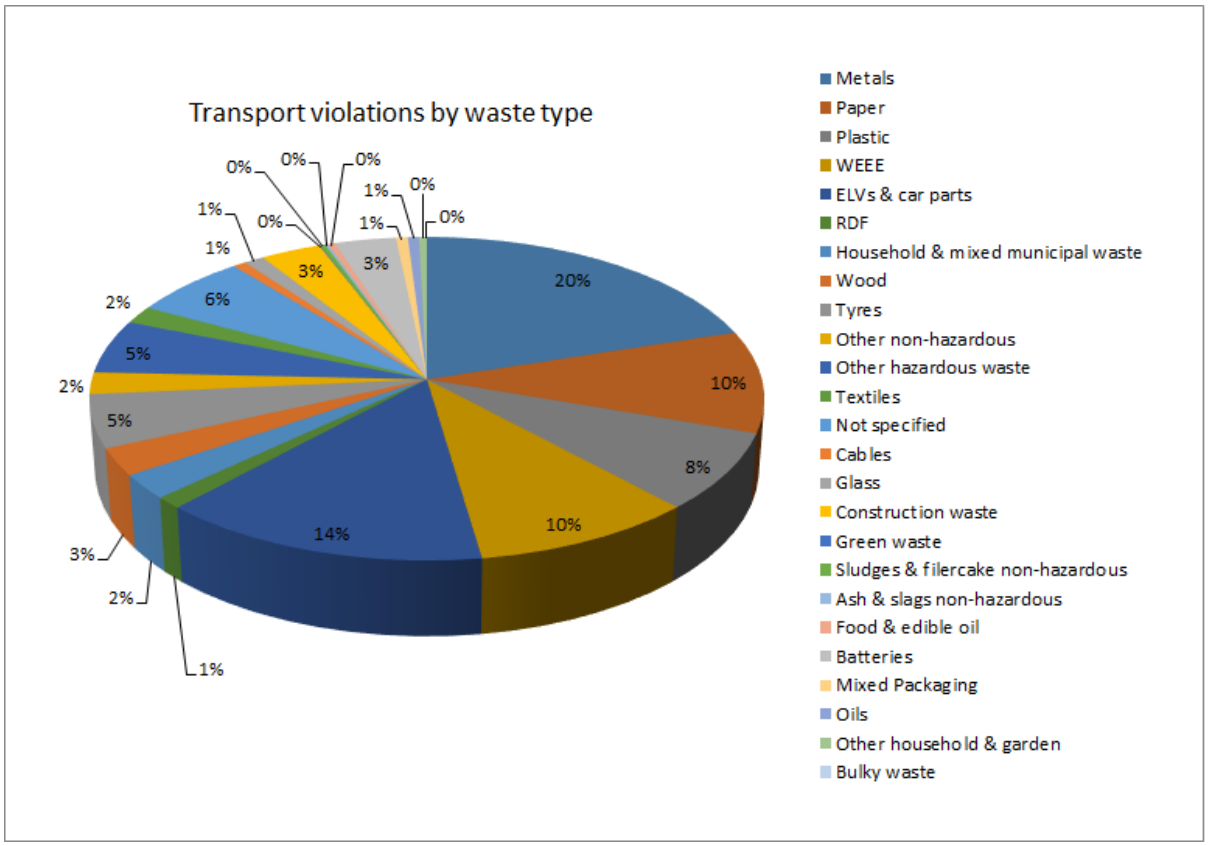


Figure 18 - Transport violations by waste stream (overall) 2016-2017

The transport inspection data in Figure 19 shows the majority of violations in EA V concerned shipments within the EU (69%). This was also the case in previous reports, EA IV (77%) and EA III (70%). Twenty-eight percent of violations identified were bound for Africa, Asia and other non-OECD countries. Violations destined for the EU decreased from 76% in 2016 to 61% in 2017. There was also a corresponding increase of shipments to Africa (12% in 2016 to 20% in 2017) and Asia (11% in 2016 to 14% in 2017). As shown in Figure 19, violations destined for North America, South America and the Caribbean accounted for 1% of the overall total violations. In 2017, 3% of violations did not have a specified destination.

Destination region for illegal shipments	2016	2017	Overall Total
EU	787	510	1297
Africa	121	165	286
Asia	113	120	233
Caribbean	3	6	9
No Data	0	24	24
North America	3	1	4
South America	1	4	5
Other non-OECD	6	7	13
Unknown	0	2	2
Total	**1034**	**839**	**1873**

Figure 19 - Transport violations by destination region 2016-2017

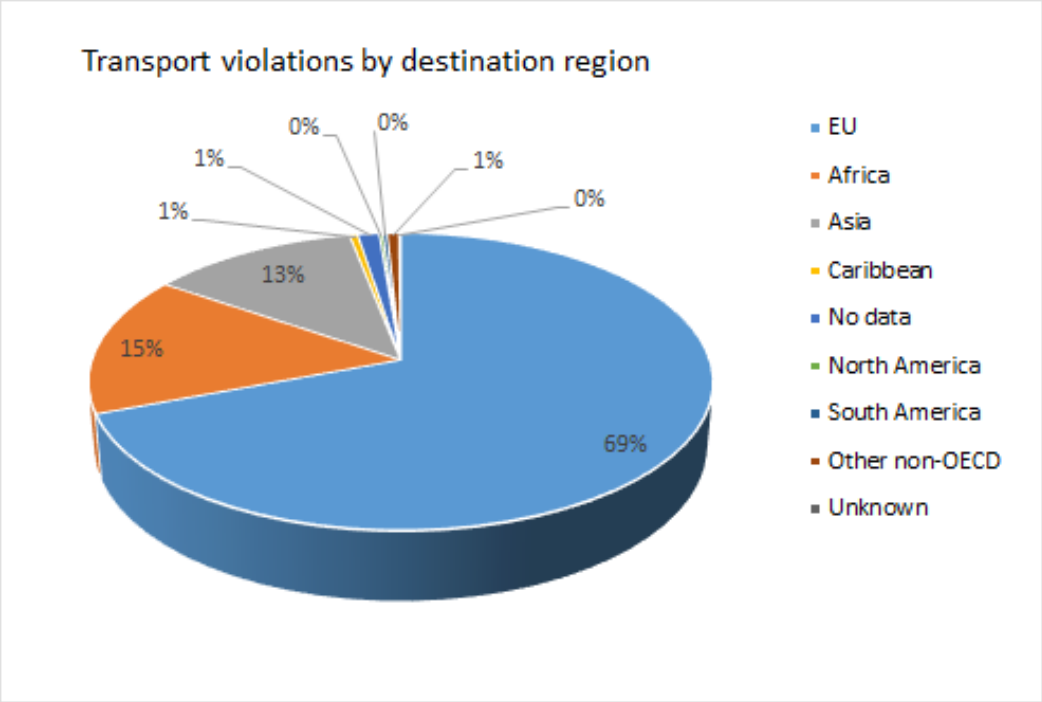


Figure 20 - Transport violations by destination region (overall)

Swedish case study –Tracking movements

In 2015, officers at the County Administrative Board of Norrbotten, Sweden noticed inconsistencies in large movement permits for material destined for waste incineration plants. While carrying out random audits at these facilities they uncovered significant gaps in the serial numbers of movement permits with no apparent explanation.

Officers have since taken steps to investigate the issue further, in order to understand the cause and scale of the problem. Accompanied by colleagues from the Norwegian Environment Agency, they visited an upstream facility in Norway, who had failed to use approximately 300 transports from a permit. The facility were unable to account for the missing transports and attempts to investigate documentation proved difficult. Officers examined the waste transfer documents, which are required to be kept at the site for three years, but the vast number of transfer forms made this almost impossible.

The often random nature of inspections means issues such as this can go unnoticed until an incident brings them to light. This is highlighted by an incident which occurred in Sweden in 2015. A vehicle was stopped in transit by police and later inspected by the Swedish competent authority. The destination stated on the waste transfer documents differed from the destination identified by the driver of the vehicle. However waste transfer documents had been sent to the correct facility and as such this would have been missed had the stop not taken place.

These incidents are not isolated and have been associated with a number of different facilities. In the worst case scenario illegal dumping could be occurring, although there has yet to be any evidence of this. Nevertheless, there is evidence of material being physically accepted by one site and the relevant paperwork being found at another site.

The extent of this problem is yet unknown, and is expected to affect mainly larger companies. There are limitations to officers' abilities to verify the movements of material. Physical checks of waste on site are difficult to link with upstream facilities and paper checks are demanding due to the vast amount of documentation. If these weaknesses are known they can easily be exploited. So far, this issue has only been identified and investigated within Sweden but it is possible that this situation is common in other countries and remains to be uncovered.

5.5 COMPANY VIOLATIONS DATA ANALYSIS

Figure 21 to Figure 27 show the breakdown of company (waste site) inspections into the most frequent types of violations, a breakdown of the different waste streams shipped illegally, and the most common destination of illegal shipments; in line with that illustrated above for transport inspections. Twelve countries provided company violation data, with a total of 792 inspections and 136 violations recorded.

Combined 2016 and 2017 Company Inspection Results							
Participant	Admin Inspections	Physical Inspections	Waste Inspections	Waste Inspections (as a % of total inspections)	Physical Violations	Admin Violations	Violations (as a % of waste inspections)
Croatia	59	3	62	100	2	0	3.23
Czech Republic	0	6	6	100	6	0	100
Ireland	79	99	96	53.93	16	12	29.17
Latvia	1	10	6	54.55	3	0	50
Malta	16	16	32	100	0	0	0
Netherlands	0	164	1	0.61	1	0	100
Northern Ireland	0	22	0	0	0	0	0
Poland	0	1	1	100	0	0	0
Romania	0	124	124	100	17	0	13.71
Scotland	2	128	128	98.46	67	0	52.34
Slovenia	23	15	27	71.05	10	0	37.04
Wales	5	19	24	100	1	1	8.33
Overall Total	**185**	**607**	**507**	**64.02**	**123**	**13**	**26.82**

Figure 21 - Reported number of company inspections and violation rate 2016-2017

Type of Violation	2016	2017	EA V Total
Annex VII missing	5	3	8
Annex VII incomplete/incorrect	4	22	26
Notification missing	4	2	6
Notification document incomplete/incorrect	0	3	3
Facility processes not compliant	2	3	5
Waste not as stated in documents	0	1	1
Waste not permitted for company	0	1	1
Waste handling/processing not in accordance with TFS information	0	1	1
Subject to export ban	24	39	63
Other	3	2	5
Non specified	0	17	17
Total	**42**	**94**	**136**

