

# **TRANSBOUNDARY MOVEMENTS OF HAZARDOUS WASTE BY SEA IN EUROPE AND PRACTICE IN HELLAS**

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## **Abstract**

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Industrial production has resulted in the need to manage waste, some of it hazardous, which sometimes need to travel. This dissertation elaborates on factors concerning hazardous waste travelling by sea. This transport may cause severe damage to human lives, ships, other properties, and the marine environment and, therefore, States have formed a widely accepted legal frame to regulate this management. Hellas has its part in hazardous waste destroying, having implemented in national law all relevant European and international legislation, following a specific procedure, contributing to environment and mankind protection. This paper is focused on the procedure, the transboundary movement of dangerous waste from Hellas to other countries. The main concern is describing and understanding transboundary movement, and its stages, as well as referring to all parties involved and explaining their duties. Hazardous waste classification will occupy a part in this paper. Ways of management will occupy a brief chapter just to acquire some notions of existing possibilities. The legal framework covers a part in this dissertation presenting legislations from all over the world, combined and applicable depending on the States involved. All operators, generators, shippers, freight forwarders, carriers, port operators, recipients, as well as their duties and obligations, will be analyzed together with the relevant procedures, stage by stage, related to each operator. The State as regulatory operator will also be examined as well as its administrative issued acts. A general approach of problems, associated with the transport of hazardous waste, will be attempted in combination with empirical practice. Illegality of this movement occupies a part of this research, only from the perspective of effectiveness of the relevant legislation and because of its vital importance. Did States' efforts accomplish a successful hazardous waste management? Throughout this dissertation, an attempt will be made to answer this question.

Keywords: Hazardous, Waste, Transboundary, Maritime, Shipment.

Aikaterini (Katia) Haliskou February 2020

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## Abbreviations

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Art.	Article
CLP	Classification Labelling Packaging
EFTA	European Free Trade Association
EU	European Union
GHS	Globally Harmonized System
HNS	Hazardous and Noxious Substances
IMDG	International Maritime Dangerous Goods
IMPEL	European Union Network for the Implementation and Enforcement of Environmental Law
incl.	Including
JMD	Joint Ministerial Decision
LoW	List of Waste
OECD	Organization for Economic Co-operation and Development
OJG	Official Journal of Government/ Government Gazette
p.	page
para.	Paragraph
POPs	Persistent Organic Pollutants
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
UN	United Nations
UNCITRAL	United Nations Commission on International Trade Law
Vol.	Volume
WAC	Waste Acceptance Criteria
WFD	Waste Framework Directive
WSR	Waste Shipment Regulation

## **Introduction**

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It is nowadays widely accepted that scientific development in various sectors, such as industrial, technological, agricultural, facilitate mankind's way of living in many levels, though creating at the same time issues and the necessity of resolving them in an efficient way, without provoking additional problems. Good's immense production creates the need for destroying generated waste, some of which called dangerous, hazardous. This dissertation will generally elaborate on relevant factors concerning the transport of hazardous waste. Dangerous waste needs to be handled with care and considering its hazardous character. Transport of dangerous waste by sea may cause severe damage to human lives, ships, other properties, and the marine environment and, therefore, States have paid a lot of attention because of the immense interests involved. Hellas has its part in hazardous waste destroying. The country is one of those where there are no available installations for the hazardous waste to be comprehensively managed, and the generators thereof follow the practice of many others in various European States, by "exporting" it to other countries, even continents, in order to have it destroyed or recycled. Having implemented in national law almost all relevant European and international legislation, the country strictly follows a specific procedure, contributing to environment and mankind protection. This paper is mainly focused on the procedure, the transboundary movement of dangerous waste from Hellas to other countries, the various hazardous waste' management facilities and units. Liability regarding hazardous waste's movement and insurance will not occupy a significant part of the dissertation given that the main concern is describing and understanding transboundary movement, and its stages, as well as referring to all parties involved and explaining their duties.

The first chapter will deal with hazardous waste classification (analyzed in categories), according to the relevant Directive as adopted and transposed, in combination with the European List of waste. Reference will be made to 9 main categories used in everyday practice, followed by relevant examples.

Countries do not generally possess proper and available installations or the "know-how" for hazardous waste to be eliminated. The reason why hazardous waste needs to travel will be elaborated in the second chapter of this dissertation, together with a brief narration of the ways

and practices, such as Treatment, Storage, and Disposal-Remedial Action, implemented as part of hazardous waste management, on-site or elsewhere<sup>1</sup>

Taking into consideration legal frameworks, such as Conventions, Directives, Regulations and Rules, the relevant legislation will be listed in the third chapter, as applicable in Europe and around the world<sup>2</sup>. There is an intention to include almost every single legislative instrument referring to waste, in particular hazardous, even if there is no obvious relation with the procedure of hazardous waste export, in view of demonstrating the aim of government authorities to regulate all important issues concerning waste that has serious impact on human health and environmental protection.

Focused mainly on all operators, generators, shippers, freight forwarders, carriers, port operators, recipients etc. involved, the fourth chapter describes the duties of the above operators in the relevant procedure. Government control plays a huge role in this movement because of major public interest issues. For this reason, the Hellenic State as a regulatory actor will be referred to in relation to administrative acts issued by it. A general approach of problems, associated with the transport of hazardous waste, will be attempted in combination with empirical practice. Operators' liability will not be extensive covered in this dissertation since it is a huge issue in transport, generally, and further examination would exceed the dissertation's purpose, which is to understand this demanding procedure, the role of each operator, and to evaluate the transactions between them.

Transboundary movement complicates even more the hazardous waste management procedure and States have tried to find a solution, by drafting legislative norms aiming to build a new and effective legal regime by combining international, European and domestic laws. Did States' efforts succeed in this goal, both theoretically and practically? Are human health and the environment now safe? These questions arise all along this dissertation, throughout all chapters, from categorization of hazardous waste and relevant legislation to hazardous waste transboundary movement and procedure organized by the involved operators. In this context, illegality of this movement occupies a part of this research, touching also movement in countries outside Europe but starting from Europe, only from the perspective of effectiveness of the

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<sup>1</sup> i.e. in the State where they are generated or abroad.

<sup>2</sup> International Maritime Dangerous Goods Code (IMDG), Basel Convention, Rotterdam Rules, Hamburg Rules, York Antwerp Rules, Hague or Hague – Visby Rules etc.

relevant legislation and because of its vital importance. Each chapter will result in a partial conclusion, which, when linked to the others, will permit to reach an overall conclusion in the fifth chapter as to whether, after all, the efforts made by competent authorities have contributed to the intended goals or whether this has just been a vast government intervention in commercial life, which has ended up to the starting point.

## **I. Waste Classification - What is hazardous waste?**

It is important to know whether waste falls within the legal definition of “hazardous waste” or “non-hazardous waste”. Hazardous waste presents risks to the environment and to human health, so is more tightly regulated than non-hazardous waste. If waste is hazardous, the waste producer has a legal duty of care and must comply with all relevant legislation, which focuses on chemical hazards and biohazards rather than the risk of physical injury. For this reason, categorization is crucial, it is the step which identifies the procedure to follow. Additionally, categorization helps waste producers to comply with consignment note system, which ensures that hazardous waste is controlled at every stage, from production to final disposal. There is a need to notify that once waste is classified as hazardous there is a specific unique procedure to be followed by all operators who need to possess a license in order to get involved in hazardous waste management.

There are many businesses, which generate hazardous waste. Hospitals, automobile repair shops, photo processing units, construction companies and many similar places are the biggest generators of hazardous waste. Waste materials that exhibit characteristics like corrosiveness, ignitability, toxicity, and reactivity are generally classified as dangerous. Usually, materials are tested before being added to this category. It is waste generated from manufacturing and industrial operations that is likely to be, or contain, one hazardous substance. In other words, waste that comes from work involving a hazardous substance is likely to be hazardous.

Classification of waste is found on the European List of Waste (LoW) Commission Decision 2000/532/EC<sup>3</sup> and Annex III to Directive 2008/98/EC (Waste Framework Directive)<sup>4</sup>. The LoW should be revised regularly on the basis of new entrance. The WFD 2008/98/EC is a legislative document on waste at the EU level<sup>5</sup>. The classification of waste as hazardous or non-hazardous

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<sup>3</sup> Commission Decision of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste (notified under document number C (2000) 1147) (Text with EEA relevance) (2000/532/EC), consolidated version available at:

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02000D0532-20150601>

<sup>4</sup> Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance), consolidated version available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02008L0098-20180705>

<sup>5</sup> The WFD is transposed into the national legislation of the MS.



is a crucial decision in the entire chain of waste management. When a waste is correctly classified as hazardous, a number of important obligations are triggered.

The WFD sets out what waste is and how it should be managed<sup>6</sup>. The definition of “waste” in Article 3(1) WFD is set, as “any substance or object which the holder discards or intends or is required to discard”. The WFD moreover defines “hazardous waste” in Article 3(2) as: “waste which displays one or more of the hazardous properties listed in Annex III”. A hazardous waste is defined as a waste that displays one or more of the fifteen hazardous properties listed in Annex III to the WFD. In the context of waste classification, Article 7 WFD sets the basis for the List of Waste and its application. Member States may add other entries in the national documents reflecting the LoW.

The LoW recognizes three types of entries:

(a) Absolute hazardous entries”: Wastes, which are assigned to absolute hazardous entries, cannot be allocated to non-hazardous entries and are hazardous without any further assessment.

(b) Absolute non-hazardous entries”: Wastes, which are assigned to absolute non-hazardous entries, cannot be allocated to hazardous entries and are non-hazardous without any further assessment.

(c) Mirror entries”: where waste from the same source might under the LoW be allocated to a hazardous entry or to a non-hazardous entry depending on the specific case and on the composition of the waste.

The list below shows the specific properties, which make a waste hazardous.

Properties of waste which render it hazardous<sup>7</sup> are the following:

- (1) Explosive
- (2) Oxidizing
- (3) Flammable
- (4) Irritant
- (5) Specific Target Organ Toxicity/Aspiration Toxicity
- (6) Acute Toxicity

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<sup>7</sup> Description taken from WFD, Annex III.

