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EVALUATION

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

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GLOSSARY

<i>Term or acronym</i>	<i>Meaning or definition</i>
Animal By-products Regulation	Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002.
Basel Convention	Basel Convention of 22 March 1989 on the control of transboundary movements of hazardous wastes and their disposal.
Batteries Directive	Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC (OJ 266, 26.9.2006).
Combined Nomenclatures, CN codes	The Combined Nomenclature (CN) is a tool for classifying goods, set up to meet the requirements both of the Common Customs Tariff and of the EU's external trade statistics. The CN is also used in intra-EU trade statistics.
Competent authority	Competent authority as established under art. 2.18 of the WSR
Correspondents	Art. 54 of the WSR establishes for Member States and the Commission to each designate one or more correspondents responsible for informing or advising persons or undertakings making enquiries.
Disposal	Any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy. Annex I of Directive 2008/98/EC on waste sets out a non-exhaustive list of disposal operations.
EFTA	The European Free Trade Association (EFTA) is the intergovernmental organization of Iceland, Liechtenstein, Norway and Switzerland.
ELV Directive	Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of-life vehicles (OJ L 269, 21.10.2000).
Environmentally sound management (“ESM”)	Environmentally sound management as defined by the Basel Convention means taking all practicable steps to ensure that [...]wastes are managed in a manner which

	will protect human health and the environment against the adverse effects which may result from such wastes;
EPR	Extended producer responsibility.
Eurostat	Eurostat is the statistical office of the European Union situated in Luxembourg. Its mission is to provide high quality statistics for Europe.
IMPEL	European Union Network for the Implementation and Enforcement of Environmental Law
IMPEL-TFS	Working Group on transboundary shipments of waste under IMPEL
EU List of Waste	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 (2000/532/EC). OJ L 226, 6.9.2000.
OECD Decision	Decision C(2001)107/Final of the OECD Council concerning the revision of Decision C(92)39/Final on control of transboundary movements of wastes destined for recovery operations.
Packaging and Packaging Waste Directive	European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste. OJ L 365, 31.12.1994, as amended by Directive 2018/852.
Port Reception Facilities Directive	Directive 95/21/EC, which was amended by Directive 2001/106/EC concerning the enforcement, in respect of shipping using Community ports and sailing in the waters under the jurisdiction of the Member States, of international standards for ship safety, pollution prevention and shipboard living and working conditions (port State control). OJ L 157, 7.7.1995.
Proximity principle	Wastes should be disposed of as close to the source as possible.
REACH, REACH Regulation	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.
Recovery	Any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Annex II of Directive 2008/98/EC on waste sets out a non-exhaustive list of recovery operations.
Recycling	Any operation which reprocesses waste materials into useful products, materials or substances.
REFIT platform	The REFIT Platform brings together the Commission, national authorities and other stakeholders in regular meetings to improve existing EU legislation.
Regulation (EC) 1418/2007	Commission Regulation (EC) No 1418/2007 of 29 November 2007 concerning the export for recovery of certain waste listed in Annex III or IIIA to Regulation (EC) No 1013/2006 of the European Parliament and of the Council to certain countries to which the OECD Decision on the control of transboundary movements of wastes does not apply.
Self-sufficiency principle	At Community and, if possible, at Member State level. Member States need to establish, in co-operation with other Member States, an integrated and adequate network of waste disposal facilities ¹ .
Ship Recycling Regulation	Regulation (EU) No 1257/2013 of the European Parliament and of the Council of 20 November 2013 on ship recycling and amending Regulation (EC) No 1013/2006 and Directive 2009/16/EC.
WEEE	Waste electric and electronic equipment
WEEE Directive	WEEE Directive: Directive 2012/19/EU on waste electrical and electronic equipment (WEEE).
WFD, Waste Framework Directive	Waste Framework Directive: Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312, 22.11.2008).

¹ One related provision would be art. 16 of the Waste Framework Directive.

1. INTRODUCTION

1.1. Purpose

This report provides an evaluation of the effectiveness, efficiency, coherence, relevance and EU added value of [Regulation \(EC\) No 1013/2006](#) on shipments of waste (Waste Shipment Regulation – WSR)². Commission Regulation (EC) No 1418/2007 that specifically implements art. 37.2 on the export of non-hazardous waste to non-OECD countries is also included in the evaluation.

This report has been prepared in accordance with Article 60(2a) of the WSR. This article tasks the Commission with carrying out a review of this Regulation and submit a report on the results thereof to the European Parliament and to the Council, accompanied, if appropriate, by a legislative proposal by 31 December 2020.

The WSR was amended in 2014 (through Regulation (EU) No 660/2014). This amendment led to the inclusion of new provisions on the enforcement of the rules on shipments of waste. It also introduced the review clause in Art. 60(2a), which specifies that the review should take account of:

- *inter alia*, the reports drawn up in accordance with Article 51³ of the WSR.
- in particular, the effectiveness of Article 50(2a)⁴ of the WSR in combating illegal shipments, taking into account environmental, social and economic aspects.

The Commission's 2015 Circular Economy Action Plan⁵ included amongst the actions listed the stepping up of the enforcement of the WSR and measures to facilitate waste shipment across the EU. Further, a variety of concerns have been expressed over the years. For example in the context of the REFIT Platform, the Stakeholder group noted in 2018⁶ that national authorities and stakeholders indicated that certain provisions of the Regulation were causing unnecessary administrative burden as well as delays and additional costs for shipments of waste. Both public and private stakeholders also recognized the continuous occurrence of illegal shipments of waste. These – amongst other - concerns have been confirmed during the consultation of stakeholders for this evaluation.

The evaluation of the Regulation follows the European Commission's better regulation guidelines. Independent consultants have in addition supported the assessment of the information collected⁷.

² The consolidated version is available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1556194630457&uri=CELEX:02006R1013-20180101>

³ Art. 51 : Enforcement in Member States

⁴ Art. 50: Reports by Member States

⁵ COM/2015/0614 final

⁶ https://ec.europa.eu/info/sites/info/files/recommendation-ix-3a-c_regulation-on-shipment-of-waste_en.pdf

⁷ <https://publications.europa.eu/en/publication-detail/-/publication/926420bc-8284-11e9-9f05-01aa75ed71a1/language-en/format-PDF>

1.2. Scope

This evaluation covers the whole Regulation and also considers Commission Regulation (EC) No 1418/2007. It focuses primarily on the implementation of the Regulation in the EU, but also takes into consideration the global dimension of the waste markets and associated trade. It covers the period since the entry into force of the WSR, i.e. 12 July 2007, until present.

The evaluation further takes account of the importance of the European circular economy agenda, which has developed significantly since the initial adoption of the Regulation in 2006 and its review in 2014. An internal market for waste and secondary raw materials that is well regulated and functions as smoothly as possible, is a crucial factor in accelerating Europe's transition towards a circular economy that promotes sustainable economic growth while protecting the environment.

2. BACKGROUND TO THE INTERVENTION

2.1. Description of the intervention and its objectives

2.1.1. Identification of the need to protect the environment and human health related to waste shipments

The identification of the possible adverse impacts of waste shipments on the environment and public health dates back to the 1970s/1980s. The increase in the production of waste, combined with the development of a globalised economy, led to growing volumes of waste shipped across borders. Several events⁸ showed the potential harms for environment and public health that shipments of waste (especially hazardous waste) could generate, in the absence of rules designed to ensure that they would be carried out safely and with appropriate controls.

The need for international action to address this issue was recognised as one of the three priority areas in the United Nations Environment Programme's (UNEP) first Montevideo Programme on Environmental Law in 1981.

2.1.2. A global legal response – The Basel Convention

The recognition by the international community of the need to address the environmental and public health consequences of waste shipment led to the negotiations of a global convention, which were concluded in March 1989, with the adoption of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (further referred to as “the Basel Convention”). This Convention entered into force on 5 May 1992. It has 187 Parties, including the EU and all EU Member States.

⁸ Examples are: mismarked barrels of hazardous waste from Singapore that ended up unclaimed in Thailand, and the Jelly Wax Company case of unpermitted waste exports to Lebanon and Venezuela. More elaborate information can be found in the study supporting this evaluation: <https://publications.europa.eu/en/publication-detail/-/publication/926420bc-8284-11e9-9f05-01aa75ed71a1/language-en/format-PDF>

The Basel Convention covers hazardous wastes, as well as “other wastes” – which currently include household waste and residues arising from the incineration of household waste. From 2021, hazardous and hard-to-recycle plastic wastes will also be included in the scope of the Convention.

The main purpose of the Convention is to enhance the control of transboundary movements of hazardous waste and reduce them globally. It so aims to minimize the amount and negative impact of wastes generated, to ensure their environmentally sound management and to assist countries in achieving this.

The Convention sets up a legally binding framework regulating the transboundary shipments of hazardous and other wastes, notably through the procedure of prior informed consent⁹ (PIC), according to which the exporting and importing countries need to give their authorization for any shipment to take place legally. This is implemented as the ‘notification procedure’ in the WSR.

In December 2019, an important amendment to the Convention entered into force (the “Basel ban amendment”), which prohibits the export of hazardous waste from OECD and EU countries to non-EU, non-OECD countries. The EU and its Member States have ratified and are bound by this amendment, but many other OECD countries are not.

2.1.3. An OECD international legal response – The OECD Decision

Since March 1992, transboundary movements of wastes destined for recovery operations between member countries of the Organisation for Economic Co-operation and Development (OECD) have been regulated through an OECD Council Decision¹⁰. This Decision is legally binding on the OECD Members and on the EU.