Figure 22 - Types of company violations 2016-2017

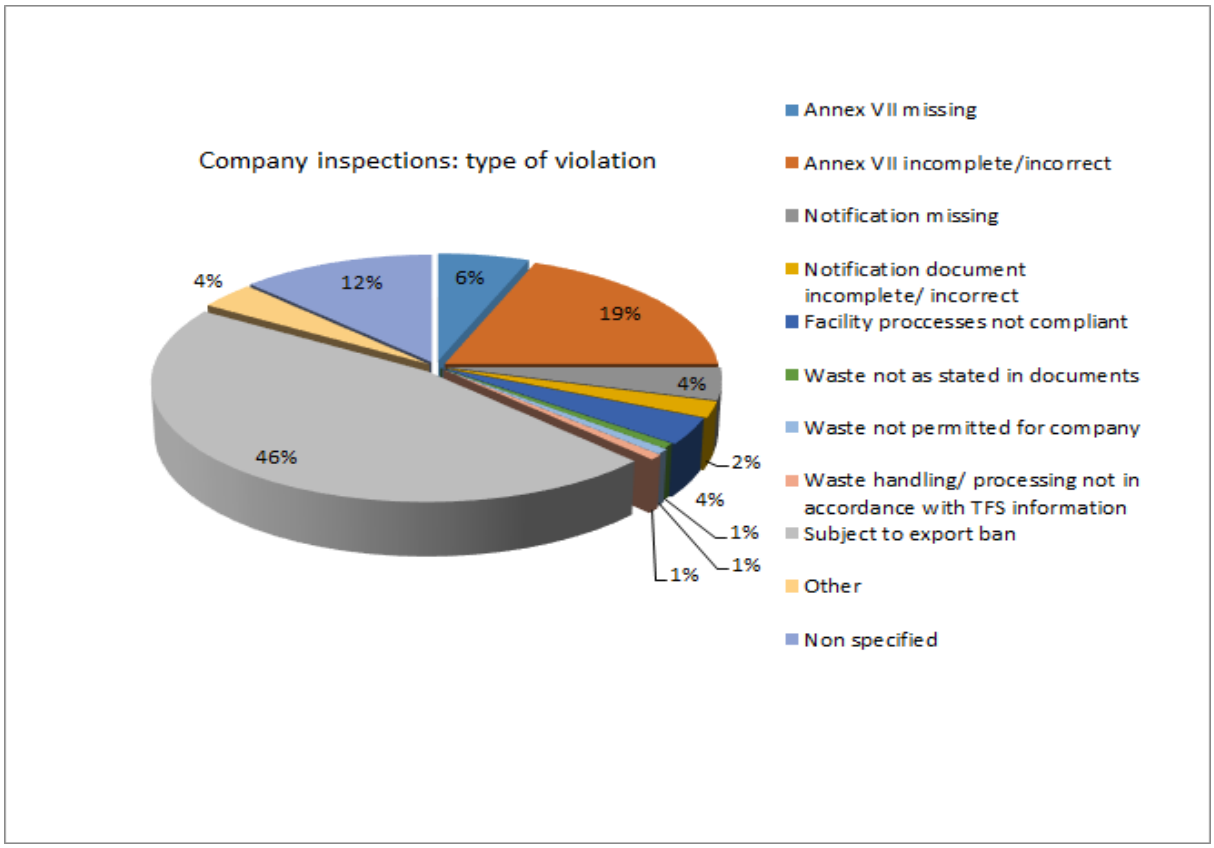


Figure 23 - Types of company violations 2016-2017

Figure 23 and the supporting data in Figure 25 above show the most common type of company violation recorded is an export ban (46% of all company violations). Other common violations include 'annex VII incomplete/incorrect' (19%) and 'annex VII missing' (6%).

Company inspections are often carried out at known facilities as opposed to transport inspections that tend to be roadside or seaport checks which are more random in nature. This means officers inspecting companies' facilities are able to target inspections towards those handling or treating

priority waste streams. 'Household & mixed municipal waste' (23%) was the main stream with violations, followed by 'WEEE' (18%) (shown in Figure 25).

Waste Description	2016	2017	Overall Frequency
Metals	3	3	6
Paper	1	7	8
Plastics	7	15	22
WEEE	15	10	25
ELVs & car parts	1	2	3
RDF	0	1	1
Household & mixed municipal waste	9	22	31
Other non-hazardous	2	0	2
No data	2	20	22
Cables	1	0	1
Glass	0	3	3
Construction waste	1	1	2
Food & edible oil	0	6	6
Batteries	0	1	1
Oils	0	1	1
Tyres	0	2	2
Total	**42**	**94**	**136**

Figure 24 - Company violations by waste stream

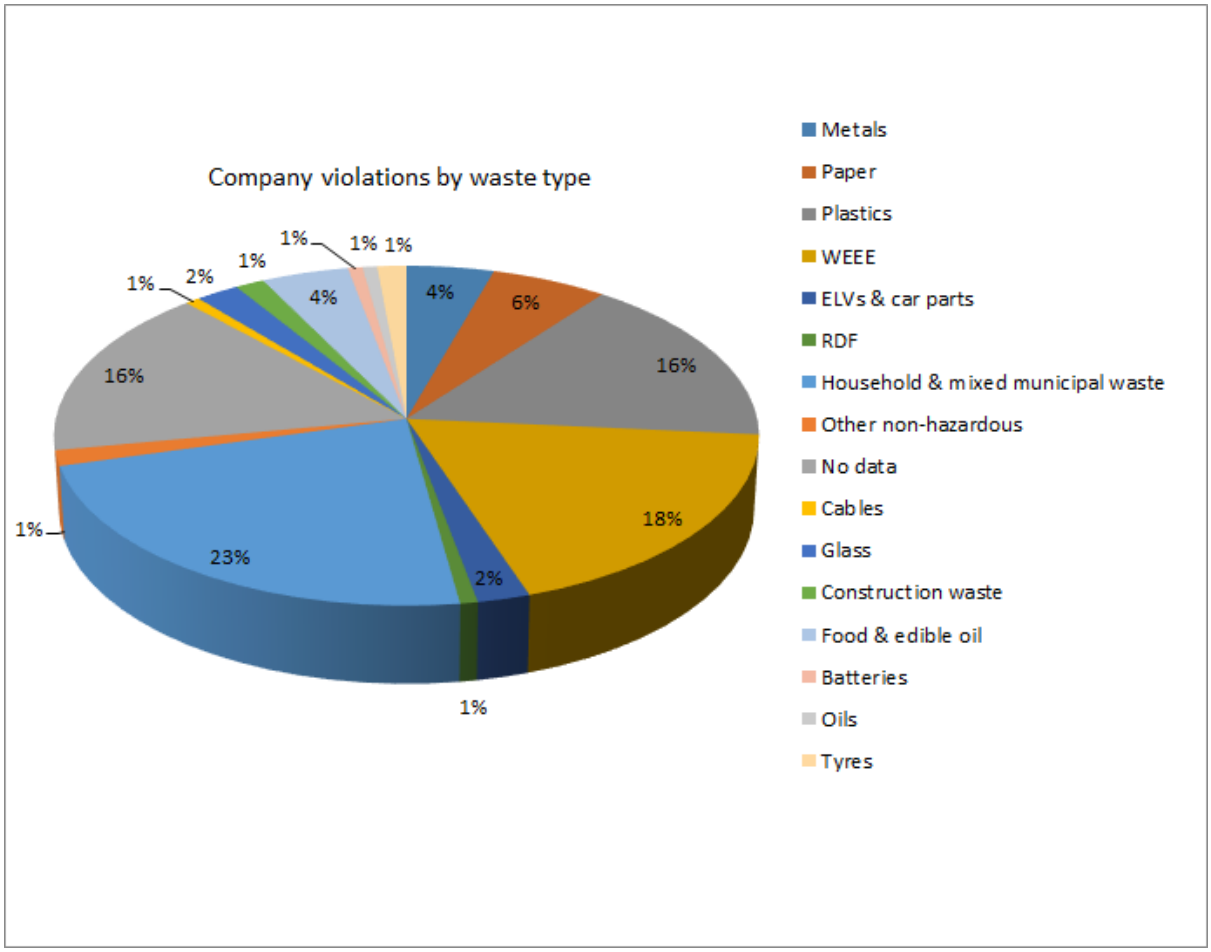


Figure 25 - Company violations by waste stream

The countries of destination for company inspection violations are similar to that of the transport inspections in that most loads were destined for EU countries (31%) as shown in Figure 26 and Figure 27. The next most common destination was Asia (29%) followed by Africa (21%). This is similar to EA IV as Asia (27%) was the next most common destination followed by Africa (6%). EA V differs to earlier projects as the number of illegal shipments destined for the EU has declined substantially and destinations are more widely dispersed.

A more comprehensive analysis of the non-OECD shipments is provided in section 5.7.

Destination region for illegal shipments	2016	2017	Overall Total
EU	15	27	42
Africa	15	13	28
Asia	10	29	39
No Data	2	21	23
Unknown	0	4	4
Total	**42**	**94**	**136**

Figure 26 - Company violations by destination country

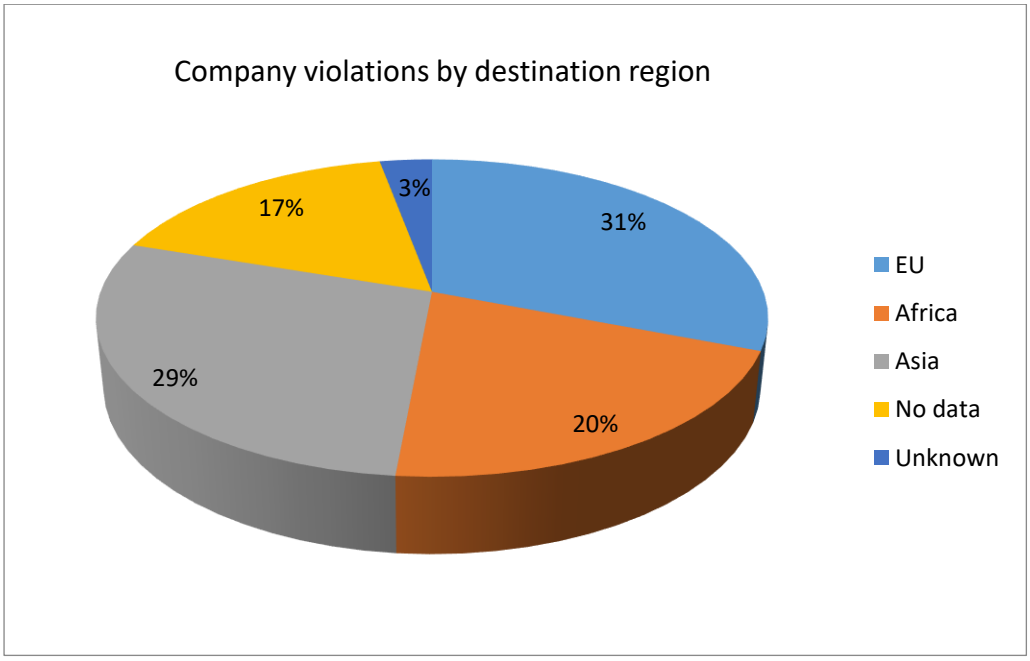


Figure 27 - Company violations by destination region (overall)

5.6 VIOLATION OUTCOMES

Figure 28 below summarises the outcomes of the violations for the whole EA V project.