- (7) Carcinogenic
- (8) Corrosive
- (9) Infectious
- (10) Toxic for Reproduction
- (11) Mutagenic
- (12) Produces toxic gases in contact with water, air or acid
- (13) Sensitizing
- (14) Eco toxic (capable of exhibiting a hazardous property listed above not directly displayed by the original waste)
- (15) Persistent Organic Pollutants.

With the definition of hazardous waste being, in the eyes of the government, any material, which is “harmful to humans or the environment”, it is important that waste which falls into this category is dealt with properly. As this research aims to be more practical than theoretical, it is important to point out that, on the professional level, all operators and mostly freight forwards dealing with hazardous waste materials, when referring to hazardous properties they point out at the following 9 main categories<sup>8</sup>:

#### **Gas Under Pressure**

These items contain a pressurized gas, which can explode if exposed to heat. This poses an obvious danger of burns and injury for anyone nearby. Similarly, refrigerated gas can also pose a risk of cryogenic burns.

#### **Flammable**

It takes a small spark to ignite flammable liquids – it does not take much heat at all. The resulting fires can spread fast, there are also associated fumes to contend with, making breathing even more difficult.

#### **Explosive**

Waste, which is explosive, is dangerous. These items when exposed to heat, pose a risk of explosion.

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<sup>8</sup> <https://www.uk.dsv.com/air-freight/hazardous-air-cargo/The-9-Classes-of-Dangerous-Goods>

### **Oxidizing**

An oxidizing agent poses a risk when it comes to fires. Oxygen is a key component of the formula needed for fire; the more oxygen there is, explosions are an additional danger.

### **Corrosive**

Corrosive materials pose two risks, the first is to other materials, to be corroded. The second risk is to humans, with many chemicals hazardous in relation to skin and eye damage.

### **Health Hazard**

These materials present a variety of health risks, from respiratory irritation to allergic reactions. They can cause skin irritation, drowsiness. These substances can also cause damage to the atmosphere.

### **Acute Toxicity**

Through inhalation, ingestion or contact on the skin, these materials can be toxic to humans and animals.

### **Serious Health Hazard**

These materials are dangerous if consumed, they can cause damage to organs, fertility, unborn child and cause cancers and genetic defects.

### **Hazardous to the Environment**

Materials dangerous to wildlife, aquatic life can be also at risk because there is a toxic impact.

## **II. What is hazardous waste management? Why dangerous waste needs to travel?**

As indicated above, hazardous waste is waste that has substantial or potential threats to public health or the environment. It must be managed and become non-harmful. Several options are available for hazardous-waste management. The most desirable is to reduce the quantity of waste at its source or to recycle the materials for some other productive use. While reduction and recycling are desirable solutions, they are the final remedy to the problem of hazardous-waste disposal. There will always be a need for treatment and for storage or disposal of some amount of hazardous waste.

Different approaches for hazardous waste management are possible such as:

### ***Surface storage and land disposal***

Hazardous wastes can be disposed of properly<sup>9</sup>. For most such wastes, land disposal is the ultimate destination, although it is not a positive practice, because of the environmental risks involved. There are two basic methods of land disposal, include landfilling and underground injection. Remediation can have two forms. On-site remediation may include temporary removal of the hazardous waste, construction of a secure landfill on the same site, and replacement of the waste. Hazardous wastes must be deposited in secure landfills, which provide at least 3 meters of separation between the bottom of the landfill and the underlying bedrock. Before to land disposal, surface storage is employed as a temporary method. Even these methods although they seem easy to execute, they are not a common practice in several States and even when created, they lack of efficacy in the mean of environmental impact.

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<sup>9</sup> <https://www.in.gov/idem/waste/2393.htm>

## ***Treatment***

Another option (the off – site solution) for remediation is to remove all the waste material from the site and transport it to another location for treatment and proper disposal. The EU legislation determines that hazardous waste must be treated in specially designated treatment facilities, which have obtained a special permit as required under Articles 23 to 25 of the WFD, but also under other legislation such as the Landfill and Industrial Emissions Directives. Hazardous waste management facilities receive hazardous wastes for treatment, storage or disposal<sup>10</sup>. In these installations hazardous waste can be treated by chemical, thermal, biological, and physical methods. All these methods require a demanding elaboration, scientific competence and yearlong experience, reserved for special management facilities.

All States do not possess installations available for this kind of work, having the “know-how”. In Europe there are specific companies mostly in Germany, which process this kind of elaboration. This so-called off-site solution is usually the most expensive option. Consequently, for the hazardous waste to be treated they need to travel. Transboundary movement of hazardous waste is a necessity.

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<sup>10</sup> These facilities are often referred to as Treatment, Storage and Disposal Facilities, or TSDFs.

### **III. Legislative sources**

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It would be complicated to relate legal sources to each other, if they complement each other or if they overlap, and there is a reason for that. Legal sources do not come from the same legal environment. Convention, Directives, Regulations, Codes, National Laws have international, European, national origins. Each of them has been issued for a different purpose and not by the same regulatory body. It is remarkable to notice that during hazardous waste management and travel there is a participation of several legislations, depending on the specific countries involved in this journey<sup>11</sup>. Practice is the key element of this dissertation and when dealing with a shipment it is crucial to indicate “the common place” where all these legislations meet.

Twenty-seven years have passed since the introduction of the European Union Waste Shipment Regulations (1993) implemented to honor Europe’s commitment under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989)<sup>12</sup>. Focused on EU legislation, this dissertation elaborates transboundary movement of hazardous waste in Europe, but it is important to mention that there are 3 pillars to control this kind of transaction generally:

- The Basel Convention (dealing with hazardous wastes for disposal anywhere in the world);
- The Organization for Economic Co-operation and Development (OECD) and
- The EU Transfrontier Shipment of Waste Regulation<sup>13</sup>

The Convention, in its early stages, tried to restrict only the movement of hazardous wastes for disposal and then mostly to States unable to manage the waste in an environmentally sound way.

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<sup>11</sup> Export countries, Transit countries and Destination countries.

<sup>12</sup> Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Protocol on Liability and Compensation for Damage resulting from Transboundary Movements of Hazardous Wastes and their Disposal, Texts and Annexes, 22.03.1989, available at:

<https://www.basel.int/Portals/4/Basel%20Convention/docs/text/BaselConventionText-e.pdf>

<sup>13</sup> This Regulation deals with wastes for recovery and disposal within the European Union.

The OECD from its part in 1984 published its first decision – recommendation on transboundary movement of hazardous wastes<sup>14</sup>, declaring the intention to provide methods of controlling the movement of hazardous wastes for recovery within its member States<sup>15</sup>, demonstrating an effort to supervise every single movement of this material.

The European Community has a system of notice and authorization. Most of regulations, directives, rules that apply to managing hazardous substances in the workplace also apply to hazardous waste. The main legislative source in hazardous waste management is Basel Convention, first elaborated below. In this chapter there is a reference to the legal frame containing the convention, directives, regulations, rules, guidelines as an attempt to include the basics, concerning hazardous waste movement policy, without an extended analysis as the scope of the dissertation is the understanding of this demanding procedure which is required in hazardous waste movement, the role of each operator and the results of this activity.

### ***Basel Convention***

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal<sup>16</sup> is an international treaty, the sole global treaty on waste management. Negotiated in response to scandals involving illegal exports from developed to developing countries in the 1980s, has as objective to protect human health and the environment against the negative effects of the production of hazardous wastes. It tried also to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to developing countries. The Convention's provisions apply to hazardous as well as other wastes. It is intended to minimize the amount and toxicity of wastes generated, to ensure

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<sup>14</sup> Decision-Recommendation of the Council on the Reduction of Transfrontier Movements of Wastes, adopted on 31/01/1991, amended on 25/10/2001, available at:

<https://legalinstruments.oecd.org/public/doc/60/60.en.pdf>

<sup>15</sup> See: [www.oecd.org](http://www.oecd.org)

<sup>16</sup> Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Protocol on Liability and Compensation for Damage resulting from Transboundary Movements of Hazardous Wastes and their Disposal, Texts and Annexes, 22.03.1989, available at:

<https://www.basel.int/Portals/4/Basel%20Convention/docs/text/BaselConventionText-e.pdf>

their environmentally sound management as closely as possible to the source of generation. During the 31 years of its existence, it has evolved from an instrument to a regime of what is today recognized as a global issue. The convention establishes a control system based on the requirement of prior informed consent to every movement, by the States of import and transit as a prerequisite to the movement being initiated. The Convention asks reports to be circulated to designated government authorities and the Convention's Secretariat, aiming at a successful monitoring system<sup>17</sup>. It imposes an obligation on parties to ensure environmentally sound management and obliges parties to combat illegal traffic and to reimport illegally exported wastes. The Convention allows bilateral and multilateral agreements among States<sup>18</sup>. These agreements may be made between two parties to the Convention or between a party and a nonparty. The only requirement imposed on these agreements is that the States involved have to comply with the environmentally sound management of hazardous waste techniques required by the Convention.

Regarding the case of shipments of waste subject to the procedure of prior written notification and consent<sup>19</sup> the key objectives of the Convention<sup>20</sup> are:

- (a) Minimization of the generation of hazardous wastes in terms of quantity and hazardousness;
- (b) Reduction of the movement of hazardous wastes; and
- (c) Disposal of them as close to the source of generation.

Particularly significant provisions of the Convention are:

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<sup>17</sup> Howard, Kathleen. *The Basel Convention: Control of Transboundary Movements of Hazardous Wastes and their Disposal*, Hastings International and Comparative Law Review, Vol. 14, No 1 (fall 1990), p. 244.

<sup>18</sup> Article 11 of the Basel Convention states that "parties may enter into bilateral, multilateral, or regional agreements or arrangements regarding transboundary movement of hazardous wastes or other wastes with parties or non-parties". UN Environmental Program (Agenda Item 3), UN Doc. UNEP/Z/6 reprinted in 28 International Legal Materials (ILM) 657, 668 (1989), Article 11, para. 1.

<sup>19</sup> The said procedure of prior notification and consent is analyzed in the following chapter of Shipment Procedure.