Compared to the Basel Convention, it provides for a simplified and more detailed framework for controlling movements of wastes. It also facilitates transboundary movements of waste destined for recovery operations between OECD member countries in the case where an OECD member country is not a Party to the Basel Convention (this is particularly important for the United States of America, which is not a Party to the Basel Convention).

The OECD Decision contains certain procedural elements, which do not exist in the Basel Convention, such as time limits for the approval process, tacit consent in certain cases and pre-consent procedures.

It also introduces the green vs amber lists of waste, which imply different procedures to be followed:

- Green listed wastes are wastes presenting low risk for human health and the environment, and which are not subject to any other controls than those normally applied in commercial transactions;

⁹ “Prior informed consent” implies that an actor planning to ship certain waste across border applies for a permission to do so before the actual shipments take place.

¹⁰ Council Decision C(92)39/FINAL on the control of transboundary movements of wastes destined for recovery operations (this Decision was amended and the last version is Decision C(2001)107/FINAL)

- Amber listed wastes are wastes presenting sufficient risk to justify their control and are largely those wastes regulated under the Basel Convention (listed in its Annexes II and VIII), supplemented with a number of specific wastes. They are subject to control procedures similar to the PIC procedure.

2.1.4. The EU response - The EU Waste Shipments Regulation (WSR)

In 1984, Council Directive 84/631/EEC of 6 December 1984¹¹ was adopted, introducing EU wide measures on the supervision and control of shipments of waste. The Directive covered shipments of hazardous waste. It required a PIC procedure for the countries involved, thereby allowing them to object to a specific shipment.

Directive 84/631/EEC was amended by Council Directive 86/279/EEC of 12 June 1986, which introduced additional provisions in order to improve the monitoring of exports of waste outside the Community.

Following international developments in the context of the Basel Convention and the OECD, the first Waste Shipment Regulation ((EEC) No 259/93) was adopted in 1993.

It is important to note that a Regulation rather than a Directive was deemed necessary in order to ensure simultaneous and harmonised application in all the Member States.

Developments in the Basel Convention in the 1990's led to changes in the OECD Decision, and these changes made the revision of the EU Waste Shipment Regulation legally necessary¹².

The Commission proposed a draft Regulation on Shipments of Waste in 2003¹³ that ultimately resulted in Regulation (EC) No 1013/2006 on shipments of waste.

Regulation (EC) No 1013/2006 contains 64 articles and 9 Annexes and counts 151 pages. It contains comprehensive rules on the shipments of waste designed to protect the environment and human health, and to implement the obligations of the EU as a Party to the Basel Convention as well as those stemming from the OECD Decision. On a number of instances, the WSR contains rules which go beyond the Basel Convention and the OECD Decision, especially in relation to shipments of non-hazardous wastes.

2.1.4.1. Scope of the Waste Shipment Regulation

Regulation (EC) No 1013/2006 applies to shipments of waste:

- Between Member States, within the Community or with transit through third countries;

¹¹ Council Directive 84/631/EEC of 6 December 1984 on the supervision and control within the European Community of the transfrontier shipment of hazardous waste

¹² The WSR incorporates the changes in the Basel Convention (e.g. amended Annexes on waste entries) plus elements that the OECD Decision adds to the Basel Convention (like green versus amber list procedures and the concept of pre-consented facilities). The Regulation however applies to all Member States, not only those that are member to the OECD.

¹³ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52003PC0379>

- Imported into the Community from third countries;
- Exported from the Community to third countries;
- In transit through the Community, on the way from or to third countries.

It covers almost all types of waste, with the exception of radioactive waste, waste generated on board vehicles, trains, aeroplanes and ships, shipments subject to the approval requirements of the animal by-product regulation¹⁴, waste resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries (if covered by other relevant EU legislation); waste waters (if covered by other relevant EU legislation), decommissioned explosives (if covered by other relevant EU legislation), certain shipments of waste from the Antarctic, imports into the EU of certain waste generated by armed forces or relief organisations in situations of crisis, CO₂ for the purposes of geological storage and ships flying the flag of an EU Member State falling under the scope of Regulation (EU) 1257/2013.

2.1.4.2. Control procedures

The WSR establishes two types of control procedure for the shipment of waste across borders:

- An operator wishing to ship hazardous waste, household waste and residues arising from the incineration of household waste or waste for disposal (e.g. landfilling) to another country, has to follow the procedure of **prior written notification and consent** (“notification procedure”). Under that procedure, the competent authorities of all countries concerned by the shipment (countries of dispatch¹⁵, destination and transit) have to give their consent to the shipment, in a given period of time, before this shipment can take place. To this end, the WSR establishes a comprehensive notification system. In addition, all shipments of waste for which a notification is required are subject to the requirement of a financial guarantee;
- An operator wishing to ship non-hazardous waste (“green listed waste”) to another country has to fulfil the **general information requirements** of Article 18 and make sure the shipped wastes are accompanied by a duly filled in document as provided in Annex VII of the WSR.

In any case all the actors involved in shipments must ensure that waste is managed in an environmentally sound manner, respecting EU and international rules, throughout the shipment process and when it is recovered or disposed of. This requirement means that the exporter or the country of destination should demonstrate that the facility which

¹⁴ WSR Article 1(3)(d) excludes from the scope “shipments subject to the approval requirements of the animal by-product regulation”. Text has been drafted as a reference to Regulation (EC) No 1774/2002 which has been repealed and replaced by Regulation (EC) No 1069/2009. The latter Regulation introduced, among others, new language that caused a certain legal uncertainty as regards the application of Article 1(3)(d) of the WSR. The Court in Case C-634/17 clarified the interpretation of the meaning of the aforementioned Article. Cases C-21-23/19, which are still pending before the Court, are expected to clarify the scope of Article 1(3)(d) of the WSR as regards mixtures between animal by-products and non-hazardous waste.

¹⁵ ‘country of dispatch’ means any country from which a shipment of waste is planned to be initiated or is initiated.

receives the waste will be operated in accordance with human health and environmental protection standards that are broadly equivalent to standards established in Community legislation (see Article 49 of the WSR).

The notifier¹⁶ has a duty to take back waste shipments that are found to be illegal or cannot be treated as intended (including the recovery or disposal of waste).

2.1.4.3. Trade restrictions

In addition to the rules described above, the WSR contains specific provisions that restrict export and imports of waste to and from certain countries, depending on the types of wastes, their treatment or the country:

- exports of waste for **disposal** to third countries are prohibited, except to EFTA¹⁷ countries that are Parties to the Basel Convention.
- exports for recovery of **hazardous waste** and “other waste” under Annex II of the Basel Convention (mixed household waste and from 2021 also certain plastic waste) to third countries are prohibited, except those directed to countries to which the OECD decision applies.
- imports of waste for **disposal or recovery** are prohibited from third countries that are not a Party to the Basel Convention and not an OECD member country and have no bilateral agreement with the EU or Member States. In practice very few countries are covered by these restrictions.

2.1.4.4. Enforcement

The Regulation contains rules on enforcement in the Member States.

It requires that Member States provide for inspections of establishments, undertakings, brokers and dealers, and for inspections of shipments of waste and of the related recovery or disposal. Inspections of shipments shall include the verification of documents, the confirmation of identity and, where appropriate, physical checking of the waste. The inspections can take place in particular:

- at the point of origin, ;
- during the period of shipment within the EU;
- at the frontiers of the EU; and
- at the point of destination, when the waste has arrived at the facilities which carry out the recovery or disposal operations, including both interim and non-interim operations.

Member States are required to establish inspection plans based on risk assessments covering specific waste streams and sources of illegal shipments.

¹⁶ The notifier is usually but not always the natural or legal person that intends to export waste. Art. 2.15 of the WSR provides the definition of “notifier”.

¹⁷ The European Free Trade Association (EFTA) is the intergovernmental organization composed of Iceland, Liechtenstein, Norway and Switzerland.

The WSR was amended in 2014 to strengthen the Member States' inspection systems by laying down minimum inspection requirements with a focus on problematic waste streams (such as hazardous waste and waste sent illegally for dumping or sub-standard treatment). Member States were required to prepare inspection plans by 2017.

The WSR further requires Member States to lay down rules on penalties applicable for infringements of the WSR and take all measures necessary to ensure that the rules on penalties are implemented. The penalties provided for must be effective, proportionate and dissuasive. In addition, Directive 2008/99/EC on the protection of the environment through criminal law states that Member States shall ensure that illegal shipments of waste constitutes a criminal offence, when undertaken in a non-negligible quantity¹⁸

2.1.4.5. Commission Regulation (EC) No 1418/2007

The WSR contains strict rules on shipments of hazardous waste from the EU, including a ban on their export (as well as mixed household waste) outside the OECD.

It also contains specific provisions on the shipment of non-hazardous ("green-listed") waste outside the OECD. Commission Regulation (EC) No 1418/2007¹⁹ ("Regulation 1418/2007" hereafter) was developed in accordance with art. 37 of the WSR²⁰ in order to regulate exports of non-hazardous waste to non-OECD countries. Under this Regulation, these countries are asked to indicate if, in respect of the import of such waste, they have opted for a prohibition, a procedure of prior written notification and consent, exercise no control, or apply any other controls.

Responses were received from 44 countries by 2014²¹. In the absence of written responses, a procedure of prior written notification and consent is applied to ship non-hazardous wastes from the EU to these countries.

