

Tilburg University

Crime script analysis of Illicit cross-border waste trafficking

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SUMMARY

CRIME SCRIPT ANALYSIS OF ILLICIT CROSS-BORDER WASTE TRAFFICKING

Key findings

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D 1.2 Summary of key findings of the work package 1 to authorities

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***BLOCKWASTE** is a research project (2016-2017) co-funded by the Internal Security Fund of the European Union. **BLOCKWASTE** aims providing strategic analysis of the threats and the risks of illicit trafficking of waste across Europe in order to improve the prevention capabilities of EU public and private agencies.*



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BLOCKWASTE-PROJECT

Blocking the loopholes for illicit waste trafficking (BlockWaste) is a research project co-funded by the Internal Security Fund of the European Union. BlockWaste aims providing strategic analysis of the threats and the risks of illicit trafficking of waste (IWT) across Europe in order to improve the prevention capabilities of EU public and private agencies. The project enhances the fight against trafficking by identifying opportunity structures and problems presented to law enforcement because of national differences in regulation and operating environments.

Consortium includes three partners: Police University College from Finland (project coordinator), UCSC-Transcrime from Italy and Tilburg University from Netherlands. The project runs from 1.1.2016 until 31.12.2017.

BlockWaste has the following key objectives:

Providing advanced knowledge on modus operandi, routes and types in IWT (crime script analysis)

Crime script analysis of IWT cases is conducted in order to identify the modus operandi, actors and types of IWT, in accordance with Europol's Threat Assessment 2013, Environmental Crime in the EU. The project boosts intelligence-led policing by providing advanced knowledge

of possible opportunities of criminal activities in IWT and thus, shows concrete stages where authorities may detect criminal activities.

Identifying loopholes in the regulation that could generate criminal opportunities and a displacement effect of legal waste trafficking towards the illicit one (crime proofing analysis)

A crime proofing analysis is conducted of the EU regulation and of the legislation of the consortium partner countries on waste trafficking. The analysis identifies loopholes in the regulation that could generate criminal opportunities and a displacement effect of legal waste trafficking towards the illicit one.

Estimating the revenues of the IWT in the 28 EU Member States in order to highlight the areas at higher risk and impact of IWT

Methodology on how to estimate the revenues from IWT is developed. The estimation is carried out in 28 EU Member States. It provides significant strategic knowledge of the phenomenon, such as recognizing the areas which are at higher risk and impact of the IWT. The method may be adjusted and extended to other illicit markets in EU and in non-EU countries as well.

Emerging threats in the waste trafficking sector

It is essential to pinpoint the other fields of criminal action which are attached to IWT now and in the future in accordance with the EP Committee's final report (2013/2107(INI)). Delphi Study highlights the future threats and development of illicit activities in the waste trafficking sector. It also promotes discussion between authorities and learning about the phenomenon. The impact of the project will be dictated by e.g. evidence of increased knowledge of the IWT as well as increased academic and operational cooperation.

Identifying major challenges in practical cross-border cooperation to tackle IWT

Cross-border cooperation may be hampered by legal and organizational problems. Therefore, effective enforcement depends on cooperation between competent authorities which requires cooperation between law enforcement agencies of the member states of the EU, but also with third countries. BlockWaste identifies the challenges in practical cross-border cooperation at different levels, from a legal as well as an operational perspective, the search for best-practices and develop practical solutions for the problems experienced in the field.

1 INTRODUCTION

The growth of the waste management sector in Europe is widely acknowledged. Waste business is constantly growing its social and economic impact: its revenues are estimated to be over 100 billion euros in the European Union. (European Environment Agency 2012, 24) During the past decade, trafficking of both hazardous and non-hazardous material has increased (European Environment Agency 2012, 20-21; see also Fischer 2008). For instance, 97 % of hazardous waste was transported cross borders from EU Member States to other Member States for further processing in the European Union in 2009 (European Environment Agency 2012, 12-20).

One of the key objectives of the Blocking the Loopholes for Illicit Waste Trafficking (BlockWaste) project is to provide advanced knowledge on the illicit waste trafficking. In the Work Package 1 the project carries out a crime script analysis of IWT judiciary cases to identify the *modus operandi*, actors and types of illicit waste involved in the IWT throughout the European Union, in accordance with *Europol's Threat Assessment 2013, Environmental Crime in the EU*.

Work Package 1 was led by the Police University College (Finland) and conducted together with UCSC-Transcrime (Italy) and Tilburg University (the Netherlands). In addition, the Police Department of Itä-Uusimaa (Finland) contributed to the project as an associate partner.

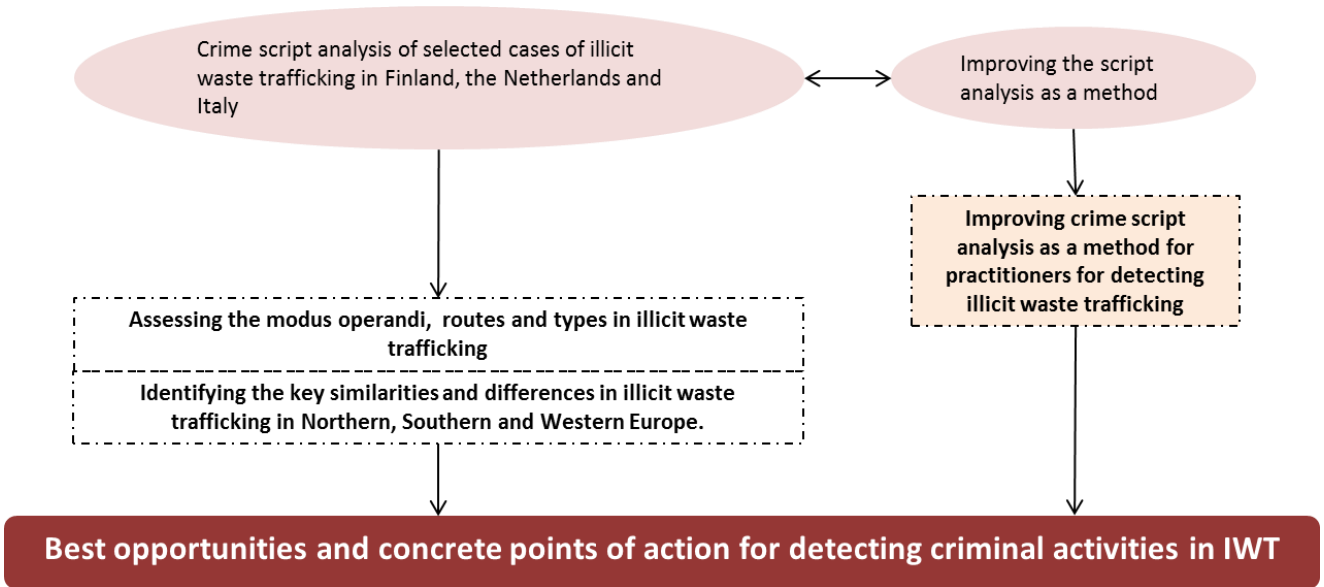
The work package had two goals (Figure 1):

1) The purpose of the crime script analysis was to provide advanced knowledge on how the illicit activities might be prevented. Also, operational models of illicit waste trafficking cross-borders in Northern, Western and Southern Europe (Finland, the Netherlands, Italy) were identified and analysed as well as the key factors enabling illicit waste trafficking cross borders.

2) Another goal was to simplify and develop the academic method, crime script analysis, in order to make it more accessible to practitioners. Crime script analysis can

be applied in improving the detection of illicit waste trafficking and as such in increasing the authorities' knowledge of the phenomenon.

Figure 1. Goals of the work package



In this publication, the key findings are summarized. This publication is available in English, Finnish, Dutch and Italian. More detailed information on the analysis conducted during the work package is available in other BlockWaste deliverables.

2 CRIME SCRIPT ANALYSIS

2.1 Script analysis as an academic method

Crime script analysis focuses on the offender's sequence of actions during the commission of crime, i.e. it analyses and possibly predicts human behaviour. Crime scripts illustrate possible offenders' decisions and actions in different phases of the criminal act: steps taken before, during and after the commission of the crime. Therefore, crimes are seen as a process rather than as a single event.

Crime script analysis is based on situational crime prevention theory. The theory assumes that opportunities for crime must exist. Examples of those opportunities include a suitable target or lack of capable guardianship. In addition, the potential offender must be capable of committing a crime, i.e. they must have both the cognitive and physical characteristics that enable them to carry out the action.

Script analysis can be applied to different types of crimes, e.g. profiling of illicit waste activity. After detecting points of criminal action, it is possible to develop methods for intervention and, thus, also crime prevention. ¹

2.2 Application of the method to illicit waste trafficking²

One of the objectives of Work package 1 of the BlockWaste project was to provide advanced knowledge on how the illicit activities might be prevented, as well as identifying operational models of cross-border illicit waste trafficking in Northern, Western and Southern Europe. In order to fulfil this objective, crime script analysis was applied to 13 judiciary cases of cross-border illicit waste trafficking. Three cases were selected from Finland, five from the Netherlands and 5 from Italy (Table 1; for further details on *modus operandi* see Annex I). All the cases had a cross-border element e.g. a corporation located in different country than where the illicit activities took place or waste was transported from country to country.