<sup>20</sup> See: [www.basel.int/pub/basics.html](http://www.basel.int/pub/basics.html)



(a) Parties' obligation to comply with notice and consent provisions for the transfer and agreements to re-import wastes that are not managed in an environmentally sound manner after transfer;

(b) The exporter may not transfer its duty to ensure environmentally sound management of wastes to the importer or to transit States under any circumstances;

(c) The Convention allows transboundary movements of wastes by parties to the convention if the export State lacks the technical capacity and necessary facilities to dispose of the wastes in an environmentally sound manner, or the import State requires the wastes to fuel its recycling or recovery industries;

(d) The exporting country shall notify competent authority in both the importing State and in any nation through which the wastes will be transported. The notification must detail all movements of the wastes, including the reason for export, the generator of the wastes, the disposer, the intended carriers, information relating to insurance, physical description and quantity of the wastes.

The convention's provisions allow for a party to enforce a ban on all hazardous waste import<sup>21</sup>. Many proponents of a complete ban argue that a ban is the only way to ensure that overall production of hazardous wastes will be decreased<sup>22</sup>.

It is vitally important to mention additionally<sup>23</sup> that under the Basel Convention, illegal is the movement of hazardous wastes when:

- (a) There is no notification to all States involved;
- (b) Without the consent of a State concerned;
- (c) When the consent is issued as a result of false presented documents, as a result of a fraud;
- (d) When there is a difference between movement and presented documents;
- (e) When wastes' movement end up in deliberate disposal.

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<sup>21</sup> Pursuant to Article 4 para. 1 of the Basel Convention, parties that wish to ban all hazardous waste imports may do so. Other parties must then prohibit the export of hazardous wastes to parties, which have prohibited the import of the same.

<sup>22</sup> Parker, Carole. *The Path of Least Resistance*, Environmental Forum, March/April, 1989, p. 5.

<sup>23</sup> The subject will be further elaborated below.

These factors referred above will be mentioned when evaluating the effectiveness of legislative framework, including Basel Convention, which has a primordial place.

### ***IMDG Code or International Maritime Dangerous Goods Code***

International Maritime Dangerous Goods Code<sup>24</sup> is accepted as an international guideline to the safe transportation of dangerous goods or hazardous materials by water on vessel. The IMDG Code is intended to protect crew members and to prevent marine pollution in the safe transportation of hazardous materials by vessel. Its scope is to harmonize and enhance the safe carriage of dangerous goods by sea and sets out the requirements applicable to dangerous goods such as packing labeling, handling. The Code categorizes dangerous goods into nine groups including explosives, compressed and liquefied gases, flammable liquids, flammable solids, spontaneous combustible substances and flammable substances when wet, oxidizing substances and organic peroxides, toxic and infectious substances, radioactive material, corrosive substances, and miscellaneous dangerous goods and substances. Each category consists of many individual dangerous goods. It is recommended to governments for adoption or for use as the basis for national regulations' mandatory in conjunction with the obligations of the members of United Nation government under the International Convention for the Safety of Life at Sea (SOLAS) and the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78). It is intended for use not only by the mariner but also by all those involved in industries and services connected with shipping. It contains advice on terminology, packaging, labeling, placarding, markings, stowage, segregation, handling, and emergency response. The HNS Convention (Hazardous and Noxious Substances by Sea Convention) is included in the IMDG code. The code is updated every 2 years. The IMDG Code, 2018 edition (incl. Amendment 39-18)<sup>25</sup> came

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<sup>24</sup> International Maritime Dangerous Goods Code, Vol. 1, 2006 edition, available at:

<https://law.resource.org/pub/us/cfr/ibr/004/imo.imdg.1.2006.pdf>

<sup>25</sup> IMDG Code- International Maritime Dangerous Goods Code, 2018 edition, incorporating amendment 39-18, IMO, available at:

<http://www.imo.org/en/Publications/Documents/IMDG%20Code/IMDG%20Code,%202018%20Edition/IL200E.PDF>

into force on 1 January 2020 for two years and was supposed to be applied voluntarily as from 1 January 2019.

### ***The OECD Control System for Waste Recovery***

The Organization for Economic Co-operation and Development is an intergovernmental economic organization with 36 member countries, founded in 1961 to develop economic progress and world trade. Established by the OECD Council Decision<sup>26</sup> [OECD/LEGAL/0266], the OECD Control System for waste recovery aims at facilitating trade of recyclables in an environmentally sound, by using a simplified and safe procedure, aiming at the same time to materials' control. Wastes exported outside the OECD area, whether for recovery or final disposal, do not have the obligation to be submitted to this control procedure. The controls of waste shipments are carried out by national competent authorities and Customs Offices, through the use of notification and movement documents. Since March 1992, transboundary movements of wastes destined for recovery operations between member States of the OECD have been supervised and controlled under a specific intra-OECD Control System.

### ***Waste Framework Directive (WFD)***

The 2008 Waste Framework Directive (WFD), amended in 2018<sup>27</sup>, contains the definition of waste, which in principle is in use in all the member States. This definition provides materials treated as waste. The Directive sets out what waste is and how it should be managed<sup>28</sup>. A hazardous waste

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<sup>26</sup> Decision of the Council on the Control of Transboundary Movements of Wastes Destined for Recovery Operations, OECD/LEGAL/0266, adopted on 30/03/1992, amended on 18/11/2008, available at: <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0266>

<sup>27</sup> Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste (Text with EEA relevance), PE/11/2018/REV/2, OJ L 150, 14.6.2018, available at: [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=urisrv:OJ.L\\_.2018.150.01.0109.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=urisrv:OJ.L_.2018.150.01.0109.01.ENG)

<sup>28</sup> Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste, European Commission, Directorate-General Environment, available at:

[https://ec.europa.eu/environment/waste/framework/pdf/guidance\\_doc.pdf](https://ec.europa.eu/environment/waste/framework/pdf/guidance_doc.pdf), pp. 30-34.

is defined as a waste that displays one or more of the fifteen hazardous properties listed in Annex III to the WFD. Article 7 of the WFD sets the basis for the LoW<sup>29</sup>. The WFD is the key legislative document on waste at the EU level and is transposed into the national legislation of the MS by means of separate legal acts.

### ***European List of Waste (LoW)***

The European LoW<sup>30</sup> provides provisions for the assessment of hazardous properties and the classification of waste. It provides the list of wastes, categorized into chapters, sub-chapters and entries. The entries in the LoW can be categorized into “absolute hazardous entries”, “absolute non-hazardous entries” and “mirror entries”. The LoW is the key document for classification of waste. A consolidated version of the LoW has existed since 2000 and has been revised by Commission Decision 2014/955/EU<sup>31</sup>, in order to adapt the LoW to scientific progress and align it with developments in chemicals legislation.

### ***Visby Rules***

The Hague–Visby Rules<sup>32</sup> is a set of international rules for the international carriage of goods by sea. They are an updated version of the original Hague Rules (below presented), which were drafted in Brussels in 1924.

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<sup>29</sup> LoW will be analyzed below.

<sup>30</sup> Commission Decision of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste (notified under document number C (2000) 1147) (Text with EEA relevance) (2000/532/EC), consolidated version available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02000D0532-20150601>

<sup>31</sup> 2014/955/EU: Commission Decision of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council (Text with EEA relevance), OJ L 370, 30.12.2014, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014D0955>

<sup>32</sup> The Hague-Visby Rules - The Hague Rules as Amended by the Brussels Protocol 1968, available at: <https://www.ius.uio.no/lm/sea.carriage.hague.visby.rules.1968/portrait.pdf>

The official title of the Hague Rules is the “International Convention for the Unification of Certain Rules of Law relating to Bills of Lading”. After being amended by the Brussels Amendments<sup>33</sup> in 1968, the Rules became known colloquially as the Hague–Visby Rules. A final amendment was made in 1979. The Hague-Visby Rules stipulate the extent of the governance of the waybill for a cargo ship being chartered alongside the liabilities that stand to be potentially imposed on the parties agreeing to the charter. In order for the Hague-Visby amendment to be applicable to a cargo charter, the waybill is required as the primary document to verify the authenticity of the consignment and all the other details as provided by the operator chartering the vessel. As per the stipulations specified, the shipping corporate is expected to supply up-to-date and the most accurate information relating to the cargo. If shipping corporate fails to do so, then as per the stipulations of the Protocol, neither the chartered vessel nor the operator of the vessel will be held culpable for any loss arising out of any accident during the course of the transit. Many countries declined to adopt the Hague-Visby Rules and stayed with the 1924 Hague Rules. The premise of the Hague–Visby Rules<sup>34</sup> was that a carrier typically has greater bargaining power than the shipper, and that to protect the interests of the shipper/cargo-owner, the law should impose some minimum affreightment obligations upon the carrier.

The Hague – Visby Rules are an internal part of Hellenic law and prevail any other provision of law. They apply to all maritime transports, which are executed with a bill of lading and where cargo ports belong to different States<sup>35</sup>.

## ***Rotterdam Rules***

The “Rotterdam Rules” (the United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea)<sup>36</sup> is a treaty proposing new international rules to revise

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<sup>33</sup> Officially the “Protocol to Amend the International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading”.

<sup>34</sup> The Rules are drawn of the earlier English common law.

<sup>35</sup> Zekos, Georgios (2017). *Transfer Contracts, transporters’ liability & Internet*, Sakkoulas editions, 2<sup>nd</sup> edition, p. 268

<sup>36</sup> United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea, Vienna 2009, available at:

the legal framework for maritime affreightment and carriage of goods by sea. The Rules primarily address the legal relationship between carriers and cargo-owners. The aim is to extend and modernize existing international rules and achieve uniformity of international trade law in the field of maritime carriage, updating or replacing many provisions in the Hague Rules, Hague - Visby Rules and Hamburg Rules. It tried to uniform legal regime governing the rights and obligations of shippers, carriers and consignees under a contract that involve international sea transport.

Although the final text was greeted with much enthusiasm, a decade later, little has happened. As of December 2018, the rules are not yet in force, as they have been ratified by only four States, three of which are minor West African States. The modern Rotterdam Rules, with some 96 articles, have scope and cover multi-modal transport but remain far from general implementation.

The following provisions are found in the Rotterdam Rules<sup>37</sup>:

a) The Rules apply only if the carriage includes a sea leg; other multimodal carriage contracts, which have no sea leg, are outside of the scope of the Rules.

b) It extends the period that carriers are responsible for goods, to cover the time between the point, where the goods are received to the point where the goods are delivered.