2.1.4.6. Correlation with customs codes

The WSR refers to specific codes for different types of wastes, which have to be used by exporting and importing countries as part of the notification procedure for the shipments of waste across borders. These codes stem from the Basel Convention and OECD Decision, and differ from the codes of the Combined Nomenclature ('CN codes'). These are provided for in Regulation (EEC) No 2658/87, which is a tool for classifying goods, set up to meet the requirements both of the [Common Customs Tariff](#) and of the EU's external trade statistics.

Commission Implementing Regulation (EU) 2016/1245, lays down a preliminary table showing the correlation between the codes of the Combined Nomenclature ('CN codes')

¹⁸ See <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008L0099&from=EN>

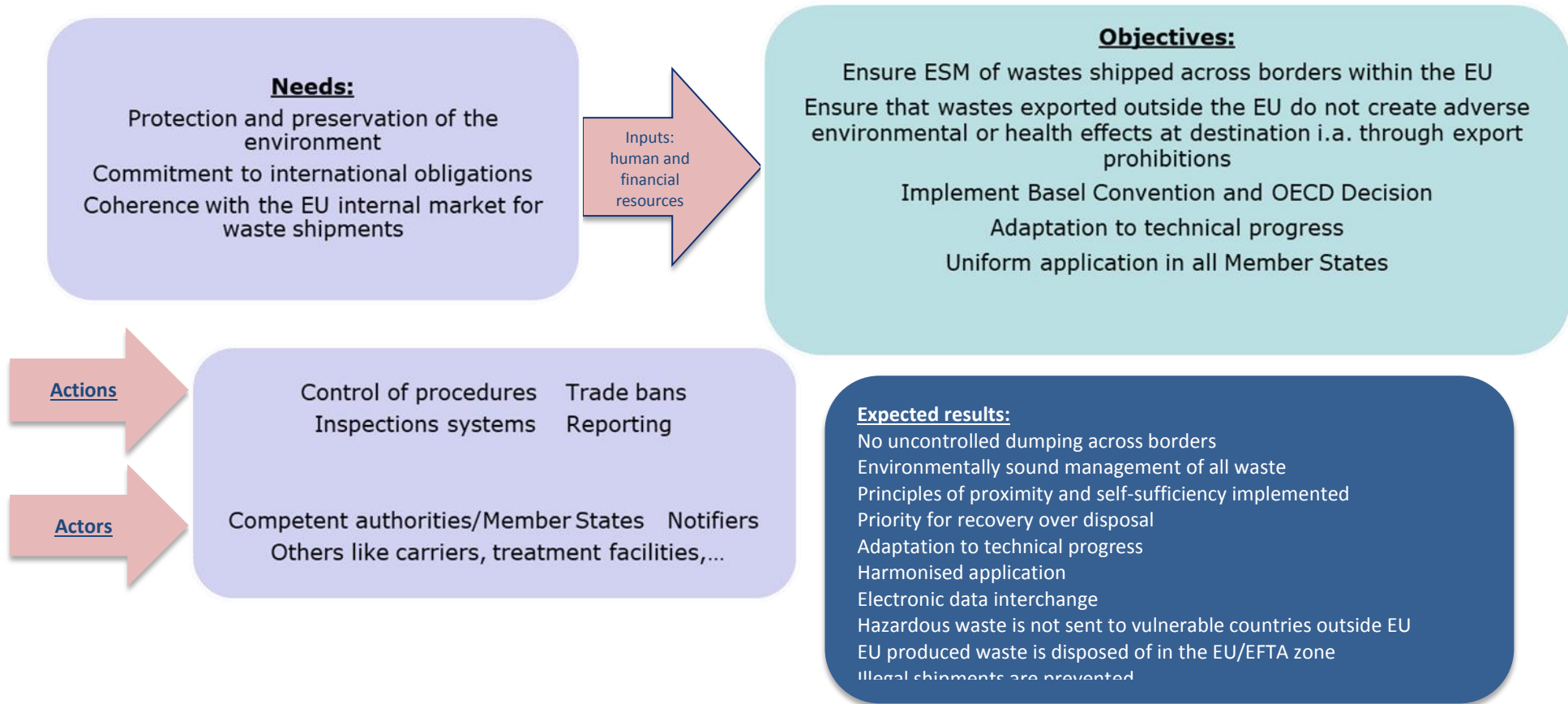
¹⁹ Commission Regulation (EC) No 1418/2007 of 29 November 2007 concerning the export for recovery of certain waste listed in Annex III or IIIA to Regulation (EC) No 1013/2006 of the European Parliament and of the Council to certain countries to which the OECD Decision on the control of transboundary movements of wastes does not apply. <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1558348136550&uri=CELEX:32007R1418>

²⁰ Art. 37 deals with procedures when exporting green listed waste to non-OECD Decision countries and stipulates the adoption and update of Regulation (EC) No1418/2007

²¹ Regulation 1418/2007 was last updated by Commission Regulation (EU) No 733/2014 of 24 June 2014. Currently a new update is being prepared within the Commission.

and the entries of waste listed in Annexes III, IV and V to the WSR. Implementing Regulation (EU) 2016/1245 aims at assisting in the identification of waste codes to be used for the shipments of waste, and thereby facilitates the implementation of the waste shipment regulation.

2.1.5. Brief intervention logic



External factors: Other waste and relevant other legislation; Member States’ policy effectiveness and efficiency; cooperation on all levels; disagreements on classification; stakeholders interests and wider public concerns; technology progress, including electronic systems for monitoring; wider economic context, in particular circular economy and raw materials prices and demand

2.1.6. Interaction with other EU waste legislation

There are many links between the WSR and other EU legislation, particularly that focusing on waste.

The Waste Framework Directive sets out the overarching principles governing waste management in the EU, notably:

- The waste hierarchy, according to which the following hierarchy shall apply as a priority order in waste prevention and management legislation and policy: (a) prevention; (b) preparing for re-use; (c) recycling; (d) other recovery, e.g. energy recovery; and (e) disposal as last resort;
- The proximity and self-sufficiency principles, according to which Member States need to establish, in co-operation with other Member States, an integrated and adequate network of waste disposal and recovery facilities²². This network shall be designed to enable the EU as a whole to become self-sufficient in waste treatment and to enable Member States to move towards that aim individually, taking into account geographical circumstances or the need for specialised installations for certain types of waste. The network shall enable waste to be managed in one of the nearest appropriate installations, by means of the most appropriate methods and technologies, in order to ensure a high level of protection for the environment and public health;
- General conditions relating to the status of End-of-Waste in the EU, as well as general provisions to be followed by Member States and natural or legal persons to decide that certain waste has ceased to be waste, in cases where there are no EU wide or national criteria.

Several Directives (the WEEE Directive (waste electrical and electronic equipment), the Packaging and Packaging Waste Directive, the ELV Directive (end of life vehicles), the Batteries Directive, the Waste Framework Directive, in relation to household waste) require Member States to recycle a minimum percentage of certain waste types. Wastes exported and going to recycling outside the EU count towards the attainment of the targets in the mentioned legislation, if, as also laid down in the WSR, they are managed in conditions that are broadly equivalent to the requirements of the relevant Union environmental law.

Art. 15 of the Batteries Directive (Directive 2006/66/EC) includes provisions on exports. This article allows the treatment and recycling of batteries to be undertaken in a Member State different to that where the battery was used, or outside the EU if the shipment of such batteries is compliant with the WSR. These exports are allowed to count towards the fulfilment of obligations and efficiencies only “if there is sound evidence that the recycling operation took place under conditions equivalent to the requirements of this Directive”. This provision is very relevant, considering that some types of batteries (e.g. lead-acid batteries) are among the most hazardous waste types exported.

The Packaging and Packaging Waste Directive (Directive 94/62/EC) also makes reference to the WSR (Article 6.2), with a similar provision to that in Article 15 of the

²² See Article 16 of the Waste Framework Directive, which also contains provisions derogating from the WSR on the conditions under which waste can be shipped between EU Member States.

Batteries Directive described above. According to Eurostat, the amount of packaging waste (European List of Waste codes 15 01 01 to 15 01 11*) shipped and reported in line with the WSR grew steadily since the entry into force of the Regulation. Most of the waste shipments are intra-EU (i.e. between EU Member States). There is also a trend for increasing extra-EU shipments (imports or exports between EU Member States and other countries) but the tonnage shipped is still small compared to intra-EU shipments.

The WEEE Directive (Directive 2012/19/EU) has a provision in Article 16 that requires Member States to report WEEE exports. Its Article 10 requires that any treatment of WEEE outside the respective Member State or the EU complies with the WSR. In addition, the same article provides that WEEE exported outside the Union shall only count towards the fulfilment of obligations and targets set out in Article 11 of the WEEE Directive (recycling and recovery targets) if the exporter can prove that the treatment took place in conditions that are equivalent to the requirements of this Directive (which again relates to the provisions of Article 49 of the WSR). The Directive requests the Commission to adopt a delegated act to lay down the criteria for the assessment of equivalent conditions. The Commission is currently conducting a study to identify possible options for exporters to allow them to prove that the treatment of WEEE taking place outside the Union is carried out in conditions that are equivalent to the requirements of this Directive.

Additionally, Article 23 of the WEEE Directive includes provisions on inspection and monitoring, including on shipments. More specifically Member States are to ensure that shipments of used electrical and electronic equipment suspected to be WEEE are carried out in accordance with the minimum requirements in Annex VI and shall monitor such shipments accordingly. Annex VI outlines the criteria to distinguish between used equipment and waste electronics.