¹ More about crime script analyses please see e.g. Cornish (1994a,b), Tompson & Chainey (2011), Cornish & Clarke (2002).

² For more detailed analysis: Sahramäki, I., Favarin, S., Mehlbaum, S., Savona, E., Spapens, T. & Kankaanranta, T. (2016) Wasting opportunities - prevention of illicit waste trafficking cross-borders. Manuscript.

Table 1. Selected cases

Country	Type of waste	Cross-border element
The Netherlands	metal scrap	export to China
	plastic waste	import from European countries to Asian countries
	processing naphtha to blend-stock with caustic soda	import to the Netherlands and export to Ivory Coast
	metal scrap	export to China
	plastic waste	import of Belgium and Luxembourg and export to Asia
Italy	e-waste	export to Nigeria and Ivory Coast
	textile waste	import from Germany and export to several countries
	plastic and paper waste	export to China and Syria
	plastic materials, contaminated with other components	export to China
	several types of waste	export to various countries in Southeast Asia
Finland	e-waste	export to Ghana
	end-of-life vehicles	export to United Arab Emirates
	used car batteries	export to Baltic states

The analysis conducted was based on the method presented by Cornish (1994a,b) and applied to the waste trafficking by Tompson and Chainey (2011). First, illicit activities as well as activities preceding and following them were studied together with offending and enforcement conditions. All the information gained from this data gathering phase was written down. Second, illustrative figures on each case were drawn (see Annex I). The purpose of the figures was to illustrate the illicit and legal activities and their interphases.

Third, all the cases were compared and similarities were pinpointed. Finally, an overall script of illicit waste trafficking was created based on the findings and general characteristics of illicit waste trafficking cross-borders were drawn.

2.3 Applying the method at a practical level³

One objective of the Work package 1 of the BlockWaste project was to simplify the crime script analysis as a method in order to make it more accessible to practitioners. This objective was met by consulting BlockWaste associate partner Police Department of Itä-Uusimaa on the criminal investigators' point of view on the method.

Following steps to conduct crime script analysis in environmental crime investigations is based on a study by Tompson and Chainey (2011). By answering the questions presented below one can outline and chart complicated cases as well as identify prevention and supervision conditions, such as liability issues of different authorities, jurisdiction, legislation and conditions for its implementation.

STEP 1. Identify the *Acts* and name them

- What are the key illicit activities?
- To what are they related, e.g. production, collection, transportation, storage and disposal of waste?
- In other words, what kinds of *acts* are related to the script?

STEP 2. Divide the *Acts* into *Scenes* (preparation, pre-activities, activity, post-activities)

- What kinds of activities are related to the *preparation* of illicit activities, in other words to *acts*?
- What kinds of activities have been necessary in order for the illicit activity to take place? In other words, what kinds of *pre-activities* were carried out?
- What is the actual illicit *activity* itself like?
- What has happened after the illicit activity? E.g. has there been any cover up for the illicit activity? In other words, what kinds of post-activities were carried out?
- Who has been involved in the activities described above? In other words, who are the *actors* of these *preparations, pre-activities, activities and post-activities scenes*?

³ Read more: Sahramäki, I., Kankaanranta, T., Niemi, J. & Tuovinen, J. (2016) *Crime Script Analysis. Key findings and application of the method in practical level*. Power Point -presentation available at www.blockwaste.eu.

- What has enabled the illicit activities? E.g. loopholes in legislation, lack of surveillance. In other words, which are the *offending and enforcement conditions*?

STEP 3. Analyse the Acts and interpret the script

- What is the sequence of events in the illicit activities in question?
- In other words, how would you describe the script of the suspected crime?
- If the activities could have been conducted legally, what would the script have been like?

STEP 4. Identify the points where crime might have been prevented

- In what phase of the script was the illicit path chosen instead of the legal one?
- How could illicit activities have been prevented in these occasions?
- What have been the most likely reasons to choose the illicit path?

After these steps, illicit activities may be presented in a chart which is an illustrative way to present the interfaces between legal and illicit activities (see Annex I for examples).

3 KEY FINDINGS

This study revealed that three characteristics, taking advantage of illicit and legal networks in facilitating activities, the lack and misuse of appropriate licenses as well as falsified documentation were present in all the acts and scenes of the process of crime.

Networks of illicit actors

The findings indicate that taking advantage of illicit and legal networks is typical of illicit waste trafficking cross-borders. All the cases analysed in the work package involved a web of actors. Actors can be categorized into leading actors, mainly offenders, and supporting actors who, enabled the commission of the crime either willingly or unwillingly.

The leading actors willingly participated and organized illicit waste trafficking together in order to gain financial benefit either by earnings or by savings on waste treatment. They usually had good knowledge of the waste markets and also the profits possible to be made from illicit waste activities as well as the existing legislation and regulations. Also, some of the supporting actors were aware of the illicit activities and intentionally and actively enabled them to benefit. The supporting actors were not necessarily aware of the illegality of the activities. Examples of these include shipping agencies and forwarding agents. Also, private households somewhat unwillingly become supporting actors of the illicit waste management activities in the majority of the cases. Private households leave their waste for disposal, recycling or reuse. Usually the actors assumed that presumably the risk of getting caught is low or medium. As the level of punishment was regarded low, the expected benefits were often assumed to be higher than the costs of illegal activities.

Lack and misuse of environmental licenses

Illicit waste activities are addressed by diversified regulation and legislation. Several laws at the European and national level were violated, which indicates complexity of waste crime cases. Falsification of documentation was one characteristic in all the cases of illicit waste trafficking analysed. This was either intentional in order to avoid enforcement or due to indifference of the legislation. In addition, the existing licenses were misused in order to conceal the illicit activities and mislead authorities in the

country of origin as well as in the receiving country. Another typical feature of the cases was that licenses to export, store or treat waste were lacking.

Typical script of illicit waste trafficking across borders

The simplified script of illicit waste trafficking includes collection of waste from households and commercial actors, who may or may not be aware of the illicit aspects of the operations. The waste is stored on premises which are acquired for the illicit activities or premises with licenses used under false pretences. The waste treatment may be conducted in the country of origin, or waste is transported illicitly to the receiving country for further treatment or disposal. In the disposal phase, the waste is either dumped, sold for recycling or reused by various consumers in the case of e-waste. One example of the lacking of environmental licenses was the Italian case (Annex I, Italian case 2: Import-export of textile waste). The offenders used an authorized recovery facility as a shell company for waste import, as they did not have appropriate licenses themselves. For more examples of typical modus operandi, please see Annex I.

4 IMPLICATIONS FOR PRACTICE

Based on the results received, several implications for practice were detected:

- *Uncover criminal networks*

All the cases analysed involved a web of actors in all the acts and scenes of the process of the commission of the crime. Therefore, the findings indicate the need for targeting prevention efforts in uncovering criminal networks. As such, enforcement should focus more on disrupting criminal networks than concentrating on individuals.

- *Preventive actions to the first stages of the activity planning*

The preventative efforts are needed to be focused on different early stages of the crime commission process. Proactive efforts should be targeted particularly at the point where the crime was prepared and planned.

- *Improve control of documents to avoid falsification*

By uncovering the falsified documentation, the illicit activities themselves could have been prevented during the storage, transportation and disposal phases of the crime commission process. This suggests that enforcement should focus on site inspections at storage and treatment facilities. During the site inspections, the true nature of activities might be uncovered instead of trusting the possibly falsified documentation.

Applying crime script analysis in practice may help to achieve these goals presented above, as it may help the authorities not only to target investigative activities but also to uncover new way of committing criminal activities.