- It allows for more e-commerce and approves more forms of electronic documentation;

- It increases the limit liability of carriers;

- It eliminates the “nautical fault defense” which had protected carriers and crew from liability for negligent ship management and navigation;

- It extends the time that legal claims can be filed to two years following the day the goods were delivered or should have been delivered;

- It allows parties to so-called “Volume Contracts” to opt - out of some liability rules set in the convention;

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[https://www.uncitral.org/pdf/english/texts/transport/rotterdam\\_rules/Rotterdam-Rules-E.pdf](https://www.uncitral.org/pdf/english/texts/transport/rotterdam_rules/Rotterdam-Rules-E.pdf)

<sup>37</sup> <http://pnlc.com/the-rotterdam-rules-where-does-the-us-stand/>

- It obliges carriers to keep ships seaworthy and properly crewed throughout the voyage. The standard of care is not “strict”, but “due diligence”.

### ***Hamburg Rules***

The Hamburg Rules are a set of rules governing the international shipment of goods, resulting from the United Nations International Convention on the Carriage of Goods by Sea<sup>38</sup> adopted in Hamburg on 31 March 1978. The Convention was an effort to form a uniform legal base for the transportation of goods on oceangoing ships. It came into force on 1 November 1992. Hamburg Rules define sea carrier's obligations and liability. They were drafted under the auspices of the UN agency UNCITRAL in response to shippers' complaints that The Hague and Hague-Visby Rules were unfavorably weighted in favor of the carrier. The Hamburg Rules are supported by very few States with any significant maritime trade. The main features of the Hamburg Rules of interest to a shipmaster are<sup>39</sup>:

(a) The carrier is liable from the time he accepts the goods at the port of loading until he delivers them at the port of discharge.

(b) The carrier is liable for loss, damage or delay to the goods occurring whilst in his charge unless he proves that “he, his servants or agents took all measures that could reasonably be required to avoid the occurrence and its consequences”.

(c) The Hamburg Rules do not give the carrier so many exceptions from liability as The Hague and Hague-Visby Rules. In particular, the carrier is not exonerated from liability arising from negligence in navigation or management of the ship.

(d) The Hamburg Rules govern both inward and outward bills of lading, whereas The Hague and Hague-Visby Rules govern only outward bills of lading.

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<sup>38</sup> United Nations Convention on the Carriage of Goods by Sea 1978 (HAMBURG RULES), available at: <https://www.uncitral.org/pdf/english/texts/transport/hamburg/Hamburg-Rules-Commonwealth.pdf>

<sup>39</sup> <http://generalcargoship.com/hamburg-rules.html>

## **York Antwerp Rules**

The York Antwerp Rules<sup>40</sup> are a set of maritime regulations concerning protocols surrounding jettisoned cargo. They are a set of maritime rules that were established in 1890. Amended several times, this set of rules outlines the rights and obligations of both ship and cargo owners in the case that cargo must be jettisoned in order to save a ship. Generally, bills of lading, contracts of affreightment and marine insurance policies all include the York Antwerp Rules in their language. In a life-threatening situation at sea, the captain and crew may deem it necessary to jettison the cargo. To jettison cargo is a maritime term that is the last resort in an emergency where the crew throws the cargo overboard in order to stabilize the vessel. If there is a threat to a ship, due to damage to the hull, weather conditions, etc., the staff will jettison the cargo. While jettisoning happens as a last resort, the crew must move quickly when they throw the cargo overboard, which means they do not have time to see whose cargo gets tossed. This is when the York Antwerp Rules come intervene, as those who lost their cargo will receive compensation from the profits of the ship's owner and the owners of the other cargo.

The York Antwerp Rules state three principles, which must be met for the rule to be applied<sup>41</sup>. The first stipulation is that danger to the ship must be imminent. Second, there must be a voluntary jettison of a portion of the ship's cargo in order to save the whole. Third, the attempt to avoid the danger must be successful. If a situation meets all the stipulations, all parties involved in the maritime adventure must share in the financial burden of the losses incurred to the owner of any of the cargo that was jettisoned. The York Antwerp Rules are a codification of a principle called the law of general average. Though the York Antwerp Rules are quite old themselves, the law of general average is maritime principle with roots that go to Ancient Greece. The law specifies that all parties involved in a sea venture must proportionately share in any losses that result from sacrifices made to the cargo to save the remainder.

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<sup>40</sup> York - Antwerp Rules 2016, available at:

<https://transportrecht.org/wp-content/uploads/YorkAntw2016.pdf>

<sup>41</sup> <http://ukscblog.com/case-comment-mitsui-co-ltd-ors-v-beteiligungsgesellschaft-lpg-tankerflotte-mbh-co-kg-anor-2017-uksc-68/>



## ***Waste Shipment Regulation (WSR)***

The purpose of the 1993 WSR was to fulfill the European Union's obligations under the Convention. But not only that, it was also an attempt to replace the earlier legislation to control transboundary movement of waste and to implement the OECD first Decision<sup>42</sup> as it is referred above in introduction of legislative frame, the intention to provide methods of controlling the movement of hazardous wastes for recovery.

Regulation 1013/2006<sup>43</sup> on shipment of waste ("Waste Shipment Regulation" or "WSR") implements into EU law the provisions of the Basel Convention and OECD Decision C (2001) 107/Final<sup>44</sup> (latest rendition, describing two control systems, the green control and the amber control).

The WSR is directly applicable in all Member States and establishes the procedures, conditions and requirements to be fulfilled in the course of transboundary shipments of waste, including shipments between Member States. Shipments procedures depend on the type of waste, its destination and its treatment operation. According to Articles 34 and 36 of the WSR, the export of waste for a disposal operation outside the EU/EFTA area is prohibited<sup>45</sup>, as well as the export of hazardous wastes from the EU to any non-OECD Decision country. There are two control procedures for the shipment of waste:

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<sup>42</sup> Decision-Recommendation of the Council on the Reduction of Transfrontier Movements of Wastes, adopted on 31/01/1991, amended on 25/10/2001, available at:

<https://legalinstruments.oecd.org/public/doc/60/60.en.pdf>

<sup>43</sup> Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste, OJ L 190, 12.7.2006, available at:

<https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32006R1013>

<sup>44</sup> Decision of The Council C (2001) 107/Final concerning the Control of Transboundary Movements of Wastes destined for Recovery Operations, as amended by C (2004) 20, available at:

<https://www.oecd.org/environment/waste/30654501.pdf>

<sup>45</sup> Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EC) No 1013/2006 on shipments of waste, COM/2013/0516 (final), available at:

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52013PC0516>

(a) The general information requirements of Article 18, applicable to shipments for recovery of wastes listed in Annex III (“green” listed wastes) or III A and

(b) The procedure of prior written notification and consent for any other type of shipment of wastes.

### ***Landfill Directive***

The Landfill Directive 1999/31/EC<sup>46</sup> on landfill of waste contains rules on the management, permit conditions, closure, and after-care of landfills. The Landfill Directive contains rules on the management, permit conditions, closure, and after-care of landfills. Council Decision 2003/33/EC<sup>47</sup> specifies waste acceptance criteria (“WAC”) for acceptance of waste in the different classes of landfills as recognized by the Landfill Directive. The classification of waste as hazardous according to LoW and Annex III to the WFD is important also for the purposes of the Landfill Directive since hazardous waste should as a general rule be disposed of at landfills for hazardous waste, and non-hazardous waste should be disposed of at landfills for non-hazardous waste or inert waste.

### ***Directive on waste from the extractive industries (Extractive Waste Directive)***

The 2006/21/EC Directive on the management of waste from the extractive industries (EWD)<sup>48</sup> sets up the framework for proper management of wastes resulting from extractive industries.

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<sup>46</sup> Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste, OJ L 182, 16.7.1999, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31999L0031>

<sup>47</sup> 2003/33/EC: Council Decision of 19 December 2002 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC, OJ L 11, 16.1.2003, available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32003D0033>

<sup>48</sup> Directive 2006/21/EC of the European Parliament and of the Council of 15 March 2006 on the management of waste from extractive industries and amending Directive 2004/35/EC - Statement by the European Parliament, the Council and the Commission, OJ L 102, 11.4.2006, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32006L0021>

Although it is excluded from the scope of the WFD, the hazardousness of wastes from the extractive industries should be classified in line with the LoW. The EWD aims at ensuring that waste from the extractive industries is managed in a way, which prevents or reduce as far as possible any adverse effects on the environment and any resultant risks to human health. In accordance with the waste management plan the hazardousness of the waste from the extractive industries should be classified in line with criteria of the LoW.

### ***REACH Regulation***

The REACH Regulation (EC) 1907/2006<sup>49</sup> concerning the Registration, Evaluation, Authorization and Restriction of Chemicals entered into force in 2007. REACH is the general chemicals law at EU level, applying to substances (in mixtures or in articles). The purpose of REACH is to ensure protection of human health and the environment, including the promotion of alternative methods for assessment of hazards of substances and the free circulation of substances, on the internal market while enhancing competitiveness and innovation. REACH defines a number of processes aiming to ensure the safe use of chemicals.

### ***Classification Labelling Packaging (CLP) Regulation***

The CLP Regulation<sup>50</sup> sets out criteria for the hazard classification of substances and mixtures. Waste is not considered as a substance, mixture or article under CLP. However, the hazardous properties applicable for waste are related to CLP criteria. Further, classification of substances

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<sup>49</sup> Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Text with EEA relevance), available at:

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02006R1907-20140410>

<sup>50</sup> Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance), available at:

<https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:353:0001:1355:en:PDF>

under CLP may also be relevant for waste classification. The CLP Regulation (EC) 1272/2008 on classification, labelling and packaging of substances and mixtures adapts for the EU the UN international chemicals classification system (Globally Harmonized System — GHS). Hazardous chemical substances and mixtures shall be classified and labelled. They also need to be packaged safely. The purpose of the rules is to ensure that people are informed about the hazard of chemicals, the nature of the hazard and how to handle these chemicals in a safe way. This regulation is extremely important as it sets out strict criteria under which shipper must obey, when transporting hazardous waste materials. Classification and labelling in hazardous waste management is the responsibility of waste consignors – shippers. Hazardous substances and mixtures shall be labelled with hazard pictograms indicating the worst hazards represented and with a signal word. The signal words are either “Danger” or “Warning”. “Danger” is used for the most hazardous substances and mixtures.