Most of the Directives mentioned above have been subject to considerable amendments in 2018, notably to take account of the priorities set out in the EU Circular Economy Action Plan adopted in 2015 by the Commission. This Action Plan is designed to stimulate a transition to models where the value of products, materials and resources is maintained in the economy for as long as possible, and to minimise the generation of waste. The 2018 waste package amending Directives on many waste streams was a key deliverable of this Action Plan. The WSR was not part of this waste package and its provisions were therefore at that time not assessed against the priorities set out in the Action Plan.

There are also links between the WSR and the Ship Recycling Regulation. Large EU-flagged ships going for dismantling are subject to the Ship Recycling Regulation, and thereby exempt from the provisions of the WSR. Ships which are not EU-flagged but leave the EU for dismantling remain subject to the WSR. The WSR and the Ship Recycling Regulation contain different types of provisions governing the export and the conditions under which the recycling operations should take place. Work is ongoing, notably in the EU Network for the Implementation and Enforcement of Environmental

Law (IMPEL)²³, to ensure a synergetic implementation of the two regimes for operators and enforcement authorities.

Synergies between the WSR and the Port Reception Facilities Directive have also been identified. The Directive provides measures for the management of all waste from ships and will also apply to waste collected in nets during fishing operations. It sets measures to ensure this waste is returned to land to adequate port reception facilities, where the waste should be collected separately for recycling. Waste coming under the scope of this Directive is excluded of the scope of the WSR, but of course often the application of both instruments will be closely interlinked.

Finally, the need to address illegal waste exports has also been recognised as priority as part of the EU policy cycle against organised crime for the period 2018-2021²⁴.

2.2. Baseline and points of comparison

The evaluation uses as a starting point/baseline the situation when the Regulation entered into force in 2007, looking especially at the objectives pursued at this time, in order to check to which extent they have been met and are still relevant. No impact assessment was carried out preceding the adoption of the current Regulation, but its purpose and objectives were laid down in the Commission proposal for the Regulation²⁵ and its recitals.

The WSR does not explicitly indicate in its articles which overall objective the Regulation is pursuing. However, its first recital states that “*the main and predominant objective and component of the Regulation is the protection of the environment*”. Recitals 1 to 9, as well as the proposal for the current WSR adopted in 2003, also mention other general objectives of the WSR, such as:

- Implementing the Basel Convention and the OECD Council Decision C(2001)107 of 14 June 2001 in Community legislation;
- Addressing the problems encountered in the application, administration and enforcement of the 1993 Regulation and establishing greater legal clarity;
- Pursuing global harmonisation in the area of transboundary shipments of waste;
- To organise and regulate the supervision and control of shipments of waste in a way which takes account of the need to preserve, protect and improve the quality

²³ The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) is an international non-profit association of the environmental authorities of the European Union Member States, acceding and candidate countries of the EU, EEA and EFTA countries. Currently, IMPEL has 56 members from 36 countries. IMPEL’s main activity is carrying out projects. IMPEL has a specific expert team working on waste and transfrontier shipments (TFS). A joint management of projects by environmental authorities from different IMPEL member countries is encouraged as well as a broad participation to project workshops from all IMPEL members.

²⁴ <http://data.consilium.europa.eu/doc/document/ST-9450-2017-INIT/en/pdf>

²⁵ Commission proposal for a Regulation of the European Parliament and of the Council on Shipments of Waste <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52003PC0379&from=EN>

of the environment and human health and which promotes a more uniform application of the Regulation throughout the Community;

- To bear in mind the requirement laid down in Article 4(2)(d) of the Basel Convention that shipments of hazardous waste are to be reduced to a minimum, consistent with environmentally sound and efficient management of such waste.

From these general objectives, and for the purpose of the present evaluation, the following specific objectives are considered:

1. To ensure that **wastes shipped between EU Member States** are managed in an environmentally sound manner during their shipment and transported to a suitable destination for their treatment, in accordance with the relevant EU waste legislation, including the principles of proximity and self-sufficiency and priority for recovery;
2. To ensure that **wastes exported outside the EU** do not create adverse effects on the environment or public health in the countries of destination, through the prohibition to export hazardous wastes to non-OECD Decision countries and wastes destined for disposal operations outside the EU/EFTA area, as well as through specific provisions on the export of other wastes;
3. To ensure the **implementation in EU law of the provisions of the Basel Convention and the OECD's Decision C(2001)107FINAL**;
4. To **enable a uniform application** of the WSR in all Member States;
5. To keep waste shipment systems and procedures **up to date by adaptation to technical progress**.

3. IMPLEMENTATION / STATE OF PLAY

Since its publication in 2006, the Regulation has been subject to 13 amendments²⁶, some minor and some more significant. Whilst its original objectives remain at the core of the legislation, the Regulation has evolved over time in an attempt to address shortcomings identified in implementation, to address potential inconsistencies within the EU acquis and to strengthen environmental protection for the EU and its citizens overall.

3.1. Experience to date with the implementation of the WSR

A number of reports and studies have been published in recent years on the implementation of the WSR.

This includes in particular:

- Commission reports to the European Parliament and the Council as part of the requirements of Article 51 of the Regulation covering the implementation of the Regulation overall. Such reports need to be compiled every three years by the Commission, based on the reporting by the Member States. The most recent report dates from 22 November 2018²⁷;
- The study done to underpin the present evaluation report²⁸;
- A report on “The efficient functioning of waste markets in the European Union - legislative and policy options²⁹”;
- A feasibility study for the establishment of electronic data interchanges for Waste Shipments³⁰;
- A study on criteria and requirements for waste shipments inspections³¹;
- A report on analysis of the implementation/enforcement of Annex VII and Articles 18 and 49-50 of the WSR³² in all Member States, including a summary report of national provisions³³;
- A study on the implementation of financial guarantees and equivalent insurance in all Member States³⁴;

²⁶ See Annex 5 for an overview of these amendments

²⁷ <http://ec.europa.eu/environment/waste/shipments/reports.htm>.

²⁸ <https://publications.europa.eu/en/publication-detail/-/publication/926420bc-8284-11e9-9f05-01aa75ed71a1/language-en/format-PDF>

²⁹ http://ec.europa.eu/environment/waste/studies/pdf/waste_market_study.pdf

³⁰ TRASYS (2014) “*Feasibility study for the establishment of an Electronic Data Interchange for Waste Shipments*”

http://ec.europa.eu/environment/waste/shipments/pdf/3a_ArchitectureOverview_EDI_for_WSR.pdf

³¹ European Commissions (2007) Review on Recommended Minimum Criteria for Environmental Inspections (RMCEI)

³² Addressing certain information requirements, environmentally sound management and enforcement in Member States

³³ European Commission - Expert Team for Assessing and Guidance for the Implementation of Waste Legislation (ETAGIW). (2011) Report on analysis of the implementation/enforcement of Annex VII and Article 18 and 49-50 of the WSR in all Member States, including a summary report of national provisions <http://ec.europa.eu/environment/waste/shipments/pdf/Annex%20VII.pdf>

³⁴ Method of calculation in the Member States of the financial guarantee and equivalent insurance pursuant to Art. 6 of Regulation No 1013/2006 on shipments of waste. <http://ec.europa.eu/environment/waste/shipments/pdf/Calculation%20of%20financial%20guarantee.pdf>

- A study on Annex IIIA of the EU Waste Shipment Regulation³⁵;
- A study on the update of Regulation 1418/2007 (in particular Annex III summarizing views from stakeholders on the trade in non-hazardous waste and its regulation)³⁶;
- A frequently-asked-questions (FAQ) document summarising questions from a Helpdesk on the WSR³⁷.

These studies and reports address both the overall implementation of the WSR, and specific issues where implementation proved problematic (such as on enforcement or electronic data interchange).

These studies have been used in the present report and their findings will be presented throughout its relevant sections.

3.2. Trends in waste trade and shipments

This section outlines global and European trends in waste trade and shipments. This information is important to understand the context in which the WSR has been implemented.

3.2.1. Global trends

International trade in waste has considerably increased and markets for some waste streams have become more and more globalised in the last decades. In 2016, more than 200 million tonnes of waste were traded across international borders, four times more than the amount traded in 1992 (see also Figures 3-1 and 3-2 further below). In value, this represented around 100 billion US dollars.

Metals, papers, plastics and minerals make out the majority of the wastes traded internationally, in both quantitative and financial terms³⁸ (see Figure 3-1).