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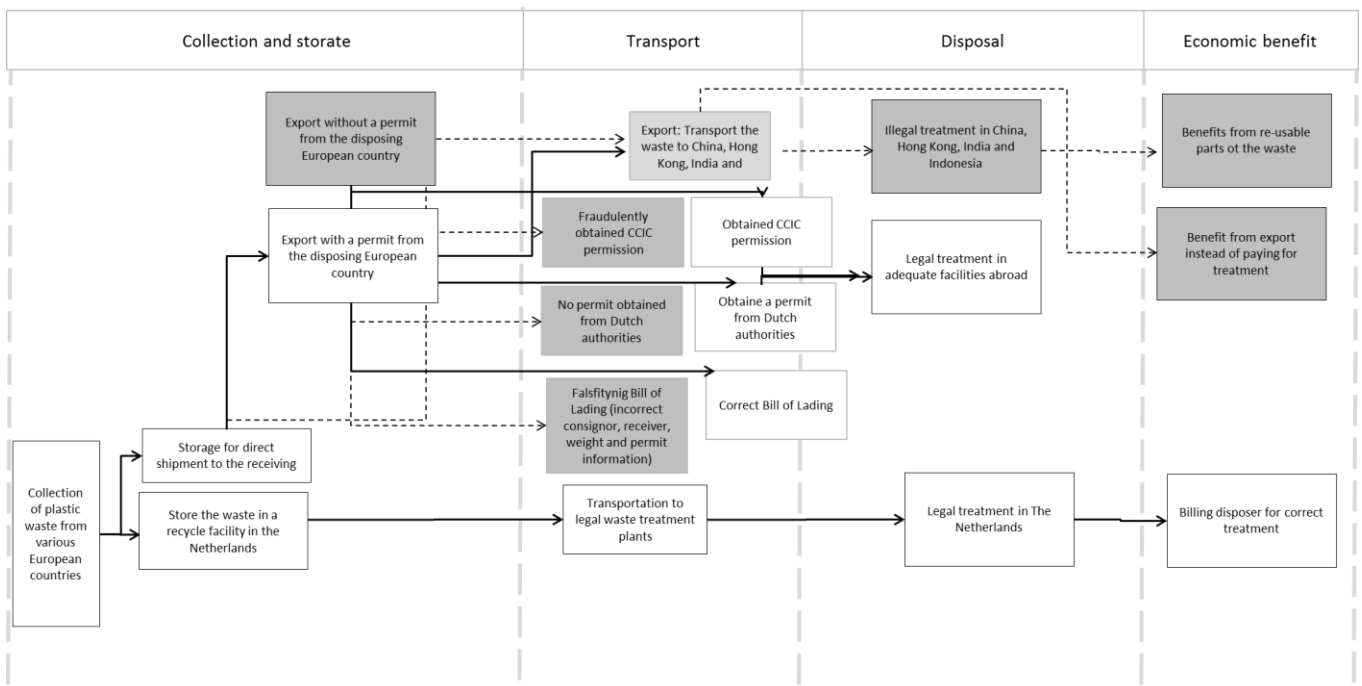
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ANNEX I MODUS OPERANDI AND CRIME PROCESS OF CASES ANALYSED

CASES FROM THE NETHERLANDS

Case 1. Import of plastics from European countries to Asian countries

In this case, plastic waste was bought from European countries, such as Belgium, Spain, Germany and Eastern European countries from different qualities (for instance, in the batches hospital waste, wood, animal remains were found). The batches were pressed and sold to China, Hong Kong, India and Indonesia. To obtain permission from China, cleaner batches were loaded last and pictures of this load were sent to the administrative authorities, masking the real cargo. The wastes were also exported without a permit from the country where the transport originated (Belgium, Spain, etc.) and with falsified Bills of Lading. The investigation found that at least 600 transports were carried out illegally.



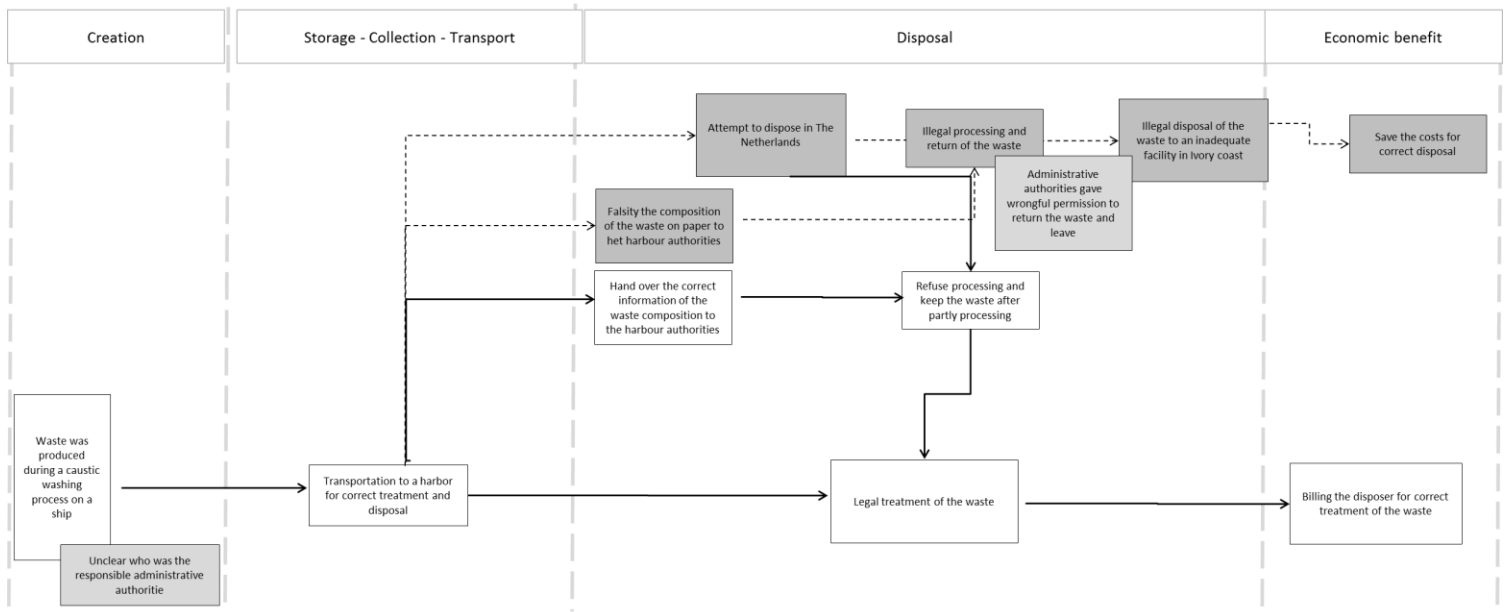
Darker grey boxes refer to illicit activities; and lighter grey boxes to activities which might be legal or illicit depending the e.g. following action. Dashed lines describe the illicit process. White boxes and solid lines refer to what would have been the legal activity.

Case 2. Waste from processing naphtha to blendstock with caustic soda imported to the Netherlands and then exported to the Ivory Coast.

This case concerns a ship which tried to dispose of ‘waste water gasoline’ in the port of Amsterdam. However, the actual waste material in the ship was produced during the processing of coker naphtha to blend stock for gasoline with caustic soda. The resulting waste was heavily polluted and contained sodium hydroxide, sulphide and phenols.

After trying to dispose of the waste and having been declined in the ports of Malta, Italy and Gibraltar, the ship sailed to Amsterdam, where it falsified the composition of the waste to the harbour authorities in order to dispose of the waste. Based on the falsified composition, the waste was accepted by the harbour waste receiver company. During the process of transferring the waste from the ship to the

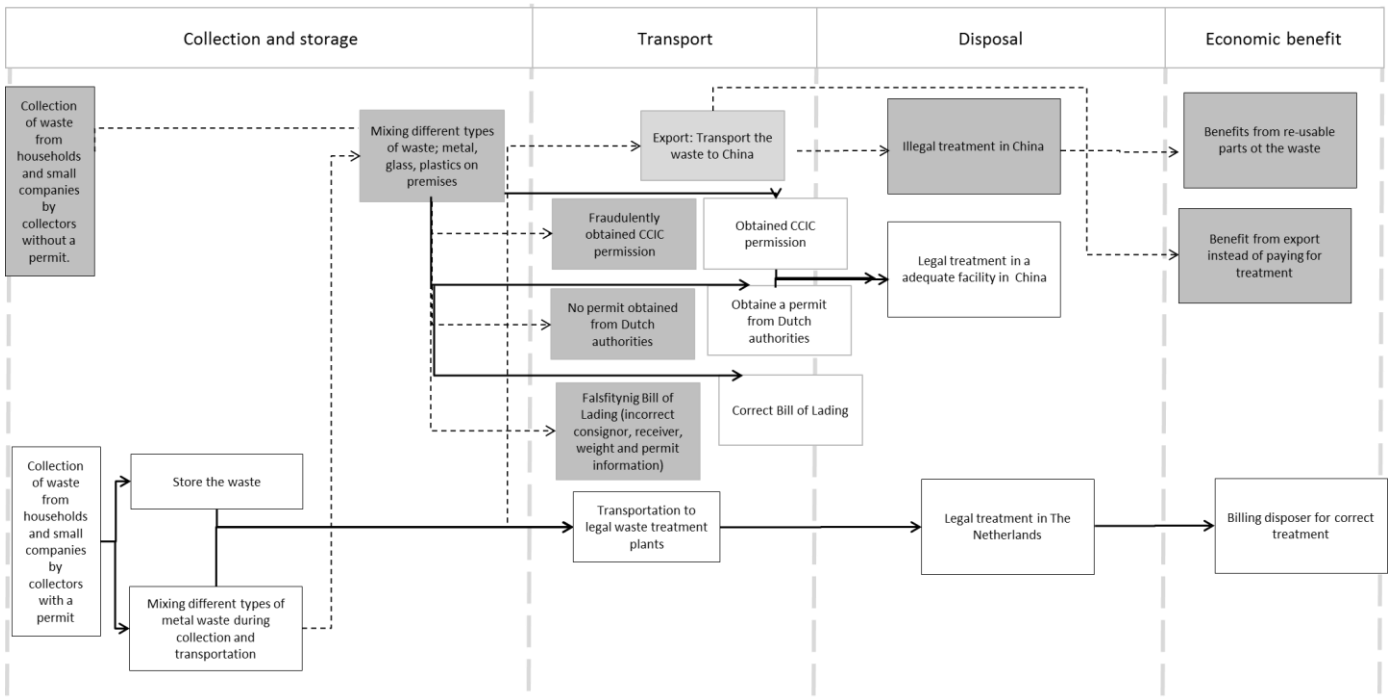
facility in the port, the administrative authorities received an anonymous fax that heavily polluted oil waste was being refused at the docks and the sender was worried that the waste would be disposed of in the open sea. At the same time, the waste receiving company discovers that the composition is different than noted before and asks a higher price for disposal. The disposer refuses and asks for their waste back to find another port. After consulting the waste receiving company, the administrative authority gives permission for the waste to be returned to the ship. The ship then leaves and after being rejected in Nigeria, they dispose of the waste at a facility in the Ivory coast which dumps the waste, resulting in environmental harm.