The label shall contain the following information<sup>51</sup>:

- (a) The name or designation of the substance or mixture and the relevant “product identifiers”;
- (b) Nominal quantity (weight or volume) of the substance/mixture in the package made available to the general public;
- (c) Name, address and telephone number of the supplier;
- (d) Labelling with signal word, hazard- and precautionary statements;
- (e) One or more hazard pictograms;
- (f) Any supplementary labelling information if relevant <sup>52</sup>

Some materials need supplementary labelling, for instance some mixtures require additional labelling, and regardless of whether they are classified as hazardous<sup>53</sup>.

In the level of packaging when contains hazardous chemical substances or mixtures must fulfill certain requirements, amongst others:

- (a) Both the packaging itself and its closure must be designed so that the contents cannot unintentionally escape.

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<sup>51</sup> According to Article 17 of the CLP Regulation.

<sup>52</sup> See CLP Article 25.

<sup>53</sup> See Article 25 of the CLP Regulation.

(b) The packaging material shall be capable of withstanding the contents and must not be capable of forming hazardous compounds with it.

(c) The packaging must be able to tolerate with certainty the treatment that experience indicates it will be exposed to.

### ***Persistent Organic Pollutants (POP) Regulation***

Persistent Organic Pollutants (POPs) Regulation, as amended<sup>54</sup>, aims to protect environment and human health from persistent organic pollutants (POPs). Waste containing certain POPs must be classified as hazardous. Regulation (EC) 850/2004<sup>55</sup> (first issuance) on persistent organic pollutants has amongst its aims that of protecting the environment and human health from certain specified substances that are transported across international boundaries far, persist in the environment and can bio accumulate in living organisms. Studies have linked POPs exposures to declines, diseases<sup>56</sup>, or abnormalities in several wildlife species, including certain kinds of fish, birds, and mammals<sup>57</sup>. By implementing relevant international agreements, the Regulation tries to succeed in this goal understanding the dangers of POPs<sup>58</sup>. Following Article 7 of the POP Regulation, wastes consisting of POPs, containing or contaminated with them above specific limit values<sup>59</sup>, must be disposed of or recovered, without undue delay and in accordance with the provisions in the POP Regulation, in such a way as to ensure that the persistent organic pollutant content is destroyed or irreversibly transformed so that the remaining waste and releases do not exhibit the characteristics of persistent organic pollutants. Disposal or recovery operations that

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<sup>54</sup> Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants (recast) (Text with EEA relevance), available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R1021&from=EN>

<sup>55</sup> Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC, *OJ L 158, 30.4.2004*, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32004R0850>

<sup>56</sup> Peluola, Akinola. *Investigation of the implementation and effectiveness of electronic waste management in Nigeria*, Modeling Earth Systems and Environment (2016), Vol. 2: 100, Springer International Publishing, p. 3.

<sup>57</sup> <https://www.epa.gov/international-cooperation/persistent-organic-pollutants-global-issue-global-response#affect>

<sup>58</sup> Yoder, Andrew J. *Lessons from Stockholm: Evaluating the Global Convention on persistent Organic Pollutants*, Indiana Journal of Global Legal Studies, vol. 10, No. 2 (summer 2003), Indiana University Press, p. 123.

<sup>59</sup> Concentration limit referred to in Article 7(4)(a) — called “low POP-content limit value”.

may lead to recovery, recycling, reclamation or re-use of the POPs are prohibited. Waste containing certain POPs<sup>60</sup>, above the relevant thresholds of POPs Regulation, are considered hazardous without further consideration.

### ***Seveso III Directive***

This Directive was named after Seveso, a town in Italy, which became the survivor of a major industrial accident that occurred at a small chemical manufacturing plant. Disposal of hazardous waste was always posing a threat to human health and environmental quality. Many such uncontrolled disposal sites were used in the past and have been abandoned. After the accident it was more obvious that this kind of accidents had to be reduced and controlled. The Seveso III Directive 2012/18/EU<sup>61</sup> on the control of major-accident hazards involving dangerous substances, has as main objective the prevention of major accidents, which involve dangerous substances, and the limitation of their consequences for human health and the environment. Operators handling dangerous substances must classify waste based on its properties as a mixture and are obliged to take all necessary measures to prevent major accidents and to limit their consequences. The requirements include providing information to the public likely to be affected by an accident<sup>62</sup>, providing safety reports, establishing a safety management system and internal emergency plans. Member States must, amongst others, ensure that emergency plans are in place for the surrounding areas and that mitigation actions are planned. The Seveso III Directive also applies to waste but waste landfill sites including underground waste storage are excluded from the scope of this Directive.

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<sup>60</sup> As indicated in the Annex to the LoW (point 2, indent 3).

<sup>61</sup> Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC (Text with EEA relevance), OJ L 197, 24.7.2012, available at:

<https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex%3A32012L0018>

<sup>62</sup> Bourrier, Mathilde & Bieder, Corinne (2018), *Risk Communication for the Future: Towards Smart Risk Governance and Safety Management*, Springer Editions, p. 65.

#### **IV. Operators related to transport of dangerous waste and their duties**

The most important factor in hazardous waste management is the protection of the environment and human health. Rubbish and waste can cause air and water pollution. Rotting garbage is also known to produce harmful gases that mix with the air and can cause breathing problems in people. Being a material that can harm human health as well as the environment, hazardous waste needs to be handled with care. It is impressive that more than 50% of the countries in the world do not follow the basic norms, as they do not know the proper classification of it<sup>63</sup>. This subject will be further elaborated, as illegal transport is not an issue unknown in the EU. The European Union has developed a wide range of legislation aiming to regulate the transport of wastes and hazardous wastes, in a place where safely can be recycled, deported or destroyed, contributing from its part in prevention of environmental pollution and protection of public health.

As it is referred above enterprises, hospitals, factories produce waste and hazardous waste. Many countries in Europe too, do not possess the proper installations for the wastes to become non-harmful through specific procedures. For this reason, hazardous waste needs to travel to countries where special facilities deal on this subject with appropriate techniques, controlled by people having the scientific “know-how” in waste managing.

The transboundary transport of hazardous waste requires the engagement of several operators with specific obligations. Each of them must follow national and European legislation. This dissertation trying to give an up-to-date perspective on this transport through practice in Hellas, demonstrates that the country, being a State member of European Union, has ratified, implemented in national law and applied strictly all relevant legislation and it is an excellent example of a State, which pays attention and takes care of environment protection and human health, in terms of the transboundary transport of hazardous waste. The above mentioned is related as a subject matter elaborated later in the chapter of illegal transport.

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<sup>63</sup> <https://www.solidwastemag.com/blog/industrial-and-hazardous-waste-a-classification/>

The following list presents all contributors in this movement, their obligations and possible general troubles during “the trip”:

Once wastes are characterized as hazardous strict conditions apply to the managing procedure, among them two of the most important, are to be referred which are:

(a) Obligation to provide evidence for the tracking of the waste according to the system put by the relevant Member State<sup>64</sup>

(b) Specific labelling and packaging obligations<sup>65</sup>

Operators involved in hazardous waste management must strictly follow a legislative frame. There is a need to notify that operators in hazardous waste management are not linked to a single legislation. There is a sequence of laws, regulations, directives, conventions which form a pyramid of laws. It is impossible to isolate one legal source related to each actor’s obligations.

Beginning the description of this complex trip, all involved operators will be examined one by one, from the generator to the recipient<sup>66</sup>, in the frame of their obligations.

### ***The Waste producer / generator***

Waste producers are businesses such as construction companies and manufacturing industries that generate and dispose of waste. Hazardous waste generators are divided into three categories<sup>67</sup>, based on the amount of waste produced.

Once being hazardous waste generator, a businessman is obliged to regulate their disposal. He is responsible for ensuring that hazardous waste is characterized, transported and tracked. Strict

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<sup>64</sup> Article 17 WFD.

<sup>65</sup> Article 19 WFD

<sup>66</sup> Characterized also according the title they possess in bill of lading

<sup>67</sup> <https://www.epa.gov/hwgenerators/categories-hazardous-waste-generators>

(a) Very small quantity generators, (b) Small quantity generators, and (c) Large quantity generators.



conditions<sup>68</sup> apply to the management of hazardous waste, in particular: a) the obligation to provide evidence for the tracking of the waste according to the system put by the relevant Member State<sup>69</sup>, b) a mixing ban<sup>70</sup>, c) specific labelling and packaging obligations<sup>71</sup>, as mentioned above.

Determining whether a waste is considered hazardous is the company's responsibility. Any producer of hazardous and special waste from health care activities must keep a waste register of the kind of hazardous waste his company generates. He has also the obligation to take care for its safe transportation to a proper place where it will be destroyed or recycled. Hazardous waste is transported by companies having special license issued by the State. In this case, generators sign a contract with these companies' managers, where they agree to deliver hazardous waste, with remuneration to the company managing the transfer. A hazardous waste producer can possess a license on his own, allowing him to manage dangerous waste transport. In this case, he is also the shipper in the bill of lading. But, in practice, it is not usually the case. A second operator with specific obligations is involved, the waste consignor.

### ***The Waste consignor – Shipper***

Hazardous waste consignors are individuals or entities that move hazardous waste from one site to another by highway, rail, water, or air. Hazardous waste consignors play an integral role in the hazardous waste management system by delivering hazardous waste from its point of generation to ultimate destination, which can also be another State. This includes transporting hazardous waste from a generator's site to a facility that can recycle, treat, store or dispose of the waste. An authorized person means that the waste management operator has a permit from a competent authority to accept such waste in order to manage their transboundary transport.

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<sup>68</sup> For details see: the WFD Guidance.

<sup>69</sup> Article 17 WFD.

<sup>70</sup> Article 18 WFD.

<sup>71</sup> Article 19 WFD.

There are specific companies dealing with transboundary movement. Producers should very carefully check whether a person or business is authorized to take waste before the producer, sign an agreement and transfer the waste to its destination to the final operator.