The destination countries have changed over the past two decades. In the 1990s, more than 80% of internationally traded waste was imported by developed countries (EU Member States or other OECD Member Countries). As shown in Figure 3-2, since then, the export of waste from developed countries to developing countries has considerably increased. China became the main market for waste streams exported by OECD countries. The decision taken in 2018 by the Chinese authorities to restrict or ban the import of a large number of waste streams (plastic and paper waste especially) represents a major change in the global waste market, which has important repercussions for many

³⁵ Addressing mixtures for two or more wastes listed in Annex III to the WSR and not classified under one single entry

³⁶ Study forthcoming

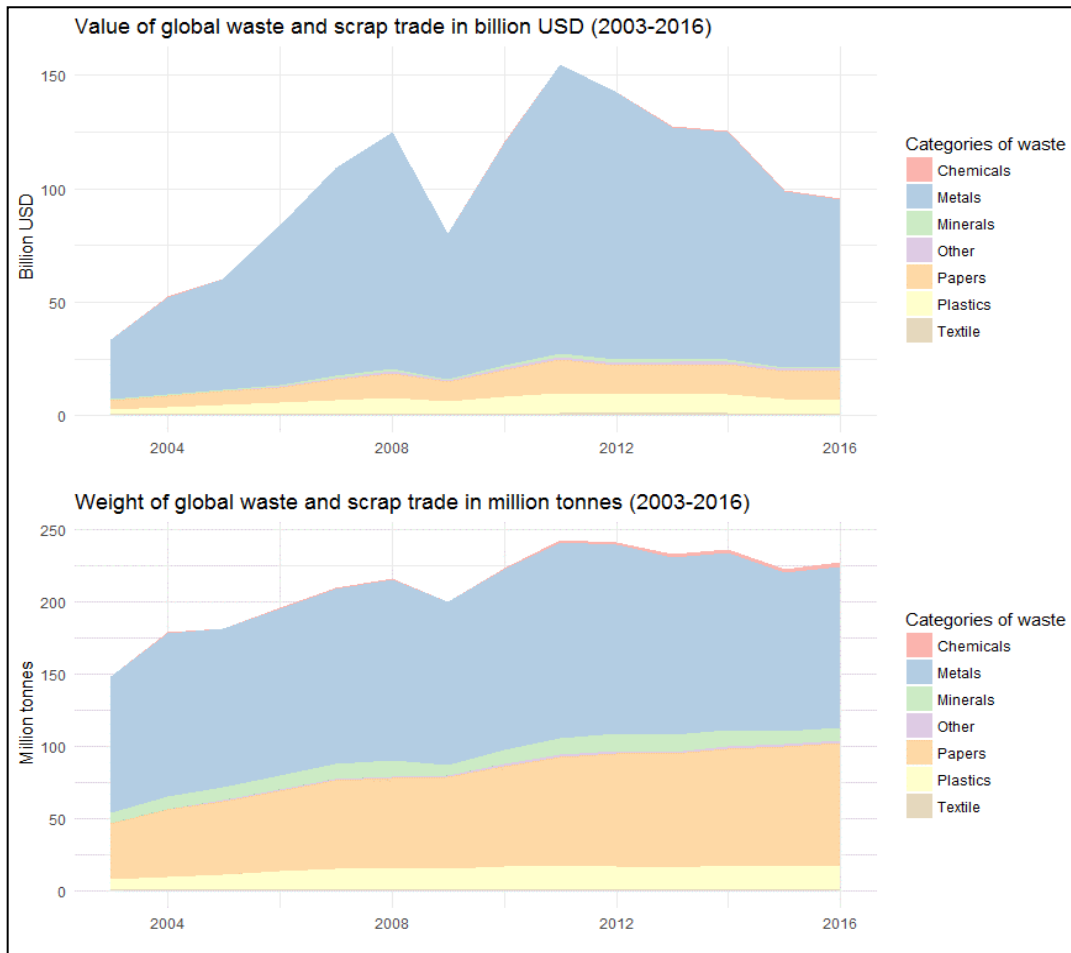
³⁷ European Commission (2009) Report on the experience gained with the helpdesk for questions related to the WSR.

http://ec.europa.eu/environment/waste/shipments/pdf/report_helpdesk_forum.pdf

³⁸ <http://www.oecd.org/environment/waste/policy-highlights-international-trade-and-the-transition-to-a-circular-economy.pdf>

OECD countries. As can be seen in Figure 3-3, the amount of paper and plastic waste and scrap exported globally to China significantly decreased after April 2017.

Figure 3-1: Global waste traded internationally, by value and weight (from [OECD 2018]³⁹)



³⁹ <http://www.oecd.org/environment/waste/policy-highlights-international-trade-and-the-transition-to-a-circular-economy.pdf>

Figure 3-2: Annual amounts of global waste and scrap traded internationally (1992-2012), (from [Kellenberg 2015]⁴⁰).

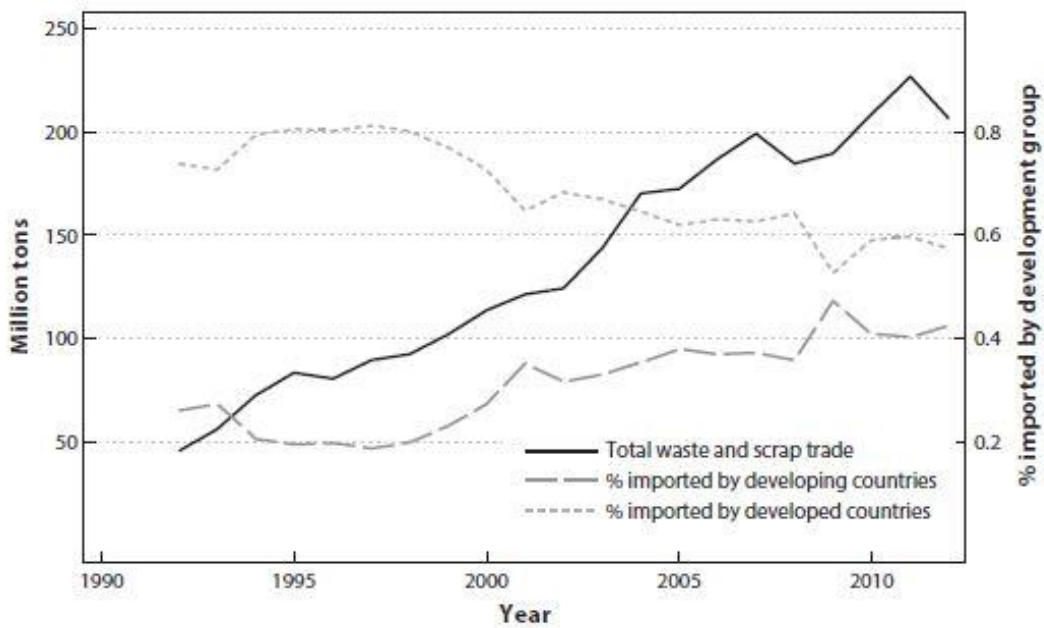
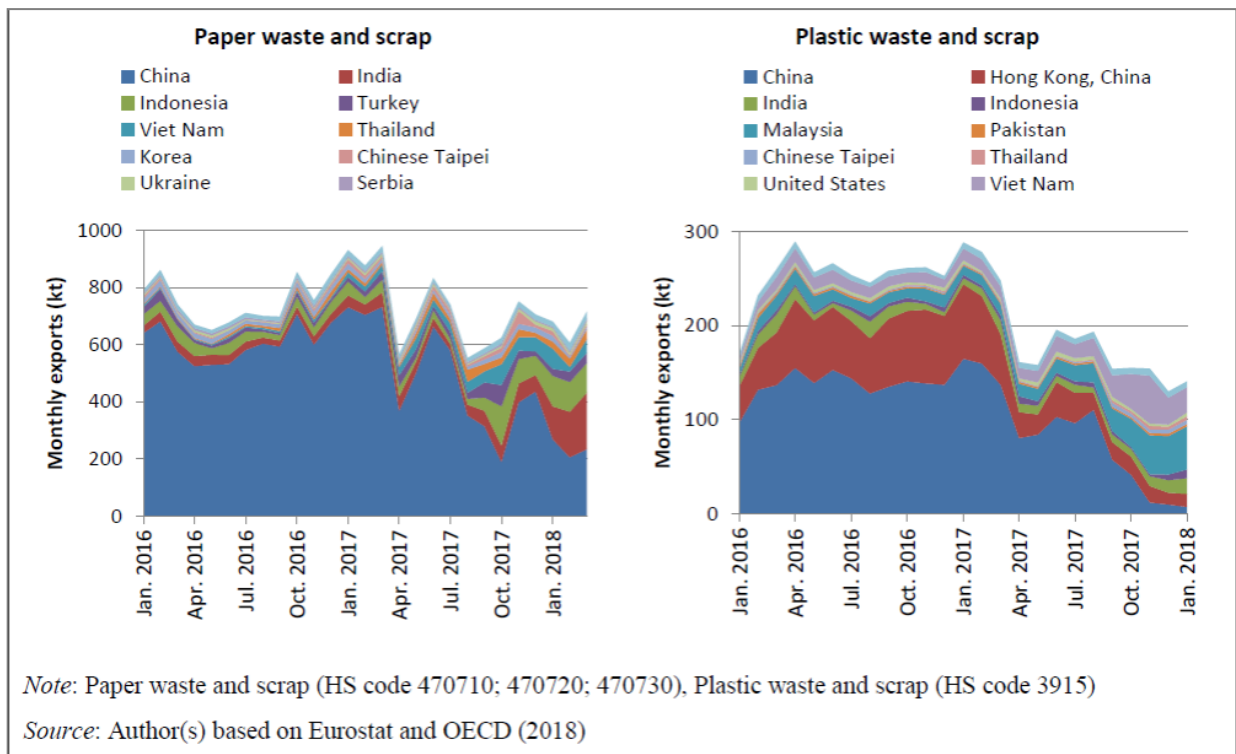


Figure 3-3: Trend in volumes of global waste and scrap traded internationally⁴¹



⁴⁰ The Economics of the International Trade of Waste, Derek Kellenberg, 2015
<https://www.annualreviews.org/doi/abs/10.1146/annurev-resource-100913-012639>

⁴¹ Eurostat Comext database

3.2.2. Trends from an EU perspective

The EU is an important player in the global waste market. In 2016, it is estimated that export of waste from the EU to third countries outside the EU amounted to around 40 million tonnes⁴², representing approximately 20% of the global export of waste. At the same time, approximately 13 million tonnes of waste were imported into the EU (Table 3-1).