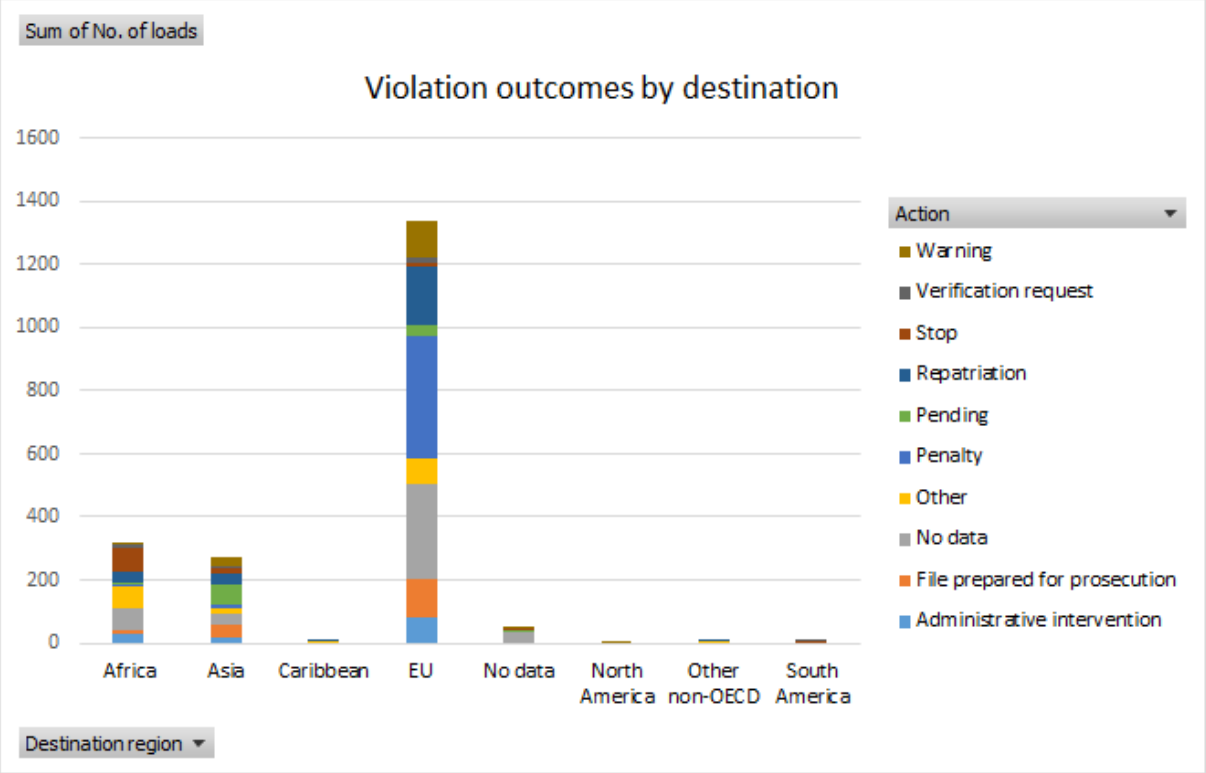


Figure 28 - Violation outcomes by destination 2016-2017

5.6.1 OUTCOMES

Figure 28 shows the most common action is a penalty (20%), followed by repatriations (13.3%) and files prepared for prosecution (8.2%). These were the same as the most common actions identified in EA IV, although all have slightly decreased. In EA IV penalties made up 36% of the total outcomes, repatriations were 17% and prosecutions were 9%. It is interesting to note that prosecutions remain a common response to illegal shipments despite other evidence showing that many countries continue to have problems in bringing prosecutions and the majority of all cases are closed before they go to court. The category Other (9%) includes resolutions such as guidance issued and paperwork completed.

Several countries reported a 'stop' on their inspection forms throughout 2016 and 2017. It was concluded that this term was being used to denote an illegal shipment that had been prevented from leaving its country of origin. As such it had not been repatriated but had been returned to the site of loading or another appropriately permitted site.

5.7 NON-OECD SHIPMENT VIOLATIONS

5.7.1 OVERALL NON-OECD SHIPMENT VIOLATIONS

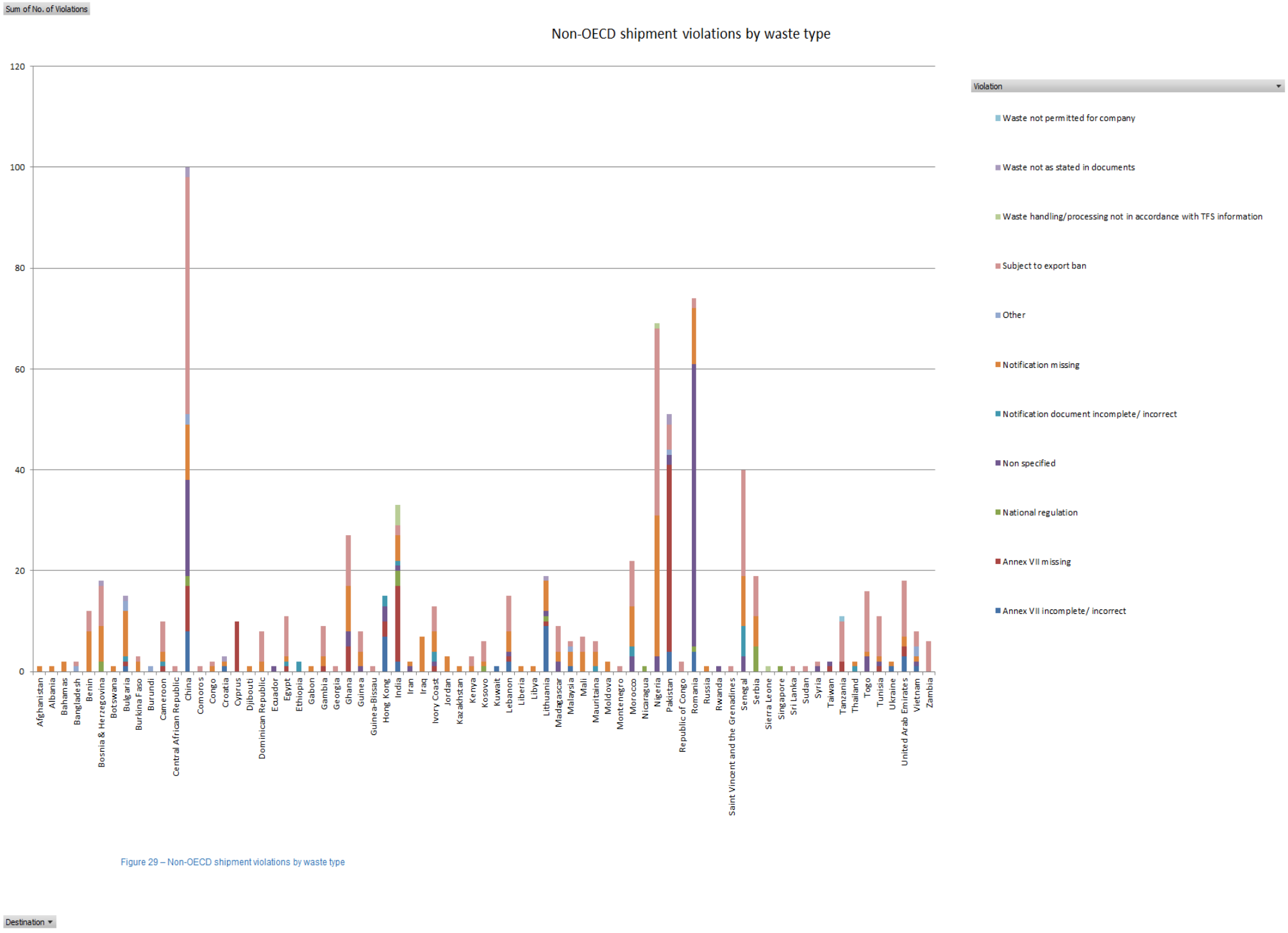


Figure 29 – Non-OECD shipment violations by waste type

Figure 29 – Non-OECD shipment violations by waste type

China was the most frequent destination for illegal exports to non-OECD countries (16%). The most commonly recorded violation type was that the movement was subject to the 'export ban' on hazardous waste moving to non-OECD countries.

A breakdown by region of the waste types going to non-OECD countries are provided in Figure 30, Figure 31 and Figure 32.

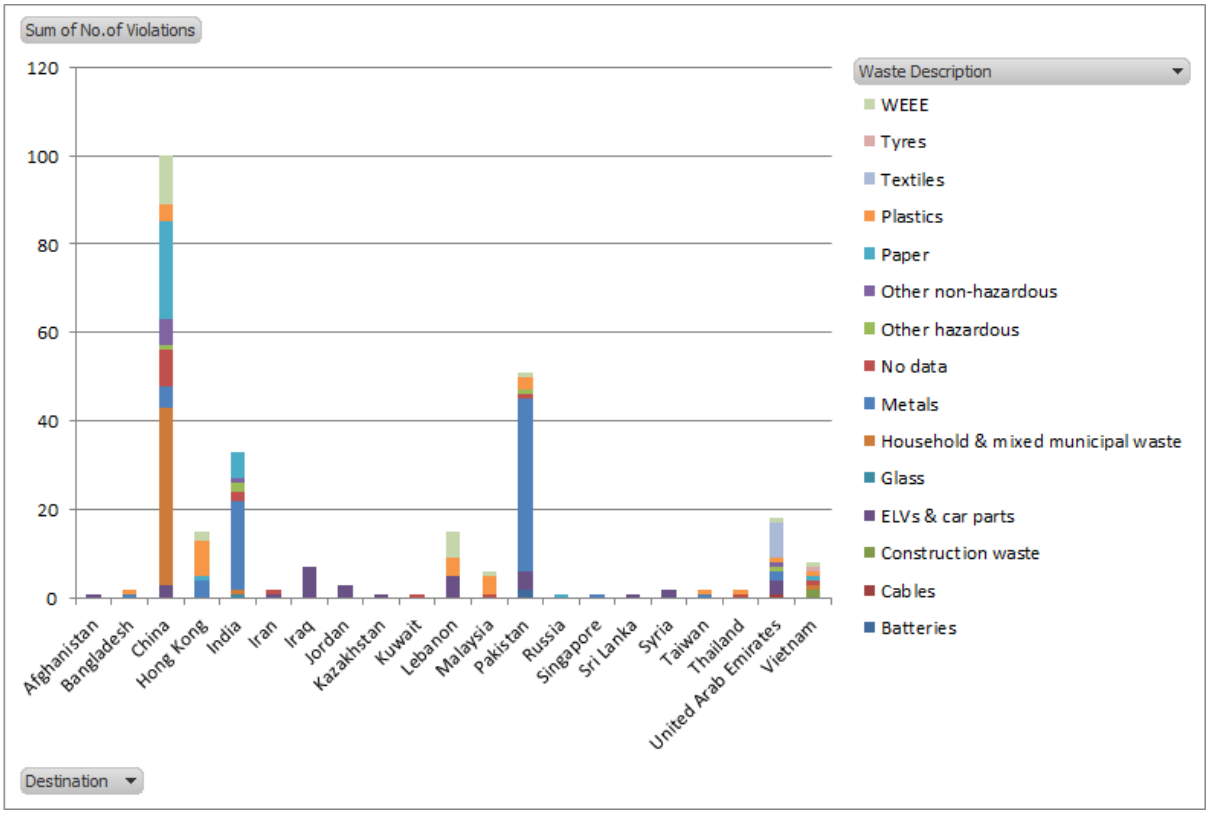


Figure 30 - Transport and company violations to Asia, by waste type.

China was the most common destination for illegal shipments to Asia (44%), the most significant waste stream involved being household and mixed-municipal waste. Pakistan saw a high level of illegal shipment of metals (76% of illegal shipments found moving to that country).