Waste consignors as operators in Hellas possess a general license issued by the State, when the enterprise opens for the first time. A second license, issued for 5 years, permits the company to operate with hazardous waste transport generally. A third license is issued every time the company has a specific amount of hazardous waste (taken from one or more producers) to export in another country. This third license allows the company to transport a specific quantity of hazardous waste, for instance 200 tons. The company has the right to transport one time 200 tons or less, in several transactions. Each time, the quantity transported reduces the total amount, which the third license is issued for. The waste consignor, before shipping waste across the border, must conclude a contract with the recipient of the waste abroad, where he must agree the amount of hazardous waste, which will be transported, the specific category of hazardous waste and the recipient's remuneration.

In the bill of lading, waste consignor is the shipper, who has the obligation to properly pack, mark and label the hazardous waste. Proper packing of dangerous goods can provide sufficient protection to the waste; it can also prevent leakage, which could cause danger to life, the environment or the property, thus ensuring transport safety and prevention of pollution from ships.

Using appropriate waste storage containers is an absolute must. These sealable containers prevent any release of harmful substances such as chemicals and gases. Matching the containers with the type of waste is mandatory. Proper hazardous material labeling is also required prior to shipping the waste to a designated treatment facility. In hazardous waste transport companies, chemical engineers are responsible to carry out this work. Besides, it is also their duty to fill the document containing the nature, specific substance and quantity of waste, which will be sent to the State's authority and to any other operator. This is reasonable, as the shipper has more knowledge than any other, the carrier included, in this regard, as he is the one who controlled the hazardous waste (nature, substance, category, quantity), before it was put in containers.

It is vitally important to mention that, according to Article 32 of the Rotterdam Rules, a notification is required to be written and sent to relevant authorities, in a timely manner, before the hazardous waste is delivered to the carrier or a performing party. According to Article 32a, if the shipper fails to inform the carrier of the dangerous nature or character of the goods (same with wastes), in a timely manner, before they are delivered to the carrier or a performing party and the carrier or performing party does not have knowledge of their dangerous nature or character, the shipper is liable to the carrier for loss or damage resulting from such failure to inform. Additionally, under Article 32b of the Rotterdam Rules, if the shipper fails to mark or label dangerous goods (same with wastes) in accordance with any law, regulations or other requirements of public authorities, applicable during any stage of the intended carriage of the goods, he is liable again to the carrier for loss or damage resulting from such failure. The intention of the writer, when mentioning this Article, is not to proceed to an analysis concerning operator's liability, rather than to point out the importance and the weight of obligations of this operator.

Elaborating shipper's obligations closely, he has as duties:

- (i) to pack the goods sufficiently for the journey;
- (ii) to pay freight;
- (iii) to have the goods ready for shipment as agreed.

But he has a lot of paperwork. First, to describe the goods honestly and accurately. But it is not as simple as it maybe seems. Taking as grounded that he first of all is a legal company, which means he has a license to act as operator in waste management and that he possess the 5 years general license, the shipper has to notify all relevant authorities about this transport, of the specific amount of hazardous waste and its quality. The competent authority in Hellas is the Ministry of Environment and Energy and Ministry of Financial and Development in some cases. If the notification is correct and complete, the waste consignor – shipper receives permission (the consent), for the transport from all relevant authorities and he may proceed. As referred above, waste consignor should prepare a series of documents necessary to other operators who will effectuate the transport. Transport notification is the most important document in this procedure as it describes the whole transaction, the quantity and category of hazardous waste, the recipient, the contract between them, the insurance contract covering the company, the license for hazardous waste collection and transport. For each transport, someone must submit as many

transport notifications as all relevant authorities, which are supposed to be notified. Shipping all toxic waste types should be accompanied also by a declaration form that meets all legal requirements.

Before the preparation of all these documents, even before taking any waste from producer, the waste consignor in Hellas must contact the freight forwarder, who in fact regulates the transport at all stages of the procedure, and ask for transportation for a specific amount of waste.

### ***The Freight Forwarder***

An intermediate company with a significant part in hazardous waste transport, this enterprise deals with many other operators in a way that can have the title of the primordial agent in hazardous waste transport. This company deals first with the shipper, the land carrier the Vessel carrier, the port operators and regulates almost everything. It takes long time and a long surveillance in order to regulate an important transport exactly because of the character of waste as dangerous and no faults are allowed. The company processes a transaction with the shipper, controls the procedure with the land and vessel carrier, gives information to all carriers, arranges everything relating with port authorities and oversees the whole transport until it arrives at destination. For anything that happens during the trip, the freight forwarder must be in contact with all other operators, giving solutions, being in constant contact with port authorities, clarifying issues, trying to make the transport successful.

The waste consignor (the shipper), when dealing with hazardous waste to be transported, contacts the freight forwarder, briefing him with all necessary details, quantity and category of hazardous waste, place where they have to travel, the State, the city of destination and the specific company. The freight forwarder must contact on his turn land and vessel carrier. The first transaction is not so difficult to arrange, but the procedure with vessel carrier is completely different. Vessel Carrier should be informed of all relevant details concerning the substance, quantity, category, State of destination. After all, the carrier is responsible for where hazardous waste will be laid, as some categories of hazardous waste cannot be putted close for security reasons. After giving this information, freight forwarder waits for approval.

## **Land Carrier**

The Land Carrier is the person or company, which takes the commitment to transport hazardous waste from generators installations to port installations for the containers to be placed in Vessel. Additionally, when hazardous waste arrives in the destination country, a land carrier takes care of the transportation to recipient – Consignee. It is to be mentioned as significant that pursuing article 6 section 9 of Basel Convention, it is required every waste transfer to be followed by a paper trail<sup>72</sup>. Each person who takes charge of a transboundary movement of hazardous or other wastes must sign the movement document<sup>73</sup>.

## **Vessel Carrier**

This company arranges in cooperation with freight forwarder the transport of hazardous waste through a vessel exploited by carrier. It is possible, the company (carrier), which manages dangerous wastes transport, owns the ship (the vessel) by which transport will be effectuated. In this case there is a combination of vessel carrier and ship owner at the same time.

As mentioned above freight forwarder waits for carrier's approval of hazardous waste shipment. After control, vessel carrier informs the freight forwarder, if as company accepts the specific quantity and category of hazardous waste to be transported by one of its vessels. This stage is quite important because the company gives the specific route covered by the ship until it arrives at the desired destination, demanded by the freight forwarder. By this time the freight forwarder in his turn informs waste consignor about the approval and from that moment the shipper, begins to send all relevant documents to the Hellenic authorities in order to obtain the consent for transport. In his documents he must include the route of the vessel, which means all ports where the ship docks. From this moment also the shipper is obliged to demand a permission from all relevant authorities, in States where the ship docks (including final destination), before it arrives

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<sup>72</sup> Bollag, Burton. *Hazardous Waste is a Foreign Matter*, Chemical Week, 07.12.1988, p. 45.

<sup>73</sup> Basel Convention, Art. 6, para. 9.

at final destination, in other words at the State and city where hazardous waste will be unloaded. All documents prepared and consent issued the trip may begin.

This is the point where the land carrier takes hazardous waste from generators installations, all loaded in containers labeled, controlled, by waste consignor's chemical engineers. All relevant documents as described above follow hazardous waste trip until they arrive at destination.

Carrier's main duties are to "properly and carefully load, handle, stow, carry, keep, care for, and discharge the hazardous waste carried" and to "exercise due diligence to make the ship seaworthy" and to "... properly man, equip and supply the ship". The carrier's duties are not "strict", but require only a reasonable standard of professionalism and care. For example, during the sailing according to the Hellenic practice the vessel carrier has the right to decide to prolong the trip and dock to another port too, because the company arranged to load other merchandise, cargo. This is a delay, for hazardous waste final destination and sometimes that causes an issue in case there is an agreed period of time, where hazardous waste needs to arrive at the consignee. But this is also a scenario to foresee and be handled, because it may cause serious problems, but it happens. If the vessel carrier decides to dock to another port where it was not planned from the beginning, the entrance to port would not be allowed because, there would be not a permit from relevant authorities in order for transported hazardous waste to arrive at this specific port, even for a short period of time. For this reason freight forwarder and for this reason, his importance as operator is significant, must include in the route of ship (when he arranges agreement with waste consignor), other ports too, close to the initial route, in order for this ports to be referred in waste consignor documents (mainly to the notification), sent to Hellenic authorities, so employees (The State) include these ports too, in their consent.

### ***Port Operator***

The cross-border waste shipment (import-export) process, through of the area of responsibility of Hellenic ports is a difficult procedure, as this operator in a way represents the State, so there is a strong control of the adequacy of procedure and all relevant legislation's compliance. The Hellenic national law regulating the cross-border shipment of waste starting from the country,

through the Hellenic ports facilities, it is only allowed by direct loading or unloading from/to ship (direct removal from the site of port) and waste is not allowed to remain in the premises of ports. This is a regulation which is having an impact in the whole procedure.

The port operator acts like State's inspector, which supervises the whole procedure, as it is the main and last operator who will allow the hazardous waste trip to begin in order to leave from the borders. For this reason, the port operator will demand all necessary documents to be shown in a reasonable time, in order to permit the hazardous waste loading in a vessel. Before hazardous waste entering the Hellenic port, a whole procedure effectuated by freight forwarder is required.

The procedure to be followed is the above:

The freight forwarder should provide the following documents (some of them procured by waste consignor):

(1) Application to the Hellenic Port Department of Environmental Protection with its details for approval of transit passage<sup>74</sup>

(2) Permit to export / import such waste from the Ministry;

(3) Completed and stamped Cross Border Notification Document waste;

(4) Completed transport document;

(5) Vocational training certificates for the carriage of dangerous goods by road ADR freight of drivers involved in transportation;

(6) Container Certificates of Suitability;

(7) Emergency response instructions.

In addition, the Hellenic ports declares that company that performs the transfer within Hellas (the Shipper) to abroad, should has the following:

(1) License for the collection and transportation of hazardous waste by the Ministry of Environment, Energy and Climate Change (YPEKA);

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<sup>74</sup> The obligation to apply belongs to a licensed waste export or import company.