Darker grey boxes refer to illicit activities; and lighter grey boxes to activities which might be legal or illicit depending the e.g. following action. Dashed lines describe the illicit process. White boxes and solid lines refer to what would have been the legal activity.

Case 3. Export of metal waste to China

This case concerns the illegal shipment of metal waste from the port of Rotterdam, the Netherlands to the cities of Tianjin Xingang, Huizhou and Ningbo, China. The waste was collected by various small collectors from households and small companies and then sold to a metal recycling company. The director of this company was also the owner of a metal export company. To obtain export permission from the Dutch authorities, the offenders used falsified shipment documentation and photos of the waste, presenting the Chinese authorities with a clean batch of metal waste. They also failed to obtain Dutch permission to export the waste and falsified the information on the Bill of Lading.

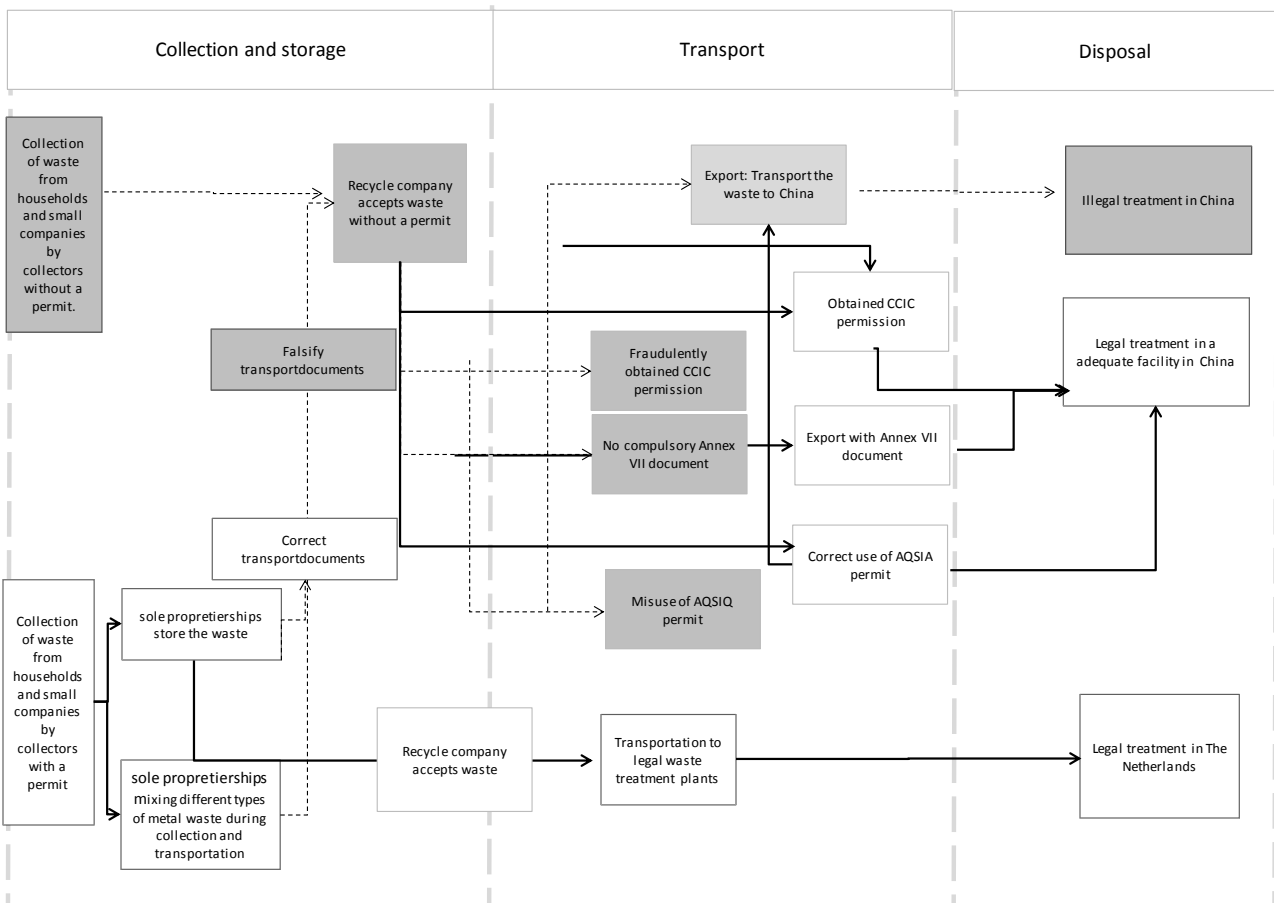


Darker grey boxes refer to illicit activities; and lighter grey boxes to activities which might be licit or illicit depending on the e.g. following action. Dashed lines describe the illicit process. White boxes and solid lines refer to what would have been the legal activity.

Case 4. Export of metal waste to China

The metal waste was collected from households and small companies and then sold to a metal recycling company. The metal was transported to this company without correct transport documentation, and the recycling company did not have a permit for the electro waste.

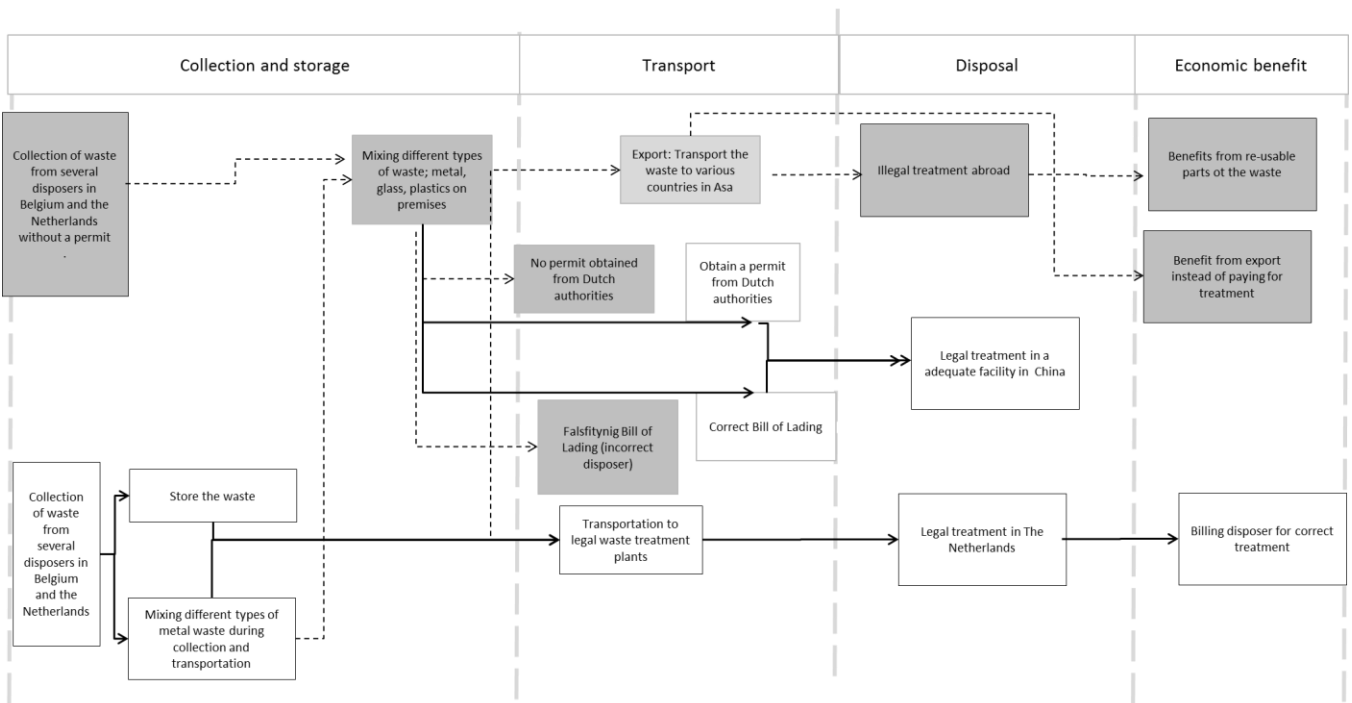
From the recycling company the metal waste was exported to buyers in China. For the export, the recycle company misused the AQSIQ-permit by letting an intermediary handle the permits. This intermediary also fraudulently obtains permission from the Chinese authorities (CCIC permission).