Table 3-1: EXTRA EU 28 exports of waste in tonnes (hazardous and non-hazardous waste excluding major mineral waste)

	2010	2012	2014	2016
Import	14 011 973	10 883 732	11 204 843	12 909 806
Export	38 929 770	41 339 432	37 266 272	39 861 887

Source: Eurostat estimations based on Comext and data from the Member States

The majority of wastes exported from the EU are “**green-listed**” wastes, which are not subject to the notification procedure. Metal, paper, cardboard and plastic waste represent the largest share of these waste. Findings from 2018 indicate that the top-five importing countries for these wastes were all Asian non-OECD countries (India, Indonesia, China, Vietnam and Pakistan)⁴³. The main importer of paper waste and scrap from the EU is still China, followed by India, Indonesia and Vietnam. A recent report by the European Environmental Agency⁴⁴ found that Malaysia, Turkey, Hong Kong, Indonesia, Vietnam, and India have become the EU’s main trade partners for plastic waste plastic in recent years.

China represented by far the largest importer of such wastes. The situation has changed radically with the recent decisions by the Chinese authorities to restrict the import of various categories of wastes into its territory (see also Figure 3-3 above).

Plastic waste is a topical example of these changes. The EU export of plastic waste had considerably increased in the last decades, amounting to 3.1 million tonnes in 2016. Most of the export was destined to non-OECD countries. With the recent policy decisions in China and other countries in the South-East Asian region to halt or restrict the import of plastic waste, the overall volume of export of plastic waste outside the EU has decreased and export has shifted to new destination countries, which were not important players in the trade in plastic waste before, such as Turkey. As a result, the EU export of plastic waste to non-OECD countries has gone down, while export to other OECD countries (mainly Turkey) has tripled between 2016 and 2018 (see figures 3-4).

⁴² Data from Eurostat on export of all waste streams, except mineral waste, based on customs information and available data from Member States

⁴³ Preliminary findings in the context of the ongoing study to support the update of Commission Regulation (EC) 1418/2007

⁴⁴ EEA (2019) “The plastic waste trade in the circular economy”

<https://www.eea.europa.eu/themes/waste/resource-efficiency/the-plastic-waste-trade-in>

Figure 3-4a: Annual imports and exports of plastic waste from the EU to non-OECD countries: trend 2005 – 2018

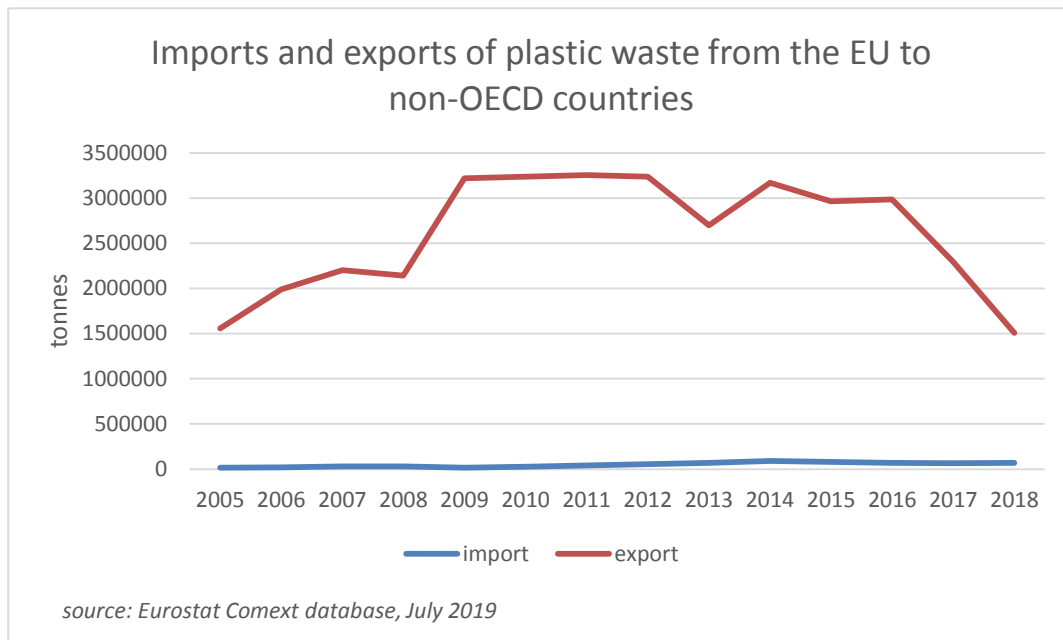
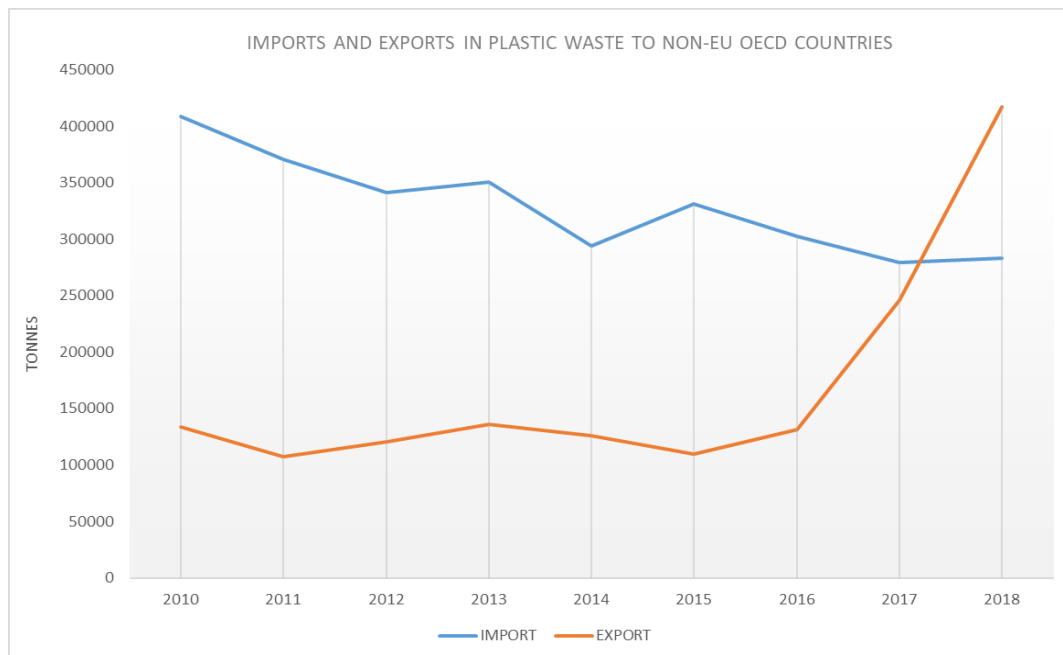
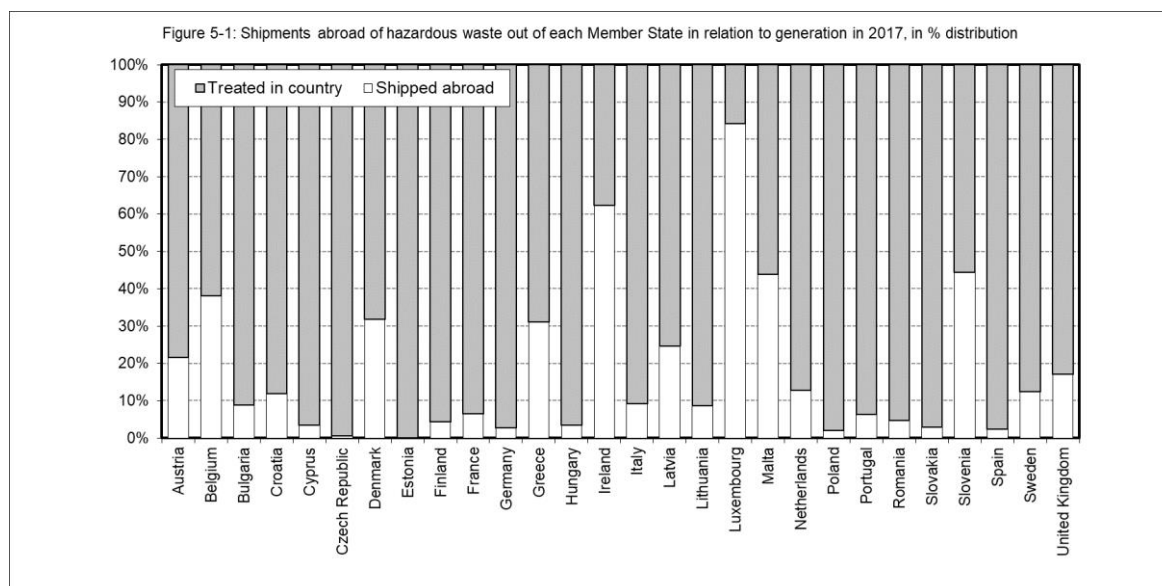


Figure 3-4b: Annual imports and exports of plastic waste from the EU to non-EU OECD countries: trend 2010 – 2018



Wastes subject to the notification procedure (mostly hazardous waste and mixed municipal waste) are primarily treated in the EU Member State where they are generated. This is especially the case for hazardous waste (see Figure 3-5). When they are shipped abroad, they are mainly destined for another EU Member State (see Figure 3-6 below).