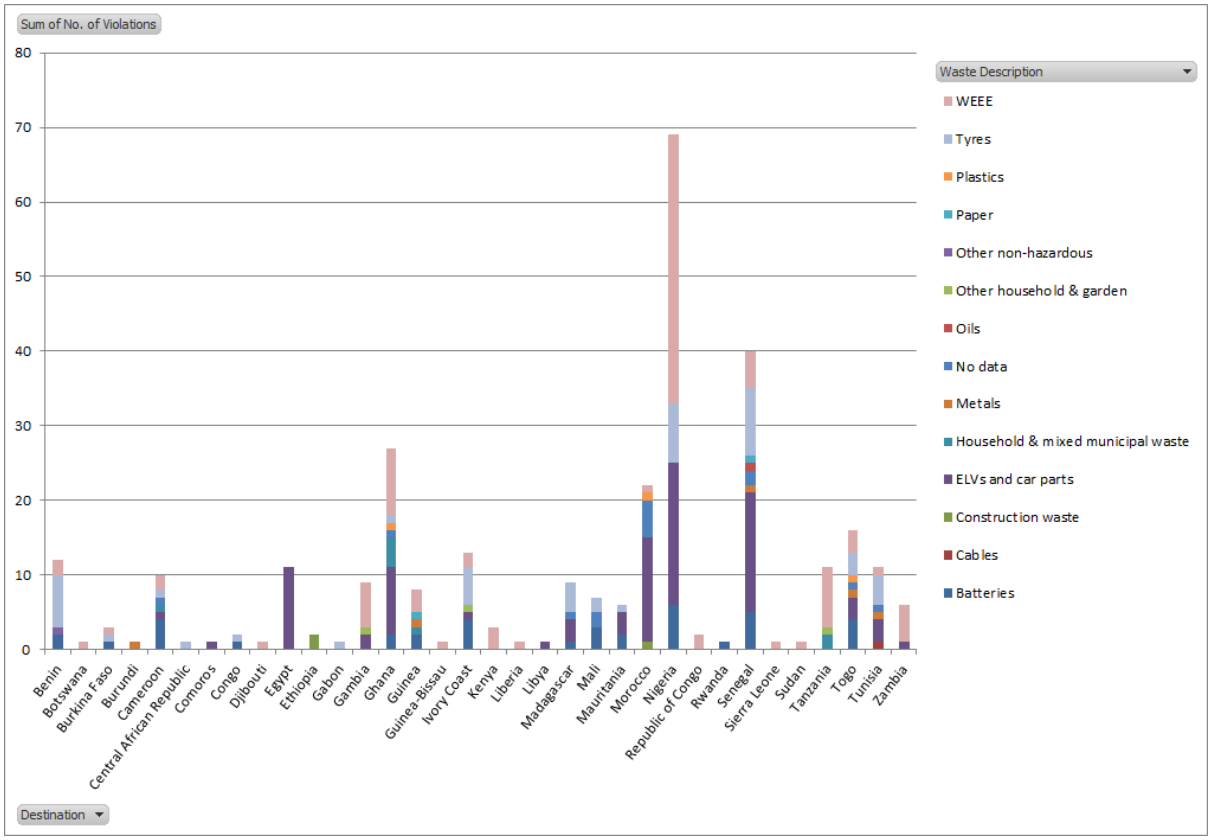


Figure 31 – Transport and company violations to Africa, by waste type.

Nigeria was again the most common destination for illegal shipments to Africa (22%); 52% of the illegal shipments detected were WEEE. Senegal is becoming a more frequent destination for illegal exports to Africa with 40 being recorded under EA V, compared to only one under EA IV.

As can be seen in Figure 32, Romania is now the most significant destination for 'other non-OECD countries'; tyres being the most important waste type. However, it should be noted that there were a large number of inspection results reported by Romania in 2017 which may explain the disproportionately high number of violations.

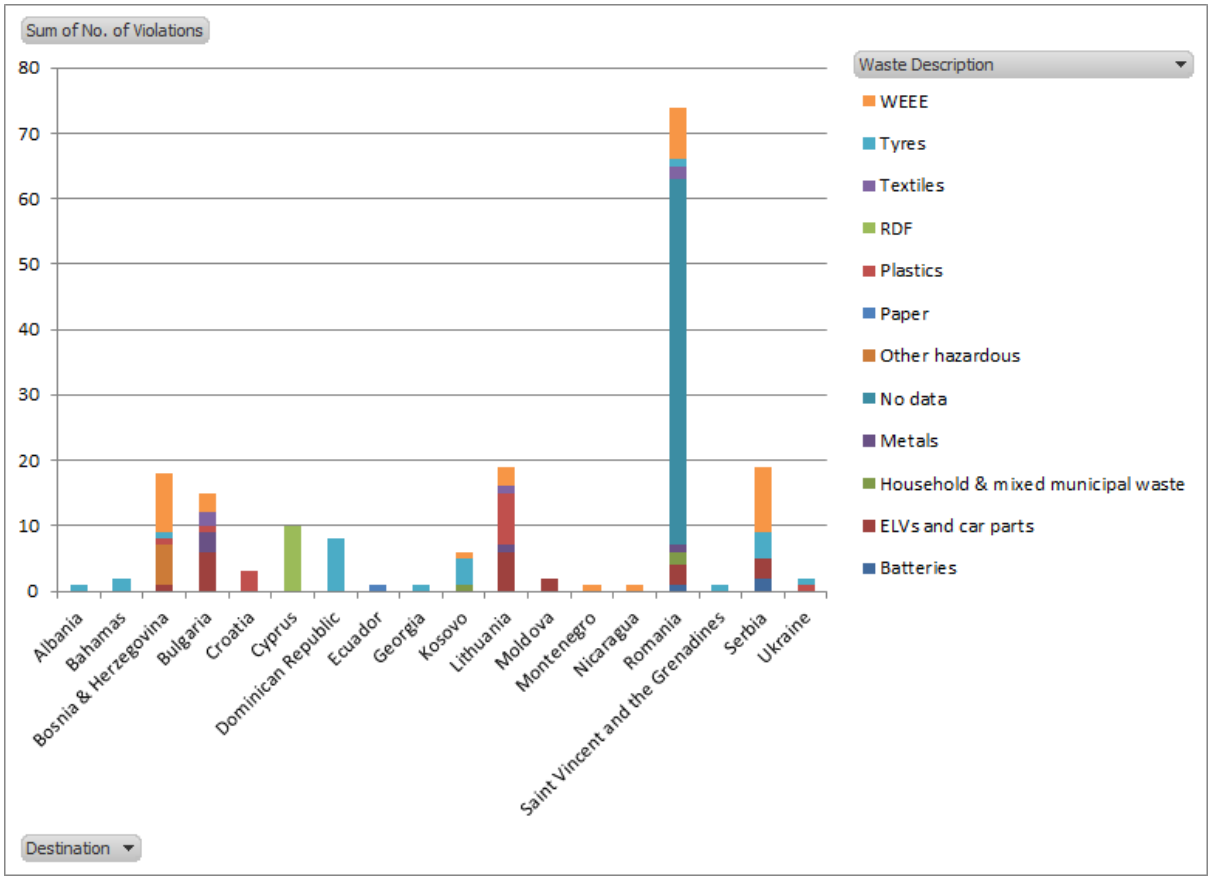


Figure 32 - Transport and company violations to other non-OECD countries, by waste type.

5.8 TOTAL ANNUAL DATA (2016-2017)

Switzerland, England and Scotland submitted their 'violation' results for 2016 and 2017, i.e. results of inspections throughout the year. The Netherlands submitted their verified results for 2016. A total of 1166 violations were recorded. The violation rate cannot be calculated from this data as the total number of inspections undertaken by the authorities was not recorded.

Figure 33 below shows the intended destination and the waste types for the violations detected. The tonnage data has not been verified so the data only represents the number of instances particular destinations/ waste types were discovered. ELVs and/or car parts were the most frequently detected waste type.

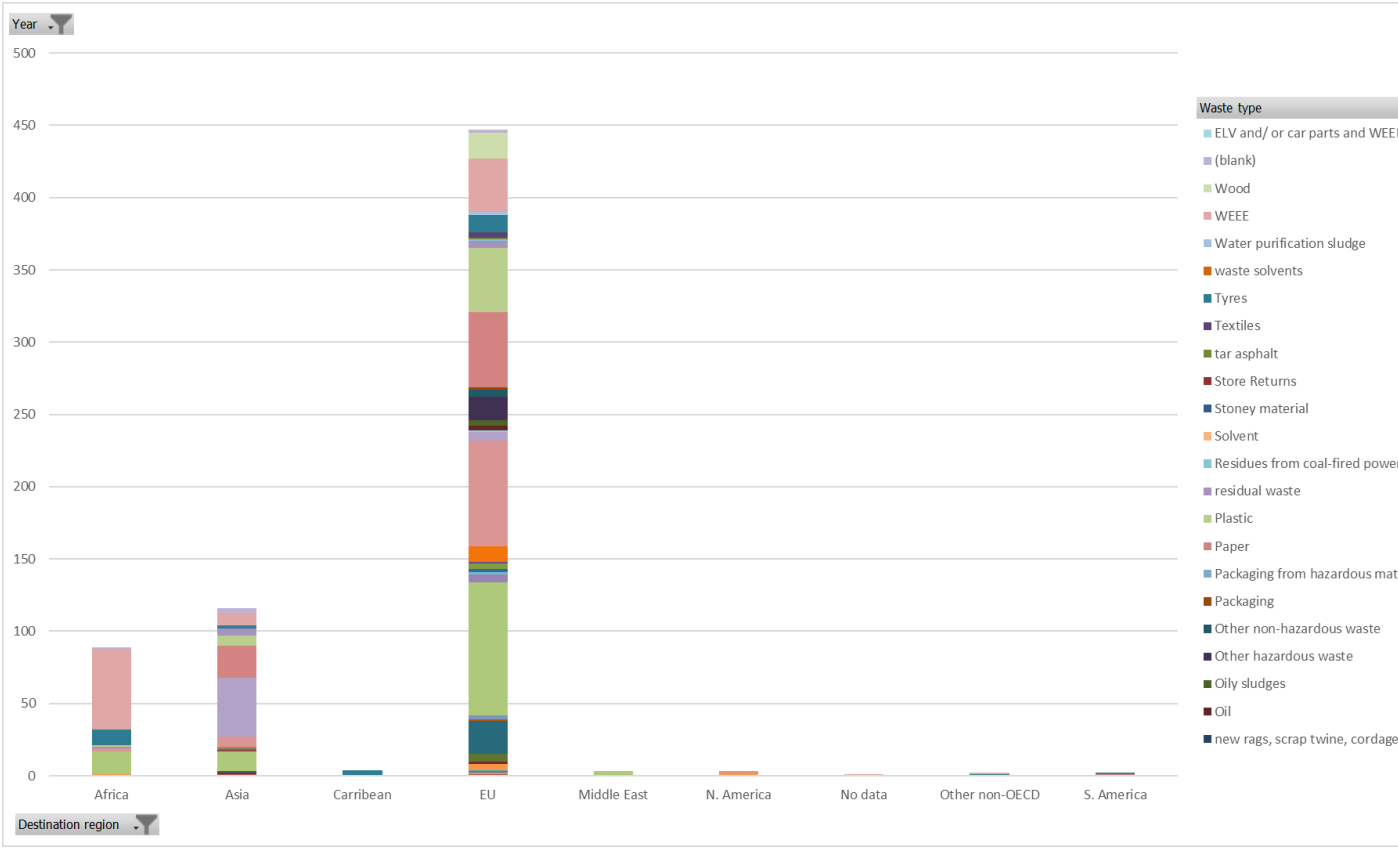


Figure 33 – Total annual data showing waste type and destination region

Europe was the most frequent destination for the illegal shipments detected; however, this is strongly influenced by the reporting countries involved. The Dutch Inspectorate (ILT) 2016 data alone account for 36% of the recorded violations. Given the key importance of The Netherlands, and Rotterdam port in particular for European trade, it is reasonable to assume that destination countries are more likely to be European and the waste types more varied for ILT detections than those discovered by the other agencies. This is shown in Figure 34 and Figure 35.