Darker grey boxes refer to illicit activities; and lighter grey boxes to activities which might be legal or illicit depending the e.g. following action. Dashed lines describe the illicit process. White boxes and solid lines refer to what would have been the legal activity.

Case 5. Import of plastic waste from Belgium and Luxembourg and export to Hong Kong, the Philippines, Vietnam and Indonesia.

The waste was bought by the director of a company that trades in used plastic via advertisements on the internet. The investigation showed that the offender accepted waste from 20 large companies. The director of the waste company exported the waste with falsified Bills of Lading, stating a shipment agency as the disposer. The shipment agency was located at the port of Antwerp from where the containers left for Asia.

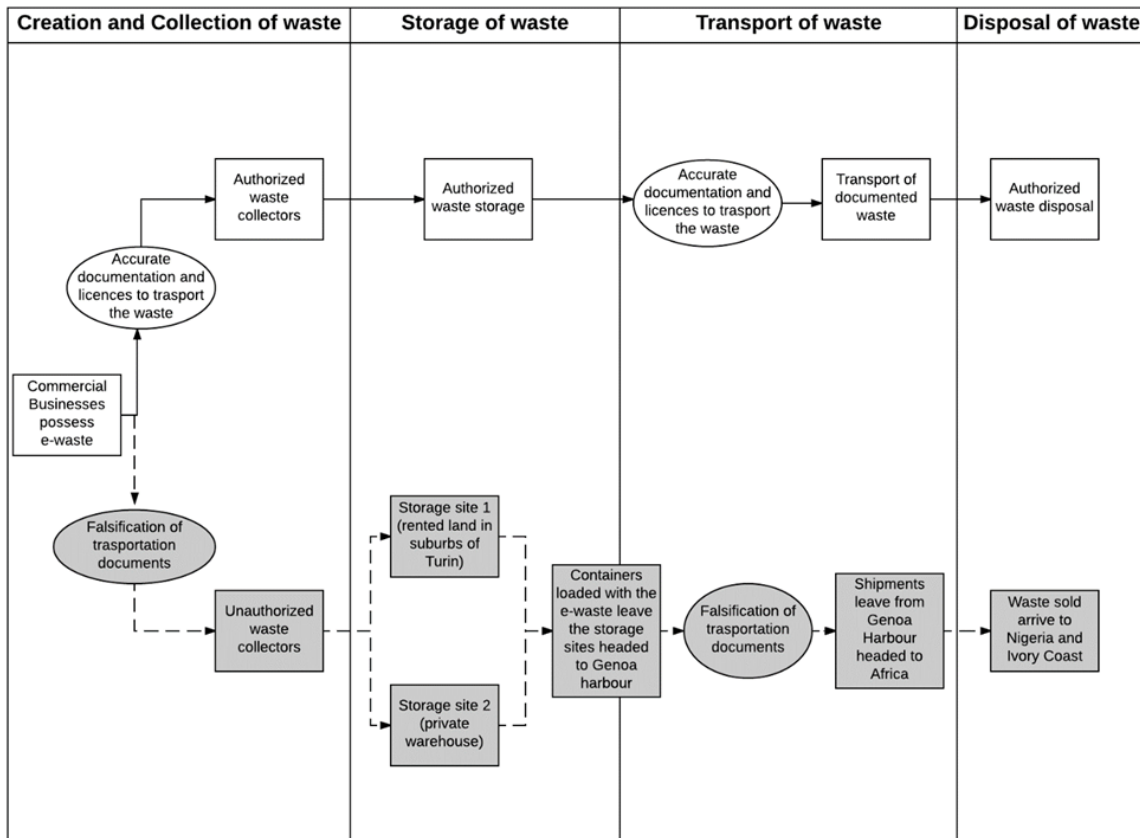


Darker grey boxes refer to illicit activities; and lighter grey boxes to activities which might be legal or illicit depending the e.g. following action. Dashed lines describe the illicit process. White boxes and solid lines refer to what would have been the legal activity.

CASES FROM ITALY

Case 1. Export of e-waste to Nigeria and the Ivory Coast

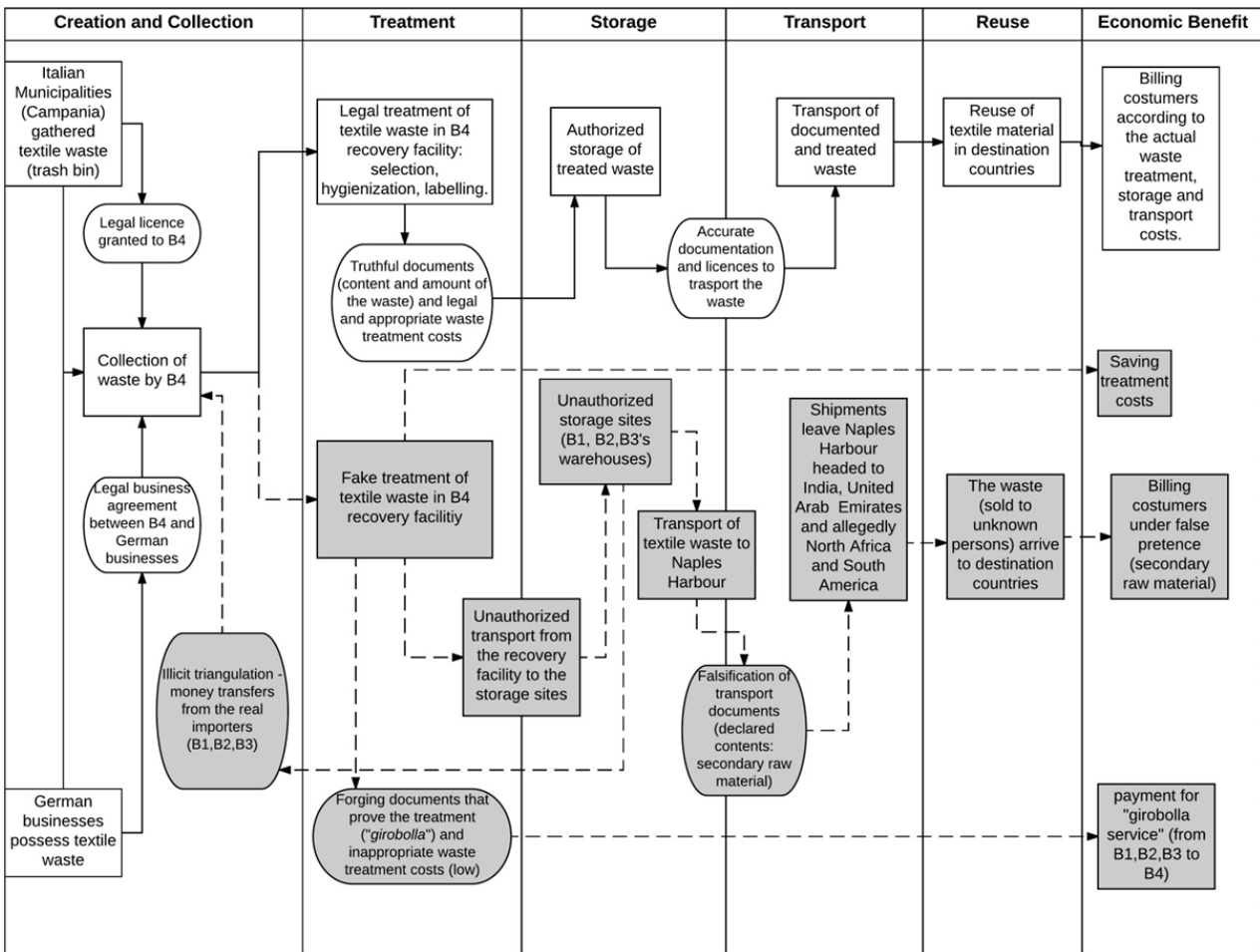
A conspiracy of Italian and African offenders (mainly Nigerian) organized the export of tons of e-waste (and, to a lesser extent, end-of-life vehicles) from Turin to Nigeria and the Ivory Coast. A group of commercial business owners transferred the e-waste for free to a group of collectors. A group of African people ("land tenants") rent land in the suburbs of Turin from Mr 14, who was unaware of the intended use of this area as the main storage site. The land tenants and other partners in crime who did not rent the land to first person stored and then arranged the transport of the waste from Turin to Genoa harbour, and then to Nigeria and the Ivory Coast (final destinations). Shipping lines and vectors involved in the transportation of the waste were unaware of the IWT. The judicial documents do not give additional information on the disposal of the e-waste, which was sold to unknown persons once it arrives in Nigeria and Ivory Coast.