(2) Registration in the Register of the Ministry of Hazardous Waste Management of YPEKA. In this register should include the maritime and land-based instruments that will be used for transportation. It should be noted that for the sake of proper operation and timely programming, the application must be lodged at least 48 hours before an import or export can be processed and the notification issued by the competent Authority must also be notified to the Hellenic port before the commencement of shipment. The classification of waste in accordance with the entries listed in Annexes III-IV<sup>75</sup> as well as the entries of the LoW<sup>76</sup>, is to be indicated on the notification and movement document used in the framework of the notification procedure and in accordance with the instructions under point 25 of Annex IC.

### ***Recipient - Consignee***

The recipient of hazardous waste is responsible for ensuring the environmentally sound management of hazardous waste. He must ensure that transporters adequately declare information on the hazardous waste they are passing on. By asking the waste consignor for a completed copy of the Hazardous Waste Transfer Form, he will have a clear idea of the waste source. This information will enable hazardous waste treatment facilities to tailor treatment operations to suit the waste. As mentioned before Waste consignor – Shipper has already signed a contract with consignee and before that he has given all necessary information, as he is obliged to.

Landfill operators will also have valuable information on the waste source to check against their acceptance criteria for disposal. If he accepts the hazardous waste shipment from the transporter, it is safe to sign the completed Hazardous Waste Transfer form and keep a copy for his records. If the transporter is bringing a combined shipment to his facility<sup>77</sup> once arrived, the recipient must ensure that the sum of the individual waste quantities (specified in individual transfer forms) match the total amount of the shipment.

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<sup>75</sup> i.e. Basel Convention and OECD codes.

<sup>76</sup> Part 2 of Annex V WSR

<sup>77</sup> i.e. mixed waste.



### ***The State as Regulatory Operator***

The reason behind which, governmental authority, as regulatory operator, is mentioned at the end, is because without State's permission, none of the above acts can be executed and none of all mentioned operators can proceed with hazardous movement transport.

As explicitly mentioned, Waste consignor (Notifier) in Hellas should prepare all necessary documents (referred above), among them the notification (the most important document) and send them to the relevant authority, which is The Ministry of Environment and Energy. Prior to the movement of the wastes, the competent authority of the export State, must receive from the import State, written consent for the transfer and confirmation that a contract has been executed between the party exporting the wastes and the disposer (company-consignee) in the import State. This notice specifies the means of environmentally sound management. Export State's authority must also obtain written consent from the States of transit, prior to shipment. After receiving and controlling all sent (by the Shipper) documents, the Ministry issues a written consent which is delivered to the notifier (the Shipper), containing all the relevant applicable law, the obligations and precautions the notifier must implement proving compliance in all issues and the potential penalties in case of breach of required actions. The State through Ministry of Environment and Energy, acting as public regulator affirms the implementation of all relevant law provisions, considering the notification sent, issues the written consent referring to:

A.

(1) Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste (WSR);

(2) National Law 2203/1994 (OJG 58 A) ratifying the "Basel Convention on the Control of Transboundary Movements of Hazardous Wastes";

(3) National Law 4042/2012 (OJG 24 A) "Protection of the environment through criminal law in compliance with the Directive 2008/99/EK – Waste Production and Management Framework, in compliance with the Directive 2008/98/EK...";

(4) National Law 1741/87 ratifying “European Agreement concerning the International Carriage of Dangerous Goods by Road...” (ADR) (OJG 225 A), as amended;

(5) National Law 3646/2008 (OJG 36 A) ratifying the Protocol of 3 June 1999 for the Modification of the Convention concerning International Carriage by Rail (COTIF) of 9 May 1980; in particular, its Appendix C (RID), as amended;

(6) Joint Ministerial Decision (JMD) 13588/725/2006 (OJG 383 B) regarding “Measures, terms and restrictions on hazardous waste management in compliance with the Directive 91/689/EEC...”;

(7) JMD 24944/1159/2006 (OJG 791 B) regarding “Approval of General Technical Specifications regarding hazardous waste management...”;

(8) JMD 62952/5384/2016 (OJG 4326 B) regarding “Adoption of National Hazardous Waste Management Plan, according to Article 31 of National Law 4342/2015”;

(9) Ministerial Decision 1218.74/01/95/06-06-1995 (OJG 531 B), incorporating IMDG Code provisions into national legislation;

(10) Permit for hazardous waste collection and transport to the notifier “(Name of the Company)”;

(11) Their document transmitting the notification to the competent authority of destination (Name of the State);

(12) The acknowledgement of receipt the notification with document issued by the competent authority of destination, (Competent authority abroad) (name of the State), according to Article 8 of WSR, sent by email by the notifier;

(13) The contract between the notifier “Name of the Shipper” and the consignee (Name of the Recipient);

(14) Insurance contract, a relevant certificate of which No, by Insurance Company S.A (Name of the Company), which has been annexed to the notification document and covering costs in accordance with Article 6 of WSR;

(15) The 200€ deposit submitted by Notifier (Name of the Company).

Declaring:

B. Herewith, the Ministry of Environment and Energy, acting as the Competent Authority of Dispatch, according to ref. (1) Regulation (WSR), consents to the notified with document number

GR shipment of “xxx Tons” waste, described as “insulation materials containing asbestos, brake pads, construction materials containing asbestos -sheets, chimneys, tiles” (Basel code A2050, EWC codes 170601\*, 170605\*, 160111\*) and classified in UN class and number, as stated in block 14, of the notification document, points (ix) and (x) respectively, from Hellas to Germany for disposal (D1), under the responsibility of the notifier “Name of the Shipper”. The total intended number of shipments is stated in block 4 of the notification document. In order to ensure the protection of public health and the environment during the shipment, the following conditions shall apply:

1. The shipment of waste can commence:
  - After the written consent of the competent authority of destination (Article 9 WSR);
  - After the written or tacit consent of the competent authorities of transit (Article 9 WSR);
  - Under the condition that the contract between the notifier and the consignee, according to Article 5 of WSR, is valid;
  - Under the condition that the insurance contract, submitted to our Service covering costs, according to Article 6 of WSR, is valid.
2. During the shipment of waste the notifier shall comply with the terms and conditions set in:
  - The permit for hazardous waste collection and transport to the notifier [ref. (10)]
  - The notification with document number GR xxx
  - The decisions of the competent authorities of transit and destination
3. The transboundary shipments of waste shall be carried out according to the Article 16 of WSR and in compliance with the terms of the competent authorities concerned.
4. The provisions for the transport of hazardous goods (ADR, ADN, RID and IMDG respectively) on labeling, packaging, loading and use the appropriate means of transport shall be comply with, for the UN classes and numbers stated in the notification document. The waste shall be carried in closed containers or vehicles, tested and certified by an independent body, officially recognized.
5. The waste shall be accompanied by:

- Movement documents, the copies of the notification document containing the written consent and the terms of the competent authorities concerned and the relevant recognition documents during the shipment inside Greece;

- Guidelines in standard form on how to deal with emergency, accident or risk cases and material safety data sheet, in accordance with the provisions for the transport of hazardous goods (ADR, ADN, RID and IMDG respectively).

6. The shipment of the waste shall be performed in accordance with the transport route annexed to the notification document. If, owing to unforeseen circumstances, the alternative route needs to be followed, then the notifier shall inform the competent authorities concerned, at least three working days before the shipment starts, providing the necessary documentation.

7. After executing each shipment, the notifier shall inform our Service on the actual date of crossing the point of exit from Greece.

8. During road transport of waste interim storage is not allowed. In order to facilitate transport, stops / parking made necessary by the conditions of transport are allowed, under the responsibility of the notifier, in accordance with the provisions of ADR as well as the relevant provisions of the Highway Code.

9. Temporary storage of the waste in the exit or transit ports, pending transport, can be allowed by the competent authority of the port.

10. In emergency situations, the Emergency Plan referred to in the notifier's permit for hazardous waste collection and transport, shall be followed.

11. In case that a waste shipment, including disposal or recovery, cannot be completed as intended in accordance with the terms of notification and movement documents, the notifier is obliged to arrange the alternative recovery or disposal, and / or take back.

12. In case of systematic or accidental pollution or emergency incident, the notifier is obliged to cover the damage caused to third parties and the cost for restoration of environment to its former State.

13. The notifier shall submit the following signed copies to the competent authorities:

- Movement documents containing the written confirmation of receipt of the waste by the facility;
- Certificates for interim and non-interim recovery or disposal issued by the facilities.

14. This consent is valid until 30-01-2020, which is the notification document expiration date, under the condition that the permits of the notifier and consignee are still valid.

15. This consent can be withdrawn in cases mentioned in Article 9 (8) of WSR. The notifier is obliged in prompt compliance in case of amending or adding new terms during the validity period of consent of the notification with document number GR xxx

The consent finally declares that if the notifier violates one or more of the terms of this consent, during the mentioned period, penalties stipulated in the current legislation shall be imposed. The consent is the key document for the trip to begin. Other States' consent is indispensable, for instance relevant authorities of transit ports abroad and Destination State's authority consent. But for the hazardous waste movement to begin, export State's authority consent is critical. After consent's issuance, containers with hazardous waste may move.

Finally, to this point, all actors, applicable legislation, current procedure, objective's description, as well as notions of relevant issues are presented. It was about a general registration of main factors in hazardous waste movement, leaving last but not least the question posed from the beginning, as if all these factors and mainly governmental, European and international authorities succeeded in protecting human life and environment.

## CONCLUSION

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As indicated in this dissertation, there exists in Europe and around the world a whole legal framework, demonstrating States' strong will to regulate hazardous waste management, including its movement. The aim was to protect human health and the environment, especially for weaker States considered as being more vulnerable. After the above listing of most relevant legislation, which is detailed, strict and ambitious, it is evident that the amount of legislation is more than enough. Operators are supposed to act under this strict regulation, having many tasks to complete, following a demanding procedure under the inspection of Government. It seems like everything is under control.

But reality includes many incidents demonstrating failures of the overall system:

In October 2005, the United Kingdom's Environment Agency reported that 75 percent of export consignments of waste just in one British port were illegal shipments. The same year, IMPEL<sup>78</sup> during a week of investigation in seventeen ports in EU Countries, out of the 140 waste shipments found, 68 (48%) turned out to be illegal and in breach of EU rules<sup>79</sup>. The illegal shipments included Swedish cable waste bound for China and discarded refrigerator compressors containing chlorofluorocarbons destined for Pakistan<sup>80</sup>. In the United Kingdom, 14 sea containers with domestic waste material were detained on their way to India. In France, 30 waste shipments were blocked<sup>81</sup>, because the containers were found to be loaded with waste material such as cable waste containing PCP and bitumen, polluted engine blocks, rags, automobile tires, electronic scrap metal and telephone cables with lead casing, shipments destined for countries in Asia and Africa.