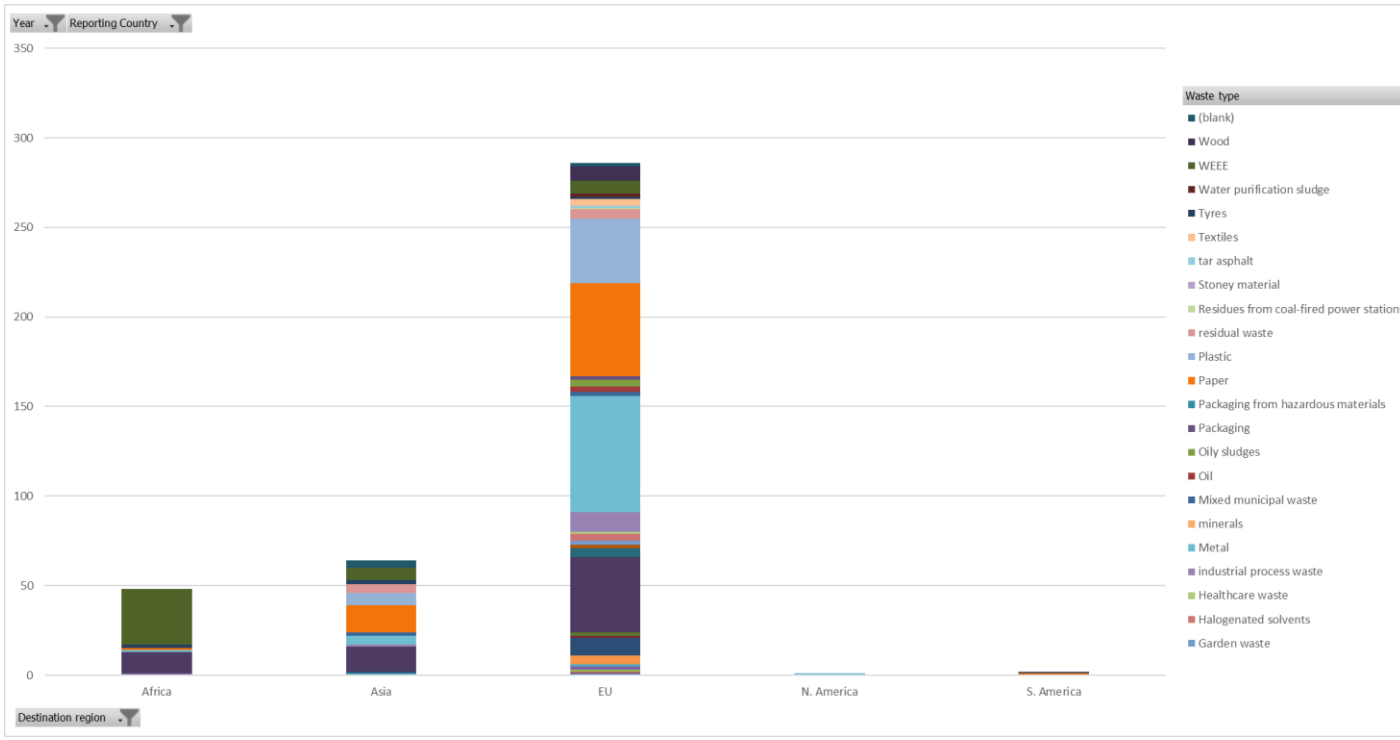


Figure 34 - Dutch detections 2016

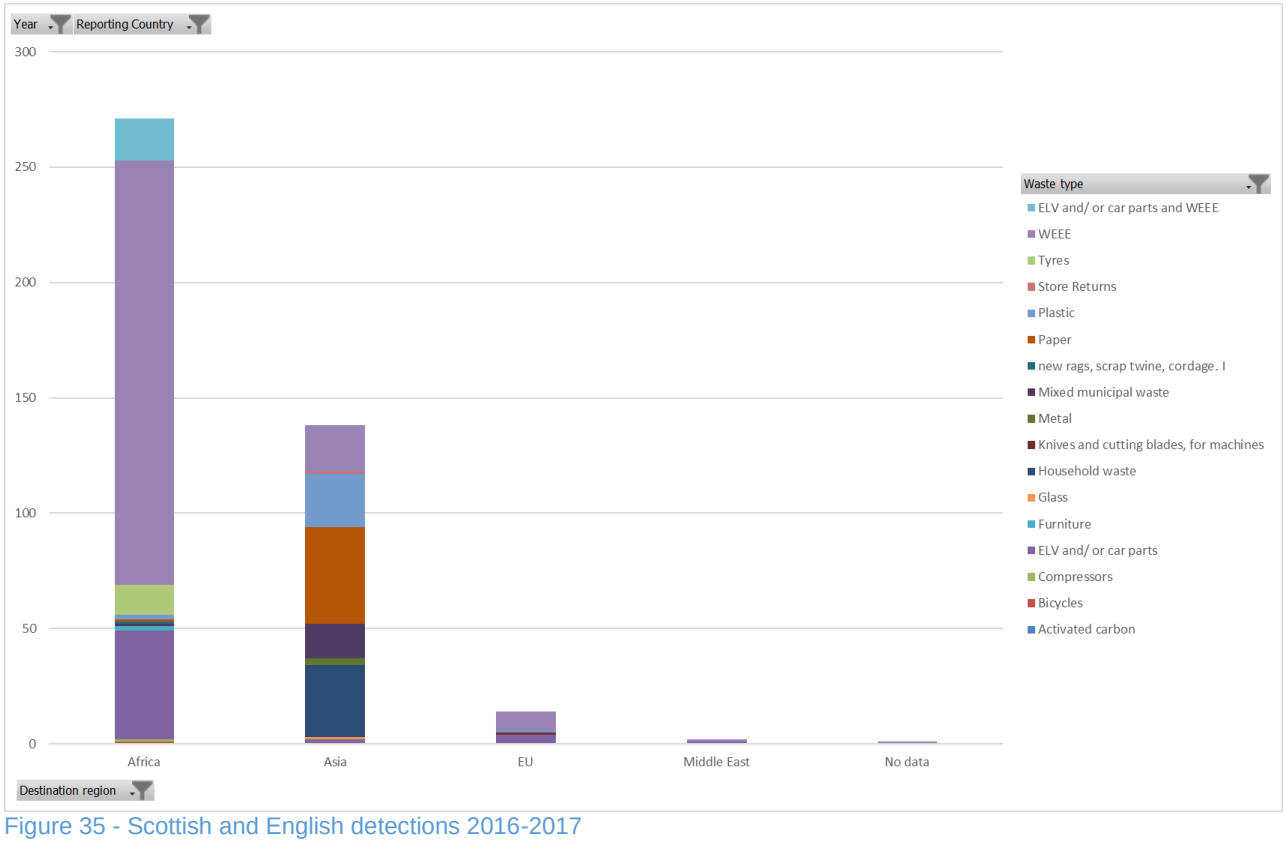


Figure 35 - Scottish and English detections 2016-2017

Figure **35** - Scottish and English detections 2016-2017Figure 35 shows the results of the English and Scottish authorities' targeting of particular waste exports. WEEE moving to African countries and poor quality recyclates/mixed municipal waste exported to Asia were the most frequently detected waste types involved in violations.

5.9 TRENDS IN VIOLATION DATA

As the Enforcement Actions project is now in its fifth phase, there is sufficient data to be able to look at trends as far back as 2010.

ELVs and car parts, metals, paper & cardboard, plastics and WEEE have the highest number of violations in this reporting period. These waste types have been consistently high since 2010, although all reported fewer violations in EA V than previously. Paper & cardboard has been steadily increasing each year but has seen a decrease in the last two years. The other waste types continue to fluctuate but none significantly.

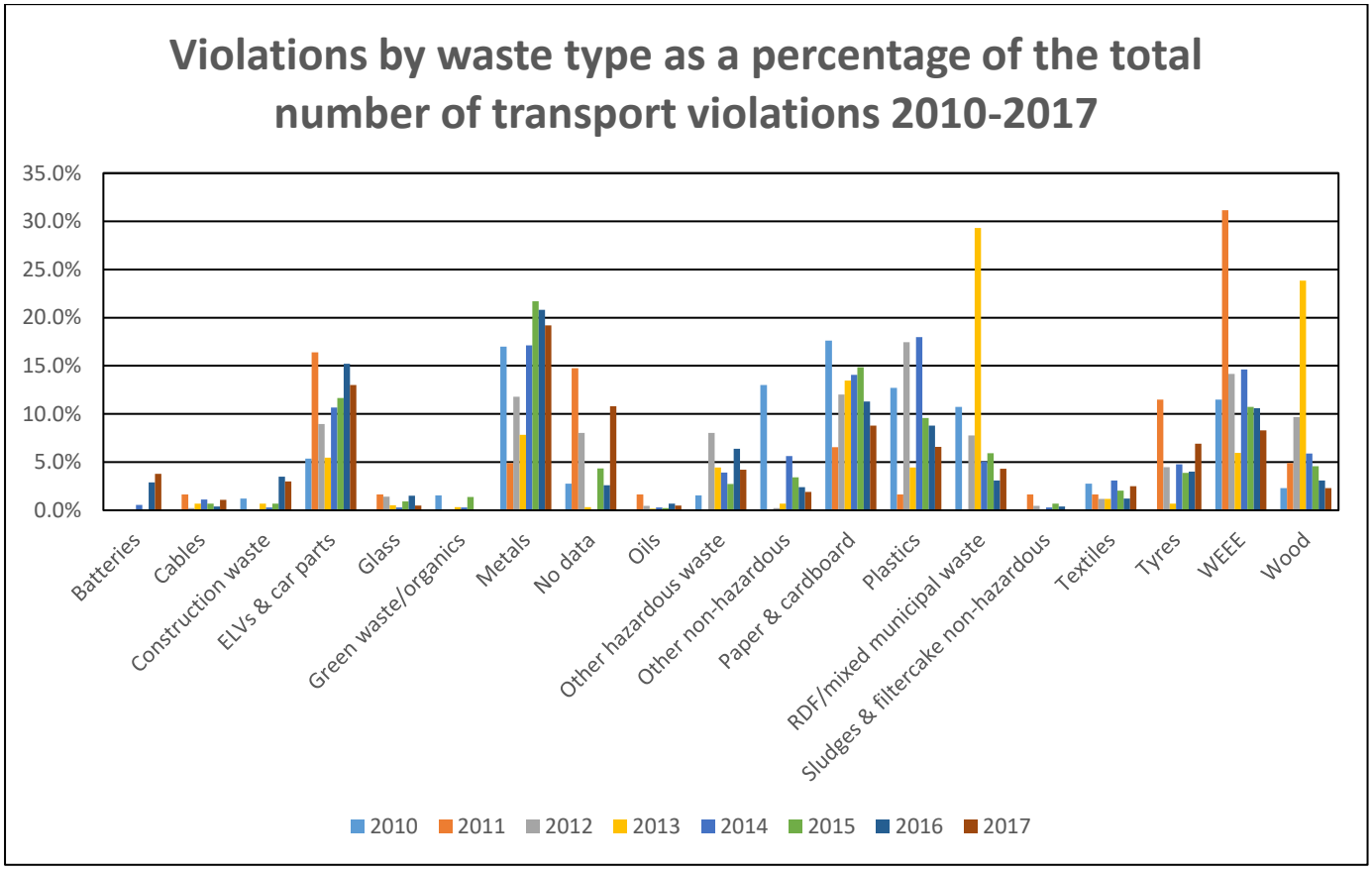


Figure 36 – Violations by waste type as a percentage of the total number of transport violations 2010-2017

The destination region for violations has seen some notable changes during this reporting period compared with the previous years. The EU is no longer increasing as a destination region for violations but has decreased over the last two years, now at the lowest level since 2012. At the same time, violations to Africa and Asia have increased during this reporting period. However, the number of violations to these regions is still substantially lower than the number destined for the EU.