Darker grey boxes and dashed lines refer to illicit activities. White boxes and solid lines refer to what would have been the legal activity

Case 2. Import-export of textile waste

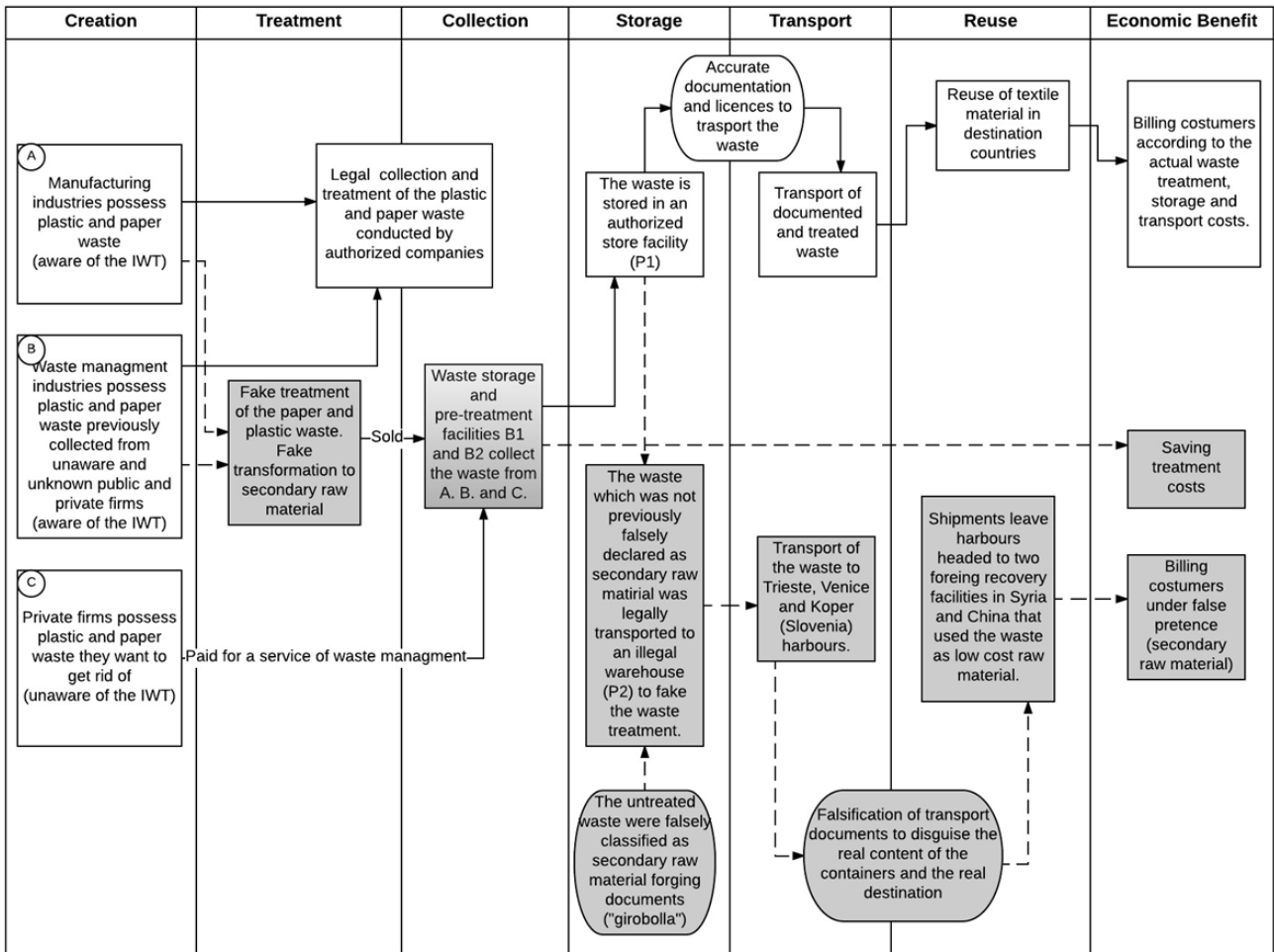
Old rags and second-hand clothing were both legally imported from Germany and legally collected in different cities of the Campania Region of Italy from municipal waste bins specifically used to gather old garments. Then the waste was illegally exported from Naples Harbour to the United Arab Emirates, India and, allegedly, North Africa and South America. Six firms were actively involved in the illicit waste trafficking: a group of commercial businesses active in the second-hand clothes trading and selling sector, a recovery facility, a commercial business managed by the same individuals who conduct business in the recovery facility, and a transport company. The untreated waste was falsely classified as secondary raw material.



Darker grey boxes and dashed lines refer to illicit activities. White boxes and solid lines refer to what would have been the legal activity

Case 3. Export of plastic and paper waste to China and Syria

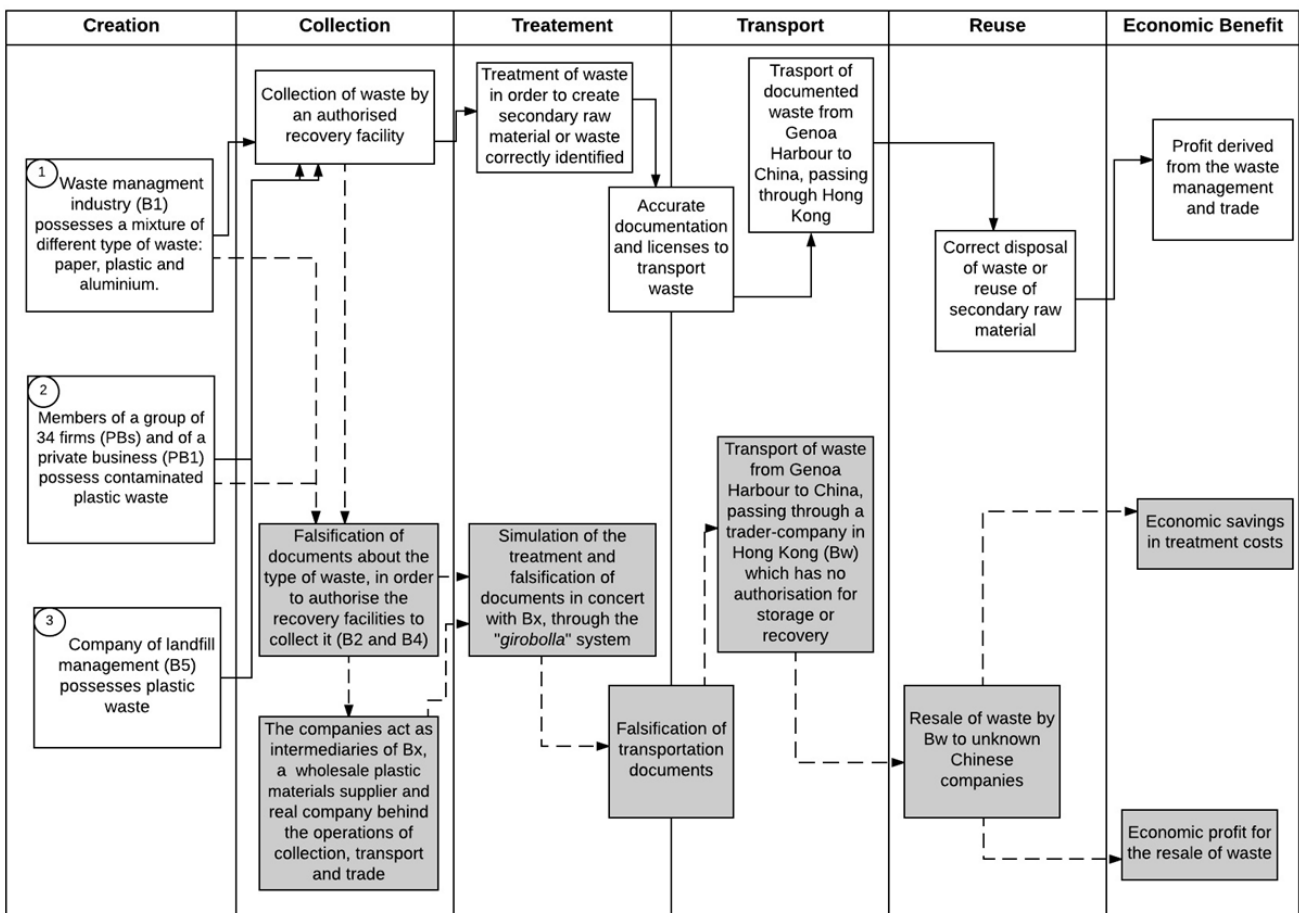
A waste storage and pre-treatment facility was actively involved in illicit waste trafficking, from the collection stage to the final export. Other companies colluded with the facility at different stages. The waste was collected from different channels. Several actors decided together to use the legal storage site to store the waste collected and the illegal warehouse to fake the waste treatment. Except for the waste already sold as secondary raw material, the members of the waste storage and pre-treatment facility faked the waste treatment and forged documents. The untreated waste was falsely classified as secondary raw material. The members of the waste storage and pre-treatment facility arranged this. The waste was transported to harbours in Slovenia, and then to China and Syria (final destinations). They forged documents to disguise the real content of the containers, and, in one case, the real destination.