Figure 3-5: Shipments of Hazardous Waste out of Each Member State in Relation to Generation in 2017, in % distribution



Source: European Commission (2018)⁴⁵

The export outside the EU of waste subject to the notification procedure amounted to 1,9 million tonnes in 2017 (including hazardous waste, the export of which amounted to 0,72 million tonnes) and the large majority of these waste was destined to EFTA countries⁴⁶ (see figures 3-6, 3-7 and Table 3-2, which provide an overview of the origin and destination of transboundary shipments of waste subject to the notification procedure and of hazardous waste from EU Member States). The export of such waste outside the OECD is prohibited.

⁴⁵ Commission Staff Working Document SWD (2018) 468 final accompanying the 2018 report from the Commission to the European Parliament and the Council on the Implementation of Regulation (EC) No 1013/2006 of 14 June 2006 on shipments of waste, https://eur-lex.europa.eu/resource.html?uri=cellar:44a84bd6-ee4e-11e8-b690-01aa75ed71a1.0001.02/DOC_1&format=PDF, figure updated with recent Eurostat data.

⁴⁶ See report COM(2018) 762 final on the implementation of the waste shipment regulation and the accompanying staff working documents, see <https://ec.europa.eu/environment/waste/shipments/reports.htm>

Figure 3-6: Destination of All EU Notified Waste, 2001-2017, in kilotonnes

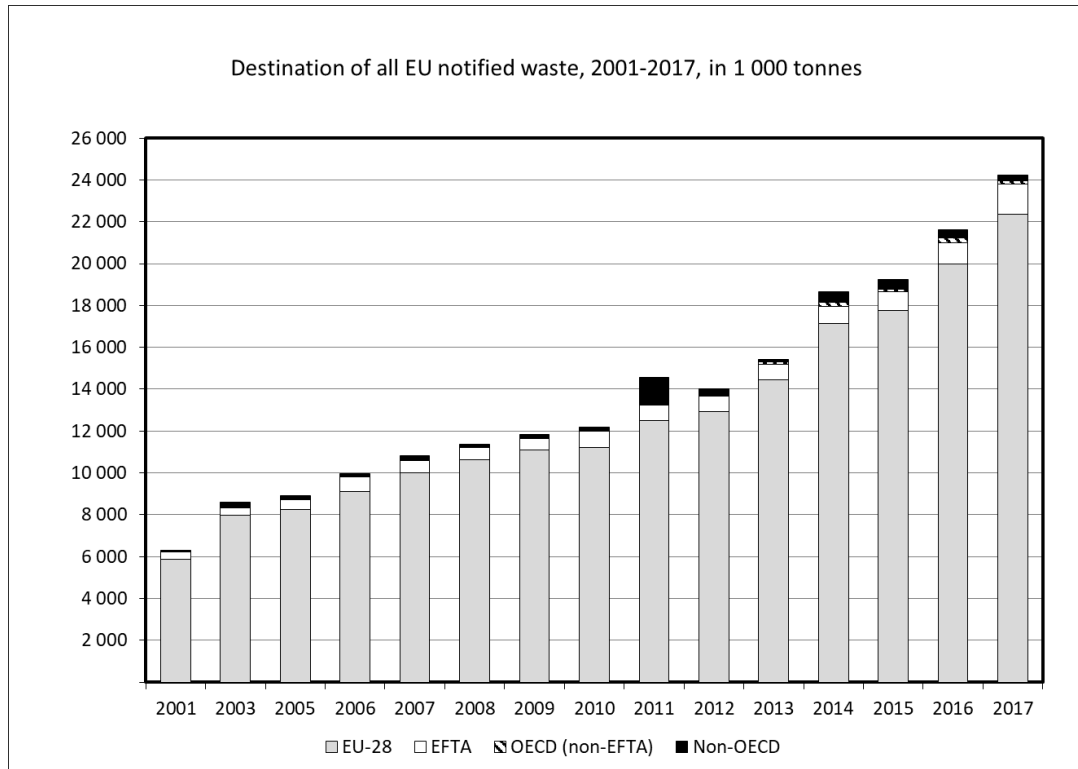
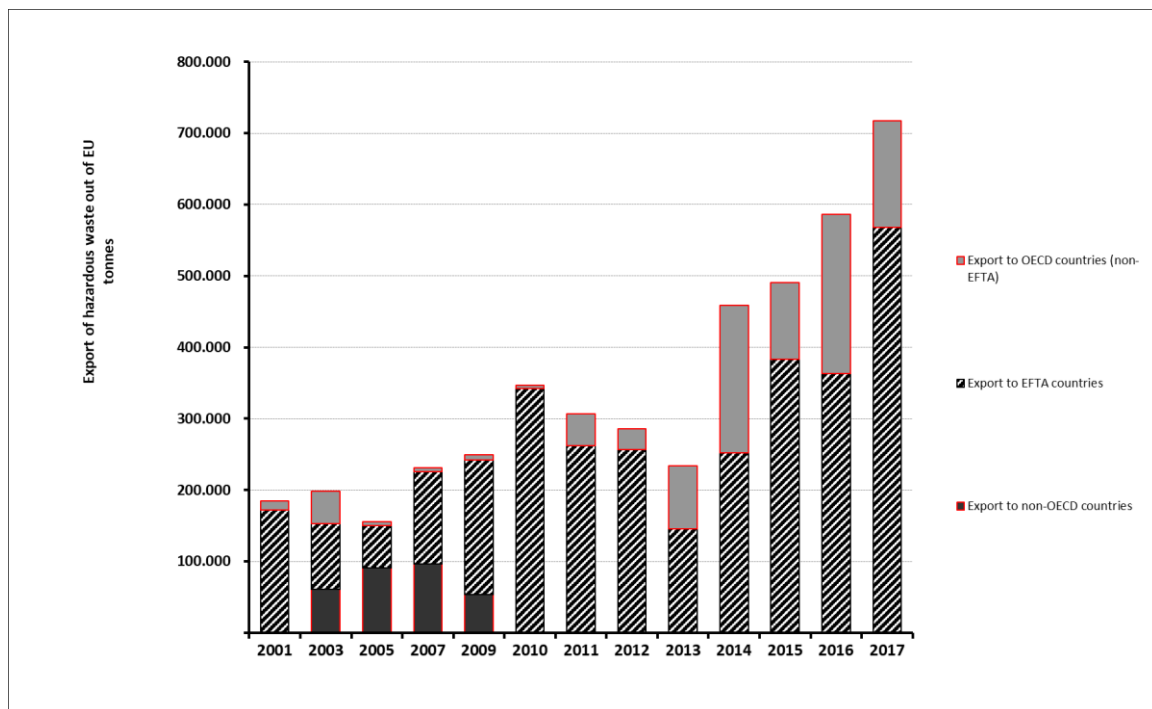


Figure 3-7: Export of Hazardous Waste out of the EU (all treatments), 2001-2017, in tonnes



Source 3.6+3.7: European Commission (2018) https://eur-lex.europa.eu/resource.html?uri=cellar:44a84bd6-ee4e-11e8-b690-01aa75ed71a1.0001.02/DOC_1&format=PDF, figure updated with recent Eurostat data.

Table 3-2: Origin and destination of hazardous waste transboundary shipments from EU Member States⁴⁷

From	Year	To					Total
		EU-28	EU-15	EFTA	OECD (non-EFTA)	Non-OECD	
EU-28	2001	3 785	3 768	171	12	1	3 970
	2003	4 223	4 167	93	45	61	4 422
	2005	6 629	6 599	59	6	91	6 785
	2007	7 874	7 759	129	6	97	8 106
	2009	7 177	6 959	189	8	53	7 427
	2010	5 925	5 713	343	5	:	6 272
	2011	5 848	5 712	262	45	:	6 155
	2012	5 066	4 892	256	29	0	5 351
	2013	6 386	6 205	146	88	0	6 619
	2014	5 571	5 339	252	207	:	6 030
	2015	5 608	5 362	383	107	:	6 098
	2016	5 893	5 564	363	223	:	6 479
	EU-15	2001	3 729	3 724	171	6	1
2003		4 099	4 094	93	41	7	4 239
2005		6 529	6 508	59	3	75	6 665
2007		7 606	7 549	129	3	97	7 835
2009		6 954	6 827	189	8	53	7 204
2010		5 729	5 573	343	4	:	6 076
2011		5 672	5 595	262	45	:	5 979
2012		4 874	4 764	256	28	:	5 158
2013		6 171	6 066	140	86	:	6 397
2014		5 291	5 154	252	203	:	5 746
2015		5 303	5 153	375	101	:	5 779
2016		5 603	5 371	355	122	:	6 080

“-” not available
Source: Eurostat

The import into the EU of waste subject to the notification procedure amounted to 5 million tonnes in 2015 (including hazardous waste, the import of which amounted to 2,7 million tonnes) (see Figures⁴⁸ 3-8 and 3-9 below).

Section 5 provides additional information on shipments of waste between EU Member States.