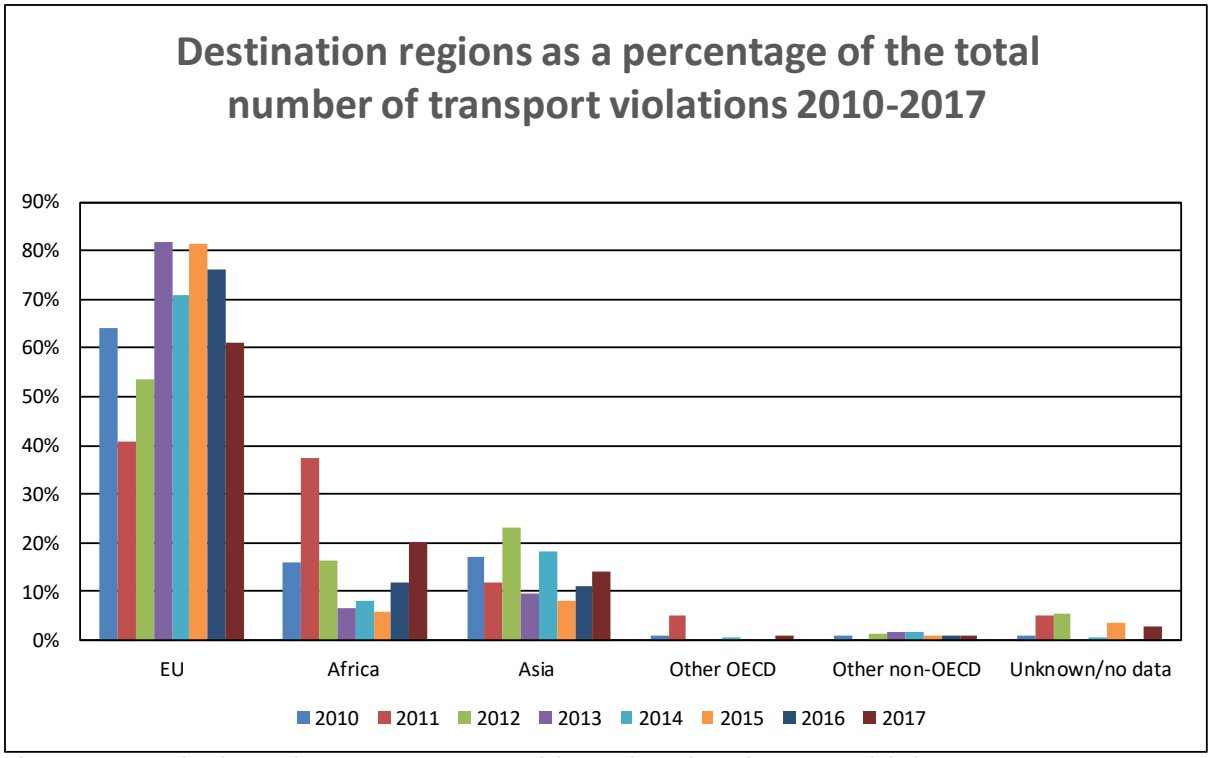


Figure 37 – Destination regions as a percentage of the total number of transport violations 2010-2017

China and Hong Kong remain two of the most common destinations for illegal shipments. In 2016, the number of violations for most waste types increased but in 2017 all except mixed municipal waste decreased. The difference between the amount of violations in 2016 and 2017 is likely explained by the fewer total violations in the second year of the report. Since 2012, there has also been a wider range of waste types reporting violations. Data from 2018 onwards will show the impact of the Chinese National Sword campaign on the number of violations destined for China and Hong Kong.

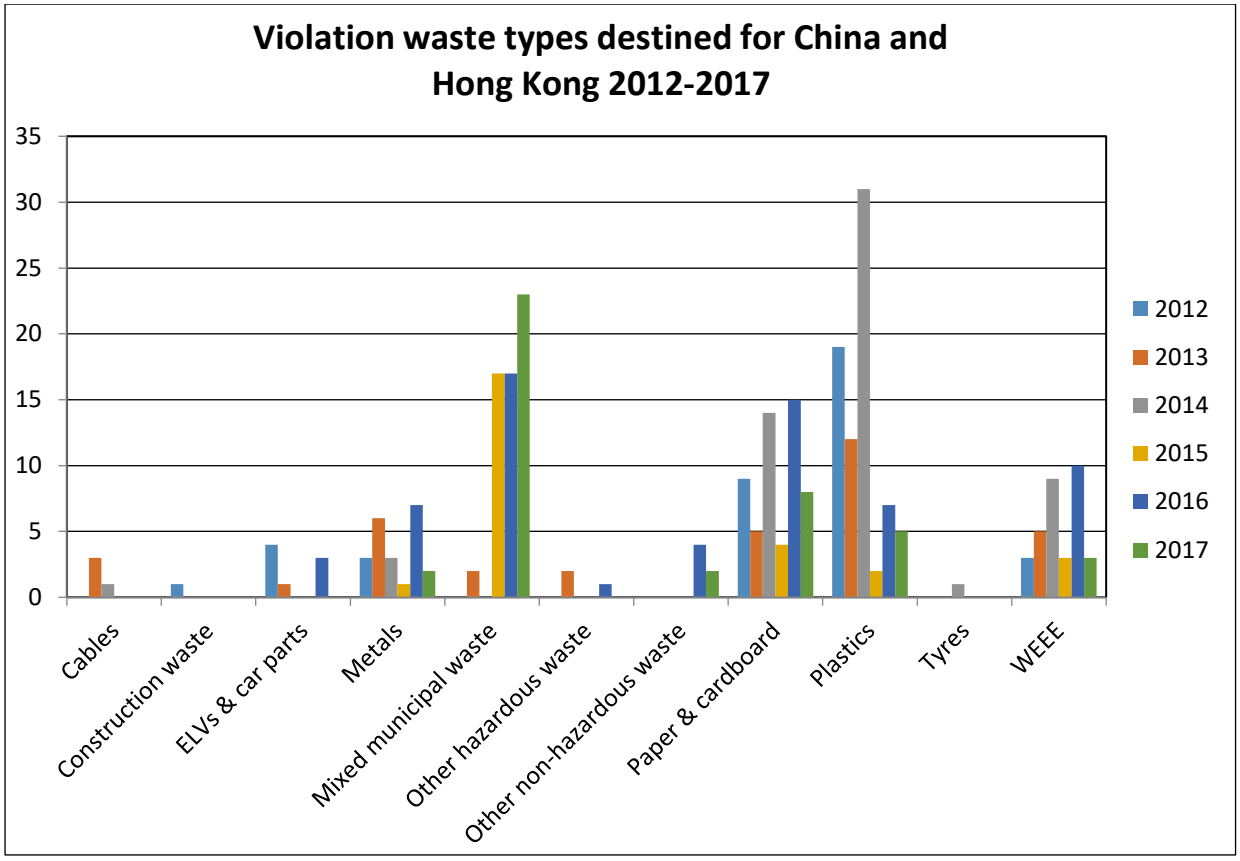


Figure 38 – Violation waste type destined for China and Hong Kong 2012-2017

The most notable difference in violations to Nigeria is the large number of WEEE violations in 2016. Despite this, the percentage of WEEE violations which report Nigeria as the final destination has remained at 30% of the total WEEE violations throughout EA IV and EA V. Nigeria remains the most common destination for violations to Africa. There were a higher number of violations to Nigeria during this reporting period (2016-2017) but proportionally they make up 21% of all African violations, the same as the previous report. The range of waste types destined for Nigeria has remained largely the same.

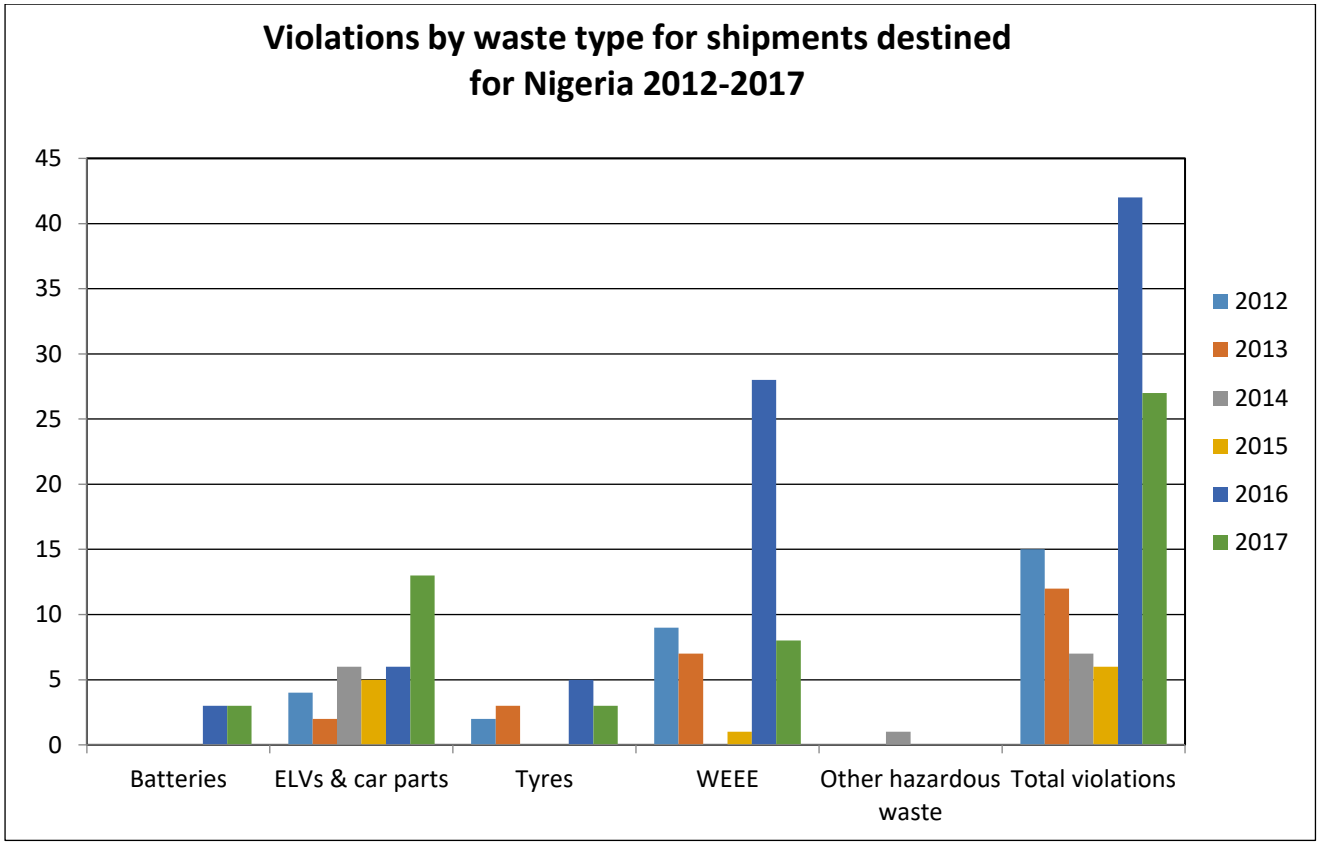


Figure 39 – Violations by waste type for shipments destined for Nigeria 2012-2017

Figure 40 shows the countries illegal shipments of tyres have been destined for. There were 43 destinations for tyres reported across 2016 and 2017. The number of violations has been increasing each year from eight reported in 2012. The number of violations has also increased substantially since 2015. EU countries have typically been the most common destination region for tyre violations but this changed to Africa in 2017. There does not appear to be one significantly preferential destination for tyres, as opposed to other waste types.