Darker grey boxes and dashed lines refer to illicit activities. White boxes and solid lines refer to what would have been the legal activity

Case 4. Export of waste – primarily plastic materials, contaminated with other components such as paper and aluminium - to China.

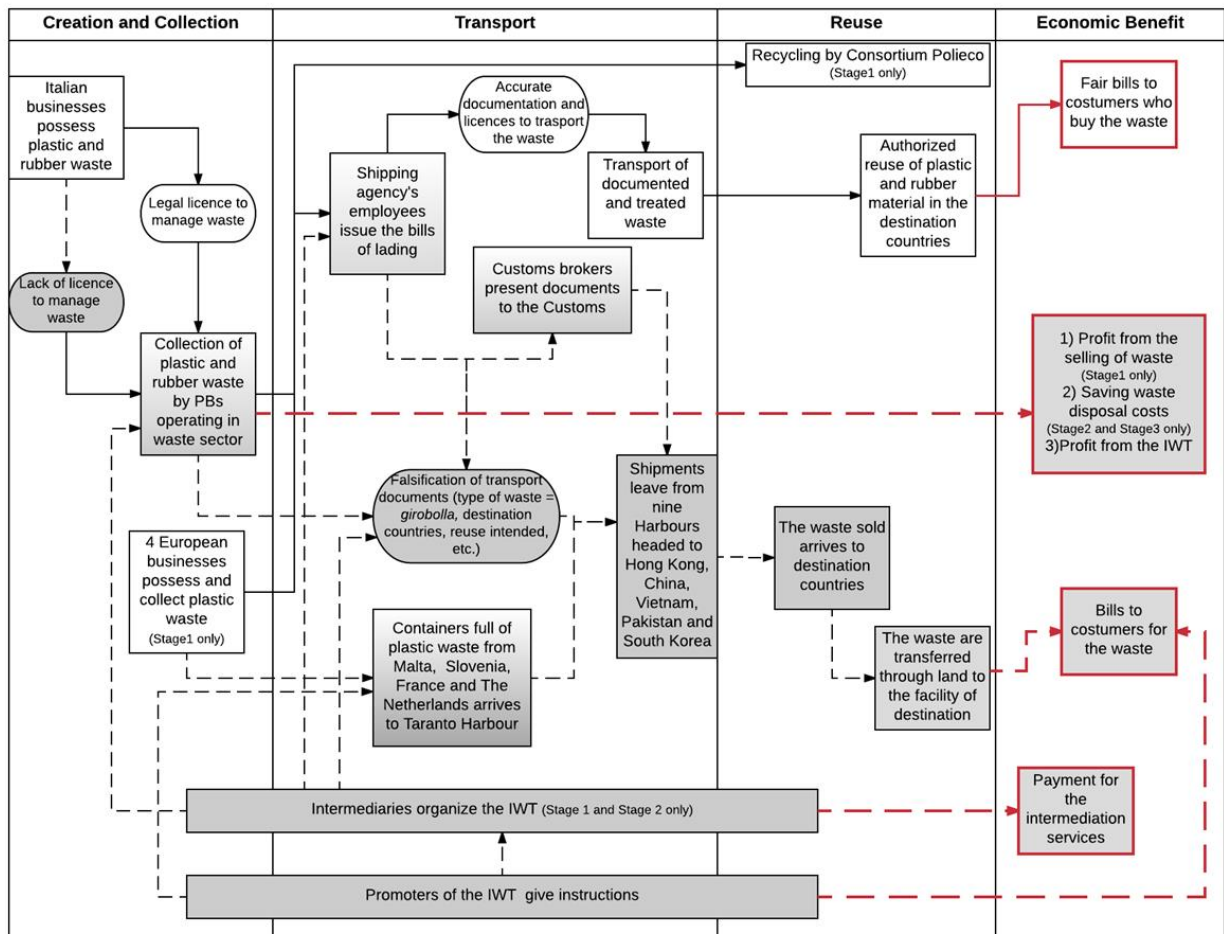
A family from Hong Kong who lives and work in Italy, managed both a wholesale plastic materials supplier in the Lombardy region and a trade and intermediation company in Hong Kong, none of them authorized to manage waste. To start and fulfil a profitable illicit waste trafficking, they decided to use authorized recovery facilities as shell companies to manage all the stages of the IWT, from the collection to the transport and sale abroad; and to organize illicit exportation of waste derived from a legal landfill.



Darker grey boxes and dashed lines refer to illicit activities. White boxes and solid lines refer to what would have been the legal activity

Case 5. Export of waste from several harbours in Italy to various countries in Southeast Asia

The waste – plastic material from industrial and agricultural activities, scraps of rubber and end-of-life tyres – was collected all over Italian territory by three groups of private businesses operating in the waste sector. Groups of Italian businesses operating in the waste sector collected the plastic material / scraps of rubber and end-of-life tyres – not always legally – from a group of various Italian businesses that generate waste as a result of the industrial and agricultural activities they conducted. The waste was exported to China, Vietnam, Pakistan, South Korea. According to judiciary files, the total estimated business volume of the illicit waste trafficking was approximately 5,600,000 euros.

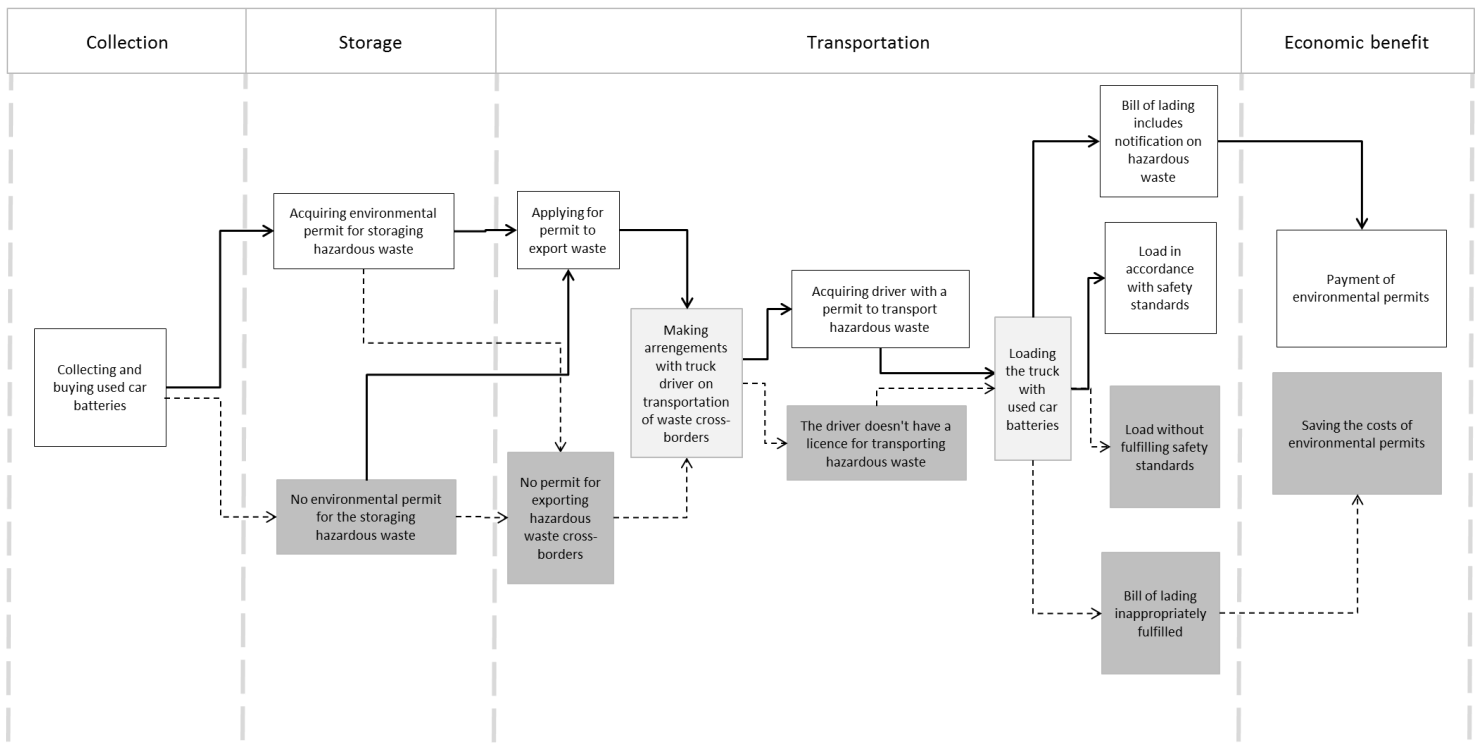


Darker grey boxes refer to illicit activities; and lighter grey boxes to potentially legal or illicit waste management. Dashed lines describe the illicit process. White boxes and solid lines refer to what would have been the legal activity. Red boxes and red dashed lines refer to economic benefit.