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<sup>78</sup> European Union's Network for the Implementation and Enforcement of Environmental Law.

<sup>79</sup> European countries continue to tackle illegal waste shipments together, IMPEL, 20.07.2014, available at: <https://www.impel.eu/european-countries-continue-tackle-illegal-waste-shipments-together/>

<sup>80</sup> Illegal waste shipments in Europe, IMPEL, 08.11.2005, available at:

[https://www.impel.eu/wp-content/uploads/2017/01/An-enthusiastic-start-of-2006\\_press-releases-IMPEL-TFS-Seaport-Project-II.pdf](https://www.impel.eu/wp-content/uploads/2017/01/An-enthusiastic-start-of-2006_press-releases-IMPEL-TFS-Seaport-Project-II.pdf)

<sup>81</sup> Stone, Hilary. *Flouting the Law? European Shipment of Hazardous Waste*, Natural Resources & Environment, Vol. 21, No. 1 (summer 2006), pp. 49-53, American Bar Association, p. 49.

It seems like businesses export waste without implementing the law and there is an explanation for this, since controls are not as thorough as they are supposed to be, not because inspectors do not act legally, but because they are not supposed to control every single shipment, although such controls could help reduce illegal traffic. It is worth noting that, in most cases, hazardous waste is seen (controlled) for the last time by the waste managers–shipper’s chemical engineer, before waste is placed in the containers, and then, after a long trip, it is in the recipient’s–consignee’s installations, that such containers will be opened again.

It is significant to establish whether illegal movement of hazardous waste is caused intentionally or not. It is true that intentionally or not the results remain the same: illegal movement is present. But for the purpose of this dissertation the distinction was important because it would prove the effectiveness, or lack thereof, in the field of law, because illegality is not evidence that the law is insufficient. Illegality can take various forms.

Thus, incorrect labelling of containers, concealment, mixture or double layering of materials are some of the usual methods of illegal movement. A large percentage of illegal exports of waste is a consciously committed illegal action. The above-mentioned actions are intentional illegal actions on the part of operators. Selecting developing countries as recipient countries might not be giving an illegal character to a transaction, but it is doubtful if the developed export country is not aware of the inability of these countries to successfully manage hazardous waste<sup>82</sup>. Malaysia is an excellent example of illegal export, worldwide known. There is also lack of control over what is happening when vessels are in international waters and elsewhere. Mining companies dump 220+ million tons of tailing and waste rock into oceans, rivers and lakes each year<sup>83</sup>. This illegality does not get involved in this dissertation as it implicates other categories of operators who act outside a professional commercial field, related with criminal organizations.

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<sup>82</sup> Madava, Tinashe. *Illicit Dumping of Toxic Wastes Breach of Human Rights*, Review of African Political Economy, Vol. 28, No. 88, Africa’s Future: That Sinking Feeling (June 2001), pp. 288-290, Taylor & Francis Ltd.

<sup>83</sup> <https://earthworks.org/cms/assets/uploads/2018/02/DOD-FactSheet-DumpingByNumbers-012919-3.pdf>

It is remarkable to add that during negotiations an activist non-governmental organization demanded a total ban of waste exports from North to South<sup>84</sup>. And the truth is that a conception like this made sense in the context of all these illegal transactions in hazardous waste management. After the drafting of the Basel Convention, in the early years, Greenpeace, the National Resources Defense Council and the Organization of African Unity argue that the provisions of the Convention legitimize hazardous waste trade and that a complete ban on transboundary movements of hazardous wastes was the only way to ensure safety and to minimize hazardous waste production<sup>85</sup>. Although the convention's provisions allow for a party to enforce a ban on all hazardous waste, this is criticized as not sufficient. Supporters of a total ban argue that such a ban would halt dumping on lesser-developed nations that are forced to accept wastes out of necessity. On the other hand, it could be said that it is the States' responsibility to stop corruption, which allows illegal practices<sup>86</sup>.

The development from 2009 onwards of new materials and technologies has been a positive step forward which has inaugurated a new era. Waste is no longer perceived only as a problem but also as a source of valuable materials to sell. Managed in an effective way, large amounts of secondary raw materials can be recovered and contribute in developing countries economy. Wastes now can be a resource and can create business, jobs, and new products and are viewed in a different way because a circular economy is created around them. From this point of view, transboundary movement of hazardous waste has a new meaning and it is a factor, which gives a benefit in this trade, especially when it involves developing countries. Non-governmental arguments were a little weakened. But again, although it was a positive step it could not effectively reduce the danger of uncontrolled hazardous waste movement to countries which do

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<sup>84</sup> Peiry, Katharina Kummer. *The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*, Proceedings of the Annual Meeting (American Society of International Law), Vol. 107, *International Law in a Multipolar World* (2013), p. 435.

<sup>85</sup> *Waste Export Control: Hearing Before the Subcommittee on Transportation and Hazardous Materials of the Committee on Energy and Commerce, House of Representatives, One Hundred First Congress, First Session on H.R. 2525, a Bill to Amend the Solid Waste Disposal Act to Ensure that Any Solid Waste Exported from the United States to Foreign Countries is Managed to Protect Human Health and the Environment*, 27.07.1989, U.S. Government Printing Office, pp. 156-157 (Statement of Jim Valette).

<sup>86</sup> Nwankwo, Cletus Famous & Okafor, Uchenna Paulinus. *Impediments and Desirability of Complete Ban on International Movement of Toxic Waste*, *Open Political Science* (2018), Vol. 1, pp. 131-135.



not possess the proper “Know-How”, or available installations for efficient and environment sound management.

Another significant issue in meeting the Convention’s goals lies with the provision, which allows bilateral and multilateral agreements among States<sup>87</sup>. These agreements may be entered into between two parties to the Convention or between a party and a non-party. The only requirement imposed on these agreements is that the States involved have to comply with the environmentally sound management of hazardous waste techniques required by the Convention.

But what about States which are both not parties of the Convention? The United States has not ratified the Basel Convention and it is not legally required to comply with its obligations. The United States cannot “refrain from acts which would defeat the object and purpose”<sup>88</sup> The US is affected by the Convention’s when trading with countries that have not ratified it. But it is free to establish special agreements with other nations as long as these “do not derogate from the environmentally sound management of hazardous wastes and other wastes as required by this Convention”<sup>89</sup>. But this environmentally sound management is not quite defined. In fact, it is not defined at all<sup>90</sup>.

With regard to illegal traffic, committed without intention, there are points to focus on, as detailed above in the fourth chapter. The plethora of Regulations, Rules, Conventions, and Guidelines governing the transboundary movement of hazardous waste became a nightmare for operators, businessmen, and the whole industry. By producing incorrect transport documents or misinterpreting existing law, illegality has a different meaning. These misunderstandings and errors can be explained by the complexity of laws, directives, regulations, rules. A large majority of waste generators and successive operators are considered to act in good faith, but they must deal with complexity to comply with their duties. Complicated administrative procedures, with

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<sup>87</sup> Article 11 of the Convention, Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 22.03.1989, UN Environmental Program (Agenda Item 3), UN Doc. UNEP/Z/6 reprinted in 28 International Legal Materials (ILM) 657 (1989), p.66, Note 27 Article 11, para. 1.

<sup>88</sup> Vienna Convention, Article 18

<sup>89</sup> Article 11.1

<sup>90</sup> Electronic waste and organized crime, assessing the links, Phase II Report for the Interpol, Pollution Crime Working Group, May 2009, p. 18.

public administration, port operators, might lead to illegal waste export with no bad intention at all.

Punishing generators and operators involved does not seem to be the proper solution. Instead, making regulations of transboundary hazardous waste movement more simple, clear and understandable could be effective in eradicating illegality. Coordination between all States' involved authorities would be very helpful too as it would facilitate procedures and reduce the amount of time needed for the fulfillment of the operation. On the other hand, having the obligation to choose the right partners from the other side, like certificated and accredited, brokers, freight forwarders, handlers, from lists created by each State, could empower transparency and enhance legality in this kind of transactions. The above factors are lacking in many States causing difficulties and time delays.

Subjects dealt in the Basel Convention at some point are moral issues like human health<sup>91</sup> and it was deemed that the most effective way to assure compliance was to subject the transporters to the pressures of informed public opinion<sup>92</sup>. The Convention requires reports to be circulated to competent Government authorities and it was thought that these documents would provide an effective monitoring system. But it appears as though this has not been the case.

Global movement of hazardous waste poses threats. It is widely accepted that environment and human health are in danger. There is a challenge, the goal being environmental and human health protection. There is a responsibility for globally securing sound and environmentally friendly export of dangerous waste. This management must be strictly controlled by exporting countries in assistance with international bodies and cooperation from developing countries. States have demonstrated a strong will to accept the challenge by signing and ratifying the Basel Convention and the European Waste Shipments Regulation.

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<sup>91</sup> Waste Export Control: Hearing Before the Subcommittee on Transportation and Hazardous Materials of the Committee on Energy and Commerce, House of Representatives, One Hundred First Congress, First Session on H.R. 2525, a Bill to Amend the Solid Waste Disposal Act to Ensure that Any Solid Waste Exported from the United States to Foreign Countries is Managed to Protect Human Health and the Environment, 27.07.1989, U.S. Government Printing Office, p. 30 (statement of Howard Wolpe, Representative in Congress from the State of Michigan).

<sup>92</sup> Handi, Gunther & Lutz, Robert E. *An International Policy Perspective on the Trade of Hazardous Materials and Technologies*, 30 Harvard International Law Journal 351 (1989).

However, despite such regulations, large amounts of waste are still illegally exported. As indicated above, some of the violations are not made intentionally, and breaking the law is not waste generators pursuit. Waste movement is an international issue, and effective cooperation and integrity in every action are the key words to achieve the goal of lawful transboundary movement of hazardous waste, through a clear, direct, and effective procedure. The successful approach for implementing this task is to make it easier, make justice work on every level, and make it extremely hard to go wrong.

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