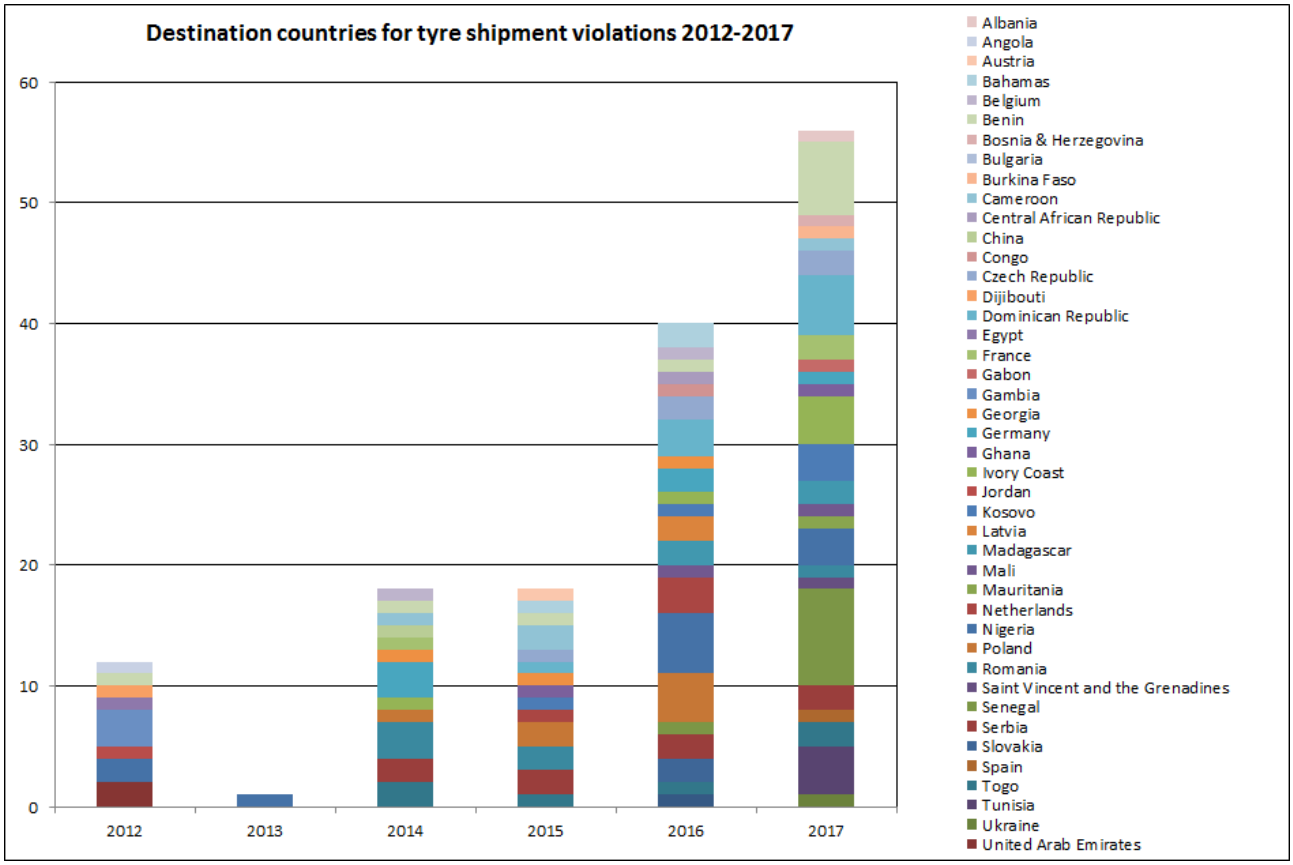


Figure 40 – Destination countries for tyre shipment violations 2012-2017

Figure 41 shows illegal shipments to EU destinations. Germany consistently report a high number of inspections which may explain why they have the highest number of violations. The number of destination countries for violations has been increasing from 2013 (19) to 2017 (31). New EU destinations during EA V include Croatia, Cyprus, Finland, Republic of Moldova and Montenegro. An increase in destinations for violations could suggest better co-operation between countries but the survey has shown just a slight increase in formal agreements and joint inspections.

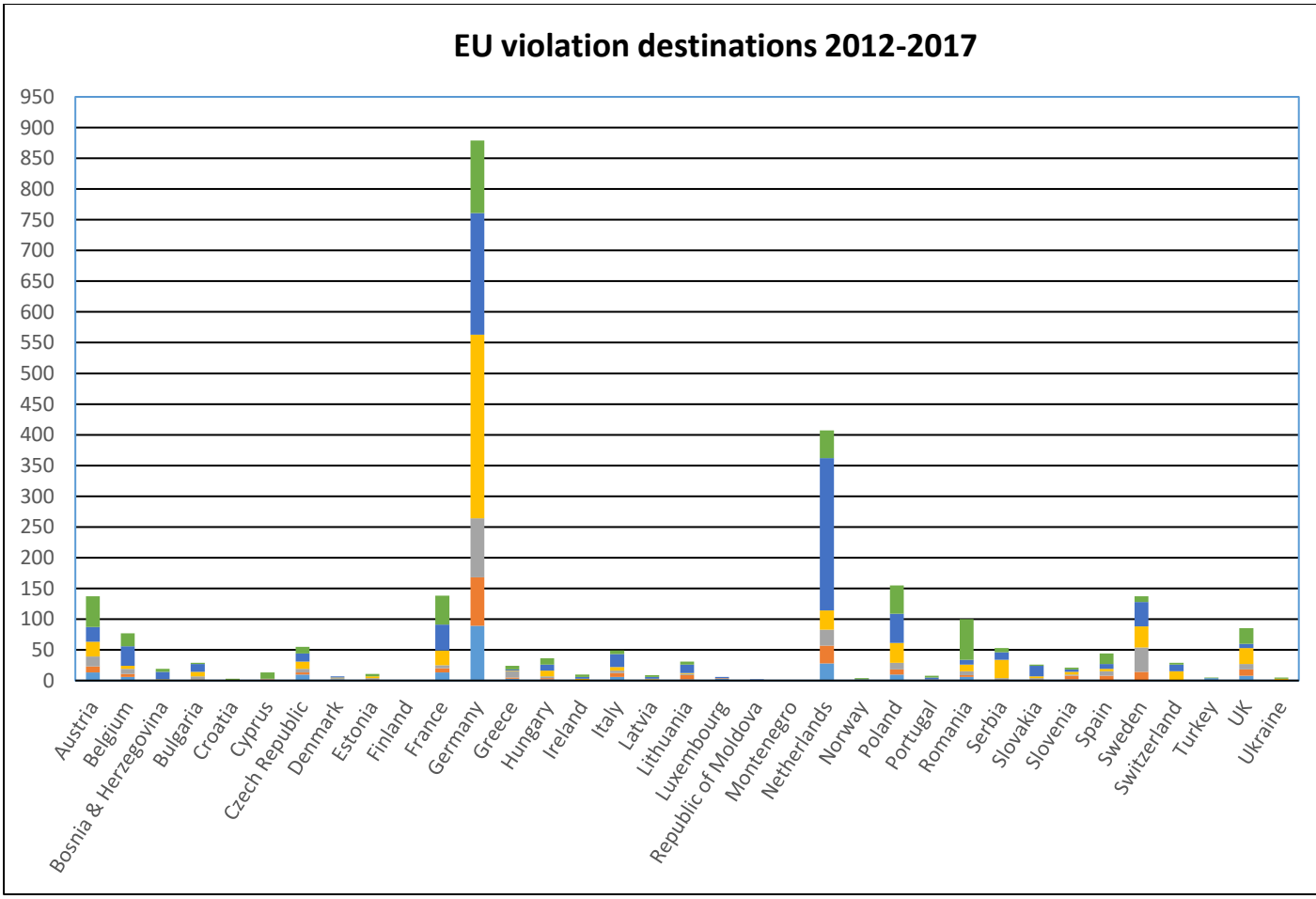


Figure 41 – EU violation destinations 2012-2017

5.10 BASEL CONVENTION ILLEGAL WASTE SHIPMENT STATISTICS

The first worldwide statistics on illegal waste shipments were released by the Secretariat of the Basel Convention for the year 2016. A deadline was set for December 31 2017 yet at this time 101 countries are still to report their results and China have refused due to the high number of cases.

The information obtained so far reveals that 59 countries reported no illegal shipments in 2016 and across 16 countries over 454 illegal shipments were reported. The results showed violations from a range of waste types from WEEE to mixed paper and RDF.

Amongst the most common reasons for violations were prohibited exports, import permits not being obtained and transports without notification. Of the 454 reported violations 14% involved issues with notifications. The most favoured enforcement actions included repatriations and financial fines ranging from 160 euros to approx. 75000 euros.

5.11 INTERPOL 30 DAYS OF ACTION

Twenty-two IMPEL countries took part in Interpol's '30 Days of Action' operation in June 2017. This operation sought to intervene in waste crime during the month-long campaign.

The focus of the operation included, but was not limited to, the following:

- Illegal shipments of hazardous waste;
- Illegal disposal of hazardous waste and other wastes, including chemicals;
- Illegal landfill activities and dumping sites;
- Unlawful recycling operations (for example the mixing or misclassification of wastes in order to disguise hazardous content).

The majority of the illegal waste discovered during the operation was metal or electronic waste, related to end-of-life vehicles. The majority of offences was administrative (413 violations) with 226 criminal violations. It had been IMPEL's intention that those environmental authorities able to share intelligence would send their nominal data to the English Environment Agency for analysis so that an intelligence could be examined and disseminated to relevant authorities on specific illegal wastes and operators. Unfortunately, due several issues with reporting structures, it was not possible for the Environment Agency to derive an intelligence 'product' from the operation.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

1. There are 34 participating countries in the Enforcement Actions work at the time of writing. However only 27 reported their inspection results in 2016-17.

2. Enforcement Actions V reported a total of 22,270 physical and administrative transport inspections, of which 5,821 (26%) were related to transfrontier shipment of waste. This is a lower proportion of waste inspections than EA IV which reported 17,183 inspections, of which 4,923 (28.7%) were waste related. The reasons behind any decrease in violation rate need to be looked at carefully. Reasons may include officers having less time to focus on targeted inspections due to reduced resources. This would accord with the findings from the online survey, which showed that there has been a reduction in intelligence capacity amongst participating countries. However, it is equally likely that reporting changes have affected the results. It is equally likely that one major reporting country that uses intelligence to target inspections has not yet reported its full 2017 dataset. Transport inspections are most frequently carried out at the roadside, accounting for the high number of intra-EU movements reported in the project. This was also the case in EA IV.

3. The total number of company inspections related to transfrontier shipment of waste in EA V was 792 whereas 486 were carried out in EA IV. Overall, 12 countries reported company inspections in EA V, compared with 14 during EA IV. The countries of destination for company inspection violations are similar to that of the transport inspections in that most loads were destined for EU countries (31%) as shown in Figure 26 and Figure 27. The next most common destination was Asia (29%) followed by Africa (21%). This is similar to EA IV as Asia (27%) was the next most common destination followed by Africa (6%). EA V differs to earlier projects as the number of illegal shipments destined for the EU has declined substantially and destinations are more widely dispersed.

4. The five major waste streams involved in transport violations have remained the same since the EA IV project; Metals (20%), Paper (10%), Plastics (8%), WEEE (10%) and ELVs and Car Parts (14%). Company inspections are often carried out at known facilities, by comparison with transport inspections which tend to be roadside or seaport checks, which are more random in nature. This means officers inspecting companies' facilities are able to target inspections towards those handling or treating priority waste streams. 'Household & mixed municipal waste' (23%) was the main stream with violations, followed by 'WEEE' (18%).

5. China and Hong Kong were still the most common Asian destinations; mixed municipal waste, plastics, paper and card still being the major materials involved in violations. West Africa (particularly Nigeria) was still the most common destination for African violations, with WEEE, ELVs & car parts accounting for the majority of violations.

6. The exchange of inspectors remained an invaluable project tool for training officers and sharing best practice. This was confirmed during webinar discussions and online presentations surrounding various exchanges.

7. The level of co-operation with other authorities (e.g. police and customs) remained high when compared to previous projects. Availability of resources is generally a consideration for inspecting agencies, and external agency assistance helps improve efficiency. Collaboration

was an aspect that was regularly promoted, as it is always possible to improve links, so all countries were encouraged to foster links with other regulatory bodies.

8. The project is clearly having a positive impact on the daily inspection and enforcement work of participating countries. This is evidenced by survey responses which indicated that participants want the project to continue, and suggested the project has been very helpful to them. It provided guidance for identifying illegal transports, better understanding of legal requirements, sharing of best practice, increasing co-operation, joint control at border crossings and streamlined repatriations.

9. Although considerable improvements in participation had been made, bilateral and multilateral collaboration remains a problem in certain regions. The effect is that the Waste Shipment Regulation is not completely implemented and an uneven playing field of waste shipment controls still exists. Illegal trafficking within Europe and port hopping remain on-going challenges and risks.