CASES FROM FINLAND

Case 1. Export of used car batteries to Baltic states.

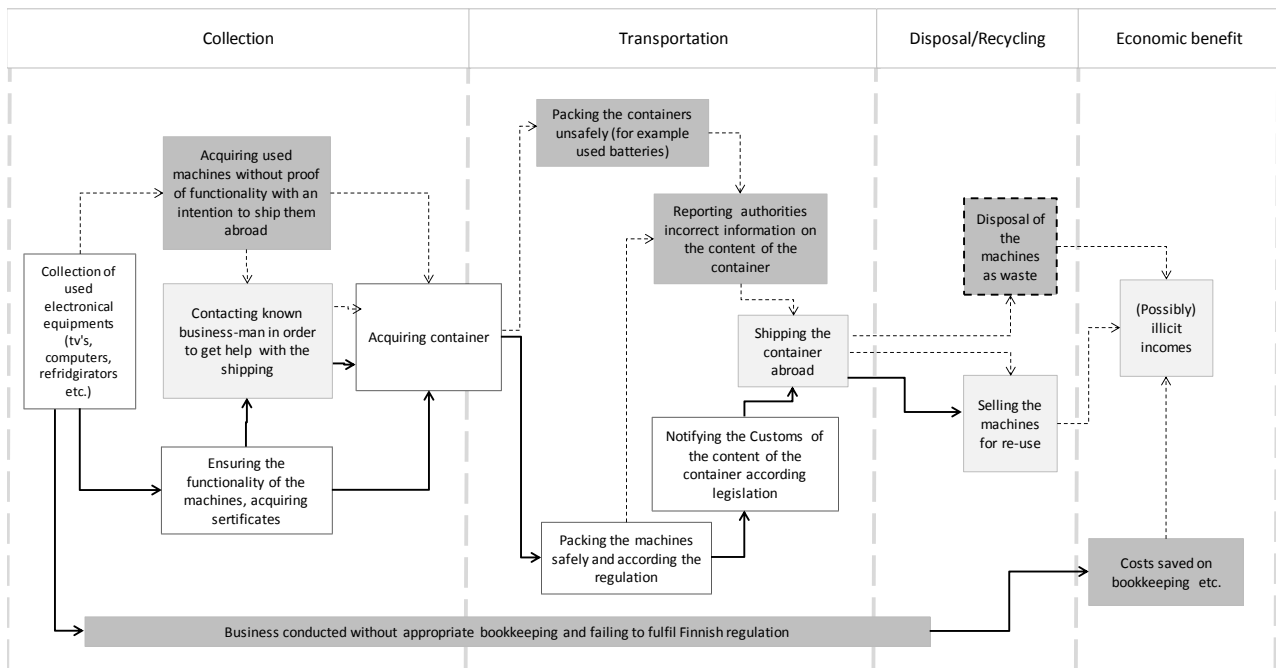
Two companies collected used car batteries around Finland from companies and private persons. One of the suspected offenders stored the batteries without an environmental license. Another suspected offender used the facilities of a company with appropriate environmental licenses. Transportation of the batteries from Finland to Estonia and onwards to Lithuania was ordered from a truck driver who did not have a license to transport hazardous substances. Also, the bill of lading did not include the necessary information on the content of the truck load. Neither of the two suspected offenders had a licence to export waste.



Darker grey boxes refer to illicit activities; and lighter grey boxes to activities which might be legal or illicit depending the e.g. following action. Dashed lines describe the illicit process. White boxes and solid lines refer to what would have been the legal activity.

Case 2. Export of e-waste to Ghana.

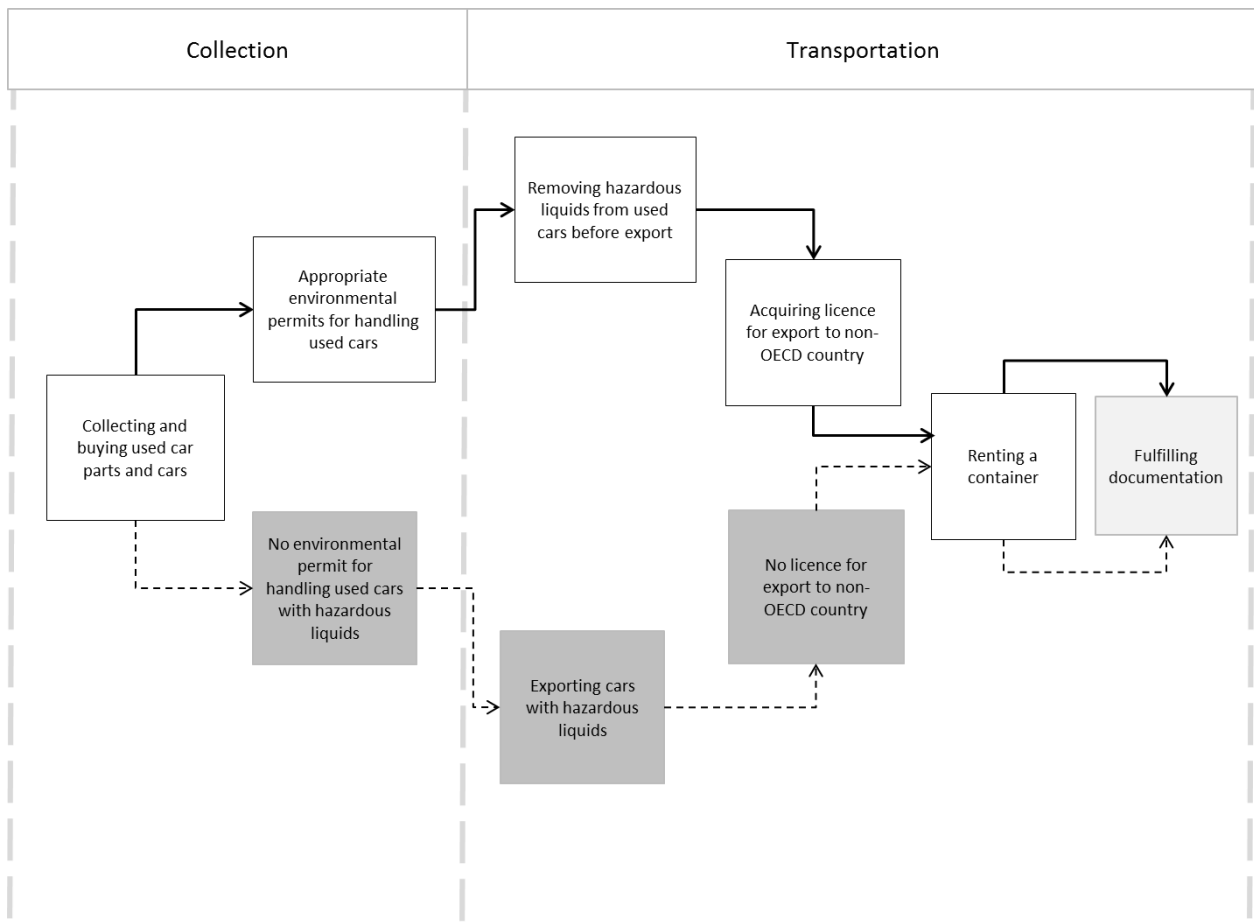
A small company collected e-waste, such as used refrigerators and computers around Finland. The company filled containers with this e-waste and exported the containers to Ghana where the brother of the owner of the company was waiting for the container. The machines intended for export did not have proof that they were functioning instead of e-waste. In addition, the company tried to transport used car batteries, which are hazardous waste. The company also had neglected accounting in their business operations. The District Court found that the lack of the proof of functionality did not provide reasonable doubt to suspect that the de facto transportation of e-waste instead of reuse of electrical equipment was in question. As such, most of the charges were dismissed.



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Case 3. Export of end-of-life vehicles to United Arab Emirates

Used cars and spare car parts were collected around Finland by a small company. The company did not have an appropriate environmental license for the activities. The collected end-of-life vehicles were cut in half and loaded into a container. The hazardous liquids were not removed from the segments. The business owner had a buyer of the parts in the United Arab Emirates where the container was meant to be sent. The purpose was to send the container to the United Arab Emirates via Rotterdam. However, the container was scanned in the Rotterdam port and sent back to Finnish environmental authorities for further inspection. The company did not have license to import waste from Finland. Also, exporting hazardous waste outside OECD countries is forbidden.



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