6.2 RECOMMENDATIONS

1. It is suggested that the next phase of the Enforcement Actions work explore the reasons for the further decline in intelligence use across authorities.

2. Further work is needed to improve the consistency of reporting inspection results. Many officers are still reporting one inspection as both admin and physical, and failing to report the selection method. Results obtained from sources other than the standard forms often only included violation data and not the total inspection numbers which makes calculating the accurate waste detection rates impossible. Missing information and reporting errors affect the accuracy of the report's findings.

3. It is hoped that online reporting can be developed to assist officers in the field report their inspections. This should help standardise the data reported but will require investment both financially and by participants of IMPEL's Waste and TFS Cluster. Such a system should increase the number of inspections reported and it could be used by competent authorities to gain information and plan their inspections. This functionality should make it easier for the Project to track how many inspections were as a result of risk assessments/ intelligence to see the impact that targeting inspections is having and whether it provides an increase.

4. It is hoped that the next phase of the Enforcement Actions work will see more countries reporting their inspections and that this will be done before the specified deadlines. The introduction of mandatory Inspection Planning and reporting to the European Commission may improve this.

5. Given that China was the most important non-OECD destination country, and that country's recent import restrictions on foreign waste, it would be interesting to explore waste streams and target transport inspections for waste types affected by the Chinese import restrictions to gain perspective on how it has impacted the world's recycling industry.

6. It is suggested that cooperation with customs, police and other regulatory authorities, for example via formal agreements, is expanded in order to build on the benefits already achieved.

7. Collaboration on a global level (e.g. the Asia collaboration project) should be expanded to improve understanding of the impacts of the transport of waste to non-OECD countries and ensure that verification of waste shipments is carried out.

8. Given that the results of the EA V inspection periods indicate that most of the illegal shipments are from EU to EU countries, further work in targeting specific waste streams or operators may be beneficial. For future transport inspections, household waste would be a key area to focus on.

ANNEXES

ANNEX A- EXCHANGES

THE NETHERLANDS – GERMANY – SWITZERLAND AUGUST 2016

From 9th to 12th August 2016 colleagues from Germany and Switzerland travelled to The Netherlands as part of an extensive fact-finding visit. Officers learned about the container selection system used by Dutch Customs at the Maasvlaakte, and the scanning of contents.
Officers undertook inspections of incoming waste from the UK at Vlaardingen ferry terminal, and then road inspections on the A1. The ferry terminal inspections were of particular interest: of the 30 trailers were checked, 18 were loaded with waste, 10 of them consisted of RDF (refuse-derived fuel) from UK to NL and other EU countries. It was noticeable that they differed quite considerably with regard to composition and odour. In some cases, the impression arose that the wastes originated from industrial production and in other cases it was probably pure household waste to some extent not pre-treated.

OPERATION MIDNIGHT SUN II – JUNE 2016

Operation Midnight Sun II was carried out during the 29th of May -2nd of June 2016 at the Norwegian/Swedish border. The following authorities participated in the operation:

The Norwegian Customs.

The Swedish Customs.

The Swedish Police - Heavy traffic squad, Luleå.

The Swedish Police - Heavy traffic squad, Skellefteå.

The Swedish Police - Traffic squad, Luleå.

The Norwegian Environmental Agency.

The Swedish Environmental Protection Agency.

The Swedish Ministry of the Environment and Energy.

The County Administrative Board of Norrbotten.

Visitors from the University of Lapland, Finland and from Teknikens Hus, Sweden participated for one day in order to gain an insight of waste flows in the north region.

In total 50 transports were checked by environmental authorities and of these 35 were transboundary shipments of waste. The violation rate was 50% of the inspected transports. Four transports were denied entry into the EU.

RDF EXCHANGE – NOVEMBER 2016

The purpose of the exchange was to bring together frontline regulators responsible for the regulation and enforcement of TFS as part of a best practice exchange to understand the challenges, issues and trends for refused derived fuel (RDF) in Europe with particular focus on the Swedish model. The exchange took place between the 1st November and 4th November 2016 in Sweden in two stages. The first part of the exchange involved a full day meeting on the 1st November 2016 at the County Administrative Board of Skåne, in Malmö followed on the 2nd November 2016 by a half day visit to the SYSAV waste incineration plant at Spillepengen in Malmö. In attendance were competent authorities from Estonia, Denmark, Germany, The Netherlands, Poland, Republic of Ireland, United Kingdom (England, Northern Ireland and Scotland), Hungary, Norway and Sweden. In total 20 people primarily waste shipment inspectors attended the meetings and inspections over the two days. The second half of the exchange involved waste shipments inspections at a border crossing on route 10 in the Northwest of Sweden at the Norwegian border with inspectors from the County Administrative Board of Norrbotten.

Participants witnessed drone technology being used to assist Swedish colleagues to identify waste and determine waste classification of RDF transports. Checks were also carried out on paperwork accompany mixed municipal waste movements. Such an exchange of ideas proved very beneficial for all participants and embodies the value of the IMPEL TFS officer exchanges. The sharing of information, combined with waste shipment inspectors' own personal experiences, resulted in a truly invaluable experience for all involved.

OPERATION MIDNIGHT SUN III – JUNE 2017

Operation Midnight Sun III was carried out during the 30th of May to the 2nd of June 2017 at the Norwegian/Swedish border. In total 35 transports were checked by environmental authorities and of these 26 were transboundary shipments of waste. The violation rate was about 15%. For a second year in a row the violation rate was down. But so was also the total amount of transports and some correlation to that variable has to be taken into account.

Combining the results from all participating authorities provided the following results:

	Inspections and/or administrative checks	Violations	General description of violations	Notable Violations
Environmental agencies	35	4	Unclear status of waste, national transport license missing	Two cases of denied import/export from/to Sweden
Swedish Police Heavy Vechicles	34	14	Penalties for violating the laws for driving and resting	N/A
Swedish Police Light Traffic	37	29	Speeding violations, taxi violations, failed vehicle inspections	Nine drivers licences revoked
Swedish Customs	N/A	0	N/A	N/A
Norwegian Customs	N/A	2	Smuggling	33 040 illegal ciggarettes, siezed vehicle and deportation

OFFSHORE WASTES EXCHANGE TO THE NETHERLANDS – NOVEMBER 2017

Enforcement Actions arranged an officer exchange to The Netherlands in November 2017. It focussed on the transboundary movement of waste associated with the oil and gas industry, particularly offshore decommissioning. The meeting brought together experts from regulatory authorities in England, Ireland, Scotland, Norway and The Netherlands from waste shipment competent authorities, radioactivity protection, economic ministries and a Dutch prosecutor. They discussed best practice and lessons learnt in relation to the import and export controls associated with both the radioactive and non-radioactive properties of oil and gas industry wastes. These differing properties are subject to different regulatory controls, often by different regulatory authorities. The meeting was successful in bringing together relevant parties and helping to identify further areas for information sharing and co-operation as North Sea decommissioning increases.

ANNEX B - ANNUAL BEST PRACTICE MEETINGS

BERN – APRIL 2016

The annual IMPEL TFS Enforcement Actions meeting was held 19-20 April 2016 in Bern, Switzerland. The meeting brought together 38 TFS waste inspection officers from 24 countries across Europe, and featured a wide-ranging agenda of practical presentations and workshops. The agenda included an overview of the Swiss situation with regards to Transfrontier shipment of waste, project updates and inspection results, effective controls, GPS tracking of illegal shipments, exchange reports and the Nordic Green list waste shipments project.

Workshop one concerned the control and classification of waste automobile parts. This looked at the issues surrounding consistent classification of and export-control of end-of-life waste vehicles, and was facilitated by Estonia and Germany. It was noted that a training need existed for officers to understand how to test the functionality of car parts. The workshop also explored how to handle the technical problem of unloading overfilled containers, and how to determine whether or not the materials are waste.

Workshop two was an 'Intelligence clinic' and described developing intelligence-led inspection methods as used by the Environment Agency. Here, the importance of information-sharing was emphasised, particularly with other competent authorities. Listening to operators who may have knowledge of unscrupulous competitors was also helpful.

Workshop three was on E-waste inspections and safety testing and included a demonstration of the use of PAT testing equipment to assist officers with establishing whether electrical items are waste at the point of inspection. It was found that the hosts' kettle was electrically unsafe! The presentation itself demonstrated how SEPA tackles the problem of illegal WEEE shipments by constant monitoring and also raised questions on whether the import controls on destination countries should be considered when inspecting exports (as set out in the recent Danish guidance).

Workshop four was on evidence for criminal prosecutions, to give officers a perspective on the kind of information prosecutors require to bring convictions. This generated lively debate, and highlighted the different approaches still taken by individual countries in enforcing against illegal shipments.

Workshop five was on differences in national legislation and was a comparison of the similarities and differences between national legislation in Ireland and Northern Ireland, and their different approaches to tackling illegal shipments

The presentations can be found on Basecamp.

LISBON – APRIL 2017

On the 11th and 12th April 2017 the project's annual meeting was held in Lisbon, Portugal and was attended by frontline inspectors, customs, police and prosecutors (from the Netherlands, England and Scotland) from across Europe. There was a very insightful series of presentations and workshops that included most notably;

1. the benefits to attendees of the software application SPOTFIRE for the geographic visualisation (mapping) of illegal shipments of waste,
2. case studies from Germany on an illegal shipment of lead monoxide and residues from cable recycling,
3. the seizure of a ship by the Norwegian competent authority destined for illegal shipbreaking in a non-OECD country,
4. Interim inspection results showing new waste destinations in the Caribbean and North America and a declining trend in waste destined for Africa, increase in transport violations of metal, glass and C&D wastes. Inspections results also show that detection and violation rate has increased.
5. a demonstration of an electronic online platform used by the Portuguese competent authority for recording Annex VII and notification paperwork,
6. a workshop by English and Dutch environmental prosecutors regarding the illegal shipment of recyclates and difficulties in regulating/prosecuting WEEE shipments,
7. the outcomes of a best practice exchange on joint working between German, Swiss and Dutch inspectors on waste transport inspections,
8. a refused derived fuel (RDF) 2 part best practice exchange in Sweden that involved 20 frontline regulators presenting each countries situation, attending a tour of an incineration facility, and witnessing the use and benefit of trialling drone technology in RDF border transport inspections.

ANNEX C - LIST OF TABLES AND FIGURES

ANNEX D - LIST OF LITERATURE AND REFERENCES

- Anke Joas; Alexander Greßmann; 'IMPEL-TFS Enforcement Actions II, Enforcement of EU Waste Shipment Regulation "Learning by doing"'. Final Project Report (October 2008 – February 2011).

- Katie Willis; Adam Liddle; 'IMPEL-TFS Enforcement Actions III, Enforcement of the European Union Waste Shipment Regulation', Interim Project Report September-October 2011'

- Katie Olley; Adam Liddle; Mark Keegan; Jane Bond; Nicky Leggatt; 'IMPEL – TFS Enforcement Actions III, Enforcement of the European Waste Shipment Regulation', Project Report for Year 1 (March – October 2012).

- Katie Olley; Naomi Ross; Adam Liddle; Mark Keegan; Nicky Leggatt; 'IMPEL – TFS Enforcement Actions III, Enforcement of the European Waste Shipment Regulation', Project Report for Year 2 (January – September 2013).

- Katie Olley, Naomi Ross, Jamie Morris, Adam Liddle, Mark Keegan, Nicky Leggatt, 'IMPEL – TFS Enforcement Actions III Project Report Final Report: Enforcement of the European Waste Shipment Regulation (March 2012 – December 2013)'

- Katie Olley, Naomi Ross and Pádraig O'Shea; 'IMPEL – TFS Enforcement Actions Project Report 2014 – 2015: Enforcement of the European Waste Shipment Regulation'