⁴⁷ Table from Eurostat, see https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste_shipment_statistics

⁴⁸ Source: Commission Staff Working Document SWD (2018) 468 final accompanying the 2018 report from the Commission to the European Parliament and the Council on the Implementation of Regulation (EC) No 1013/2006 of 14 June 2006 on shipments of waste, https://eur-lex.europa.eu/resource.html?uri=cellar:44a84bd6-ee4e-11e8-b690-01aa75ed71a1.0001.02/DOC_1&format=PDF

Figure 3-8: All Hazardous Waste and Other Notified Wastes Shipped into EU-groups, 2001-2015, in kilotonnes

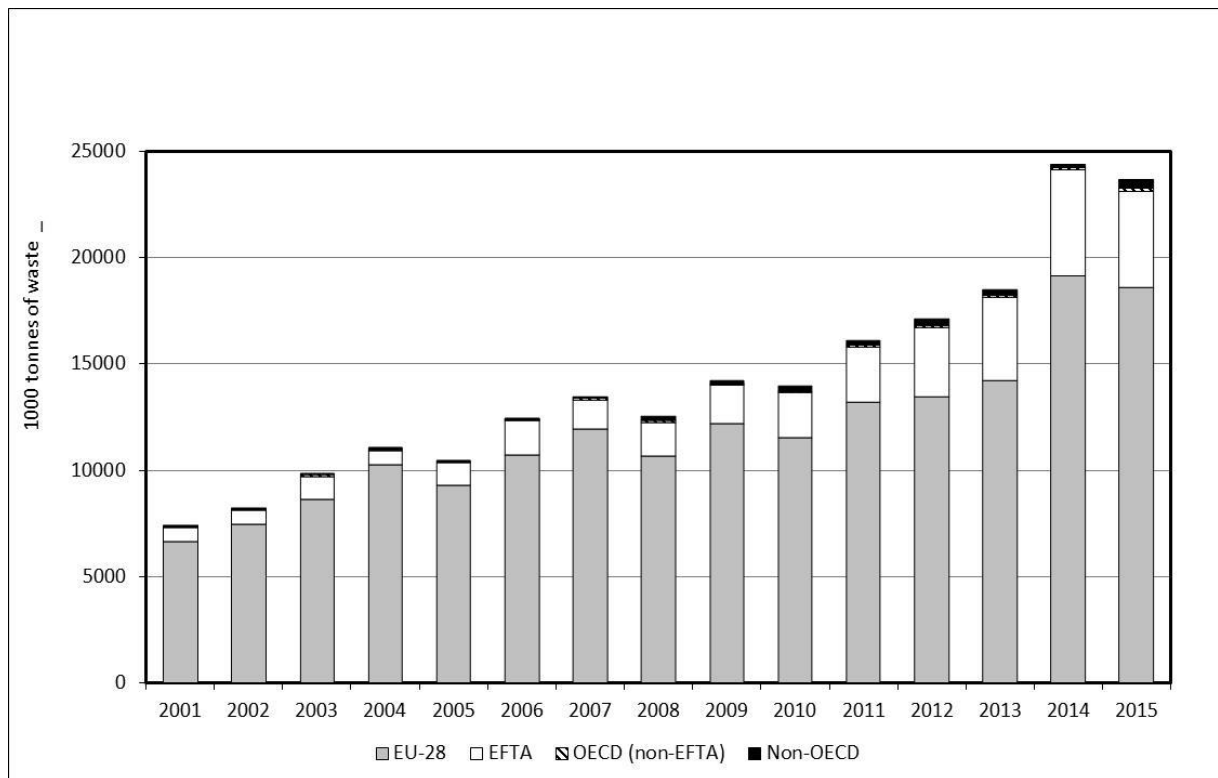
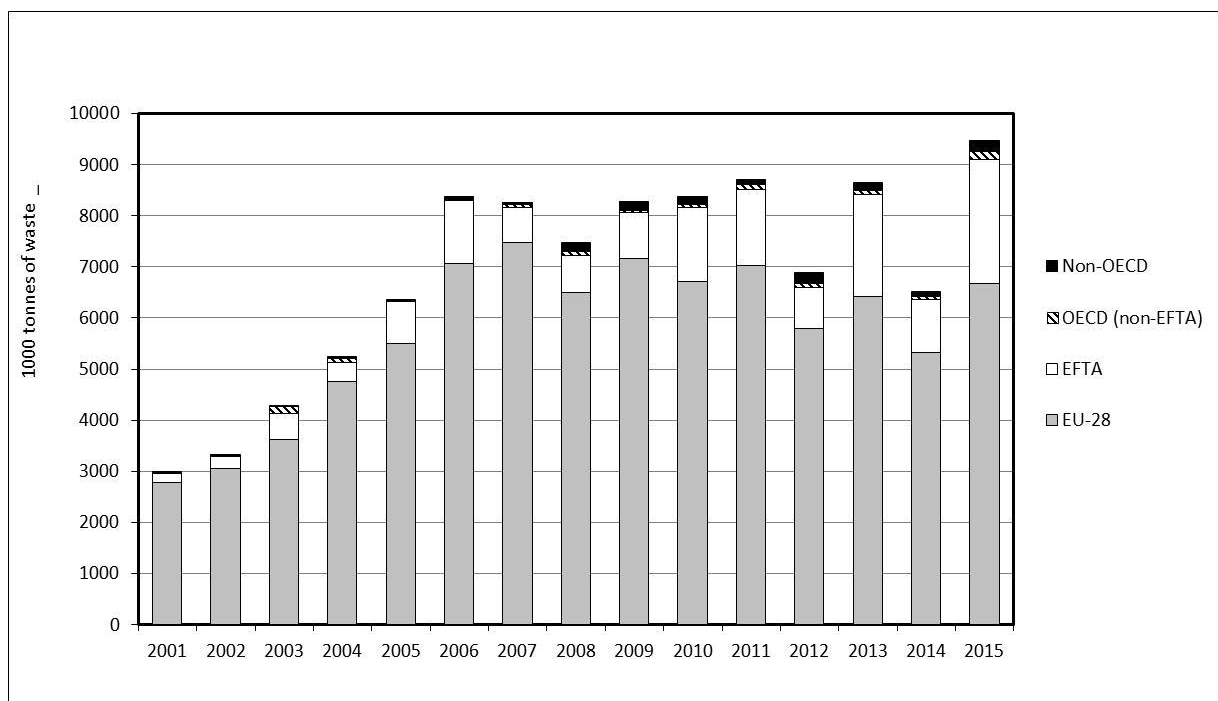


Figure 3-9: All Hazardous Waste Shipped into EU-28, 2001-2015, in kilotonnes



4. METHOD

4.1. Evaluation questions

In line with the Commission's better regulation policy⁴⁹, this report assesses the Regulation according to five **evaluation criteria**: effectiveness, efficiency, relevance, coherence and EU added value. To this end, the report answers the following evaluation questions:

Effectiveness:

- To what extent have the objectives been achieved?
- What factors influenced the achievements observed?

Efficiency:

- To what extent are the costs involved justified/proportionate, given the effects which have been achieved?
- What factors influenced the efficiency with which the achievements observed were obtained?

Relevance:

- How well do the original objectives correspond to the policy objectives of the EU (and its global partners)?
- How well adapted is the WSR to (subsequent) technical and scientific progress and EU and global market developments?
- How relevant is the WSR in the context of the EU's international obligations resulting from inter alia the Basel Convention and the relevant OECD Decision?
- Is there any provision irrelevant or outdated/obsolete in the WSR?

Coherence:

- To what extent is the WSR (together with Regulation (EC) No 1418/2007) coherent with other European policies? How do different policies affect positively or negatively the implementation of the WSR?
- To what extent is the WSR coherent internally, including Regulation (EC) No 1418/2007?
- To what extent are strategies/ legislation at Member State level coherent with the WSR, in particular Article 33 on shipments within a Member State?
- To which extent is the WSR coherent with international commitments on waste?

EU added value:

- What has been the EU added value compared to what could be achieved by Member States applying national rules across the EU and/or implementing

⁴⁹ <https://ec.europa.eu/info/sites/info/files/better-regulation-guidelines-evaluation-fitness-checks.pdf>
https://ec.europa.eu/info/sites/info/files/file_import/better-regulation-toolbox-47_en_0.pdf

multilateral environmental agreements in this field (the Basel Convention and OECD Decision)?

- To what extent do the issues addressed by the WSR continue to require action at EU level?
- What has been the EU added value of the Regulation EC No 1418/2007 on the export for recovery of certain non-hazardous waste to non-OECD countries?
- What would be the most likely consequences of stopping EU action?

4.2. Short description of methodology

The Commission first published a **roadmap** for the evaluation of the WSR process in 2017⁵⁰. The Commission also worked with a consortium of consultants which produced in May 2019 a study designed to support this evaluation⁵¹.

The main steps undertaken and sources of information used for this evaluation are the following:

- A review of existing literature (including stakeholders' feedback on the REFIT platform and on the Evaluation Roadmap);
- Data from the annual reports by Member States, notably as compiled and analysed by the Commission in 2018 in its last tri-annual implementation report⁵²;
- A set of initial targeted interviews with a variety of stakeholders to assist in scoping the evaluation;
- An open public consultation held via the European Commission's public consultation website⁵³. 215 stakeholders responded to this consultation, of which approx. half were from the business community;
- Targeted online consultation of Member State Competent Authorities, Trade Associations, Non-Governmental Organisations and other stakeholders;
- Targeted interviews with Member State Competent Authorities, Trade Associations, Non-Government Organisations and other stakeholders; and
- Two workshops, the first of which was used to assist in determining the scope of the evaluation and the second of which was held with the aim of confirming the results of the evaluation. The workshops involved representatives of Member States, Trade Associations and Non-Governmental Organisations as well as a limited number of private companies.

⁵⁰ http://ec.europa.eu/smart-regulation/roadmaps/docs/2017_env_026_waste_shipment_evaluation_env.pdf

⁵¹ <https://op.europa.eu/en/publication-detail/-/publication/926420bc-8284-11e9-9f05-01aa75ed71a1/language-en/format-PDF>

⁵² Commission Staff Working Document SWD (2018) 468 final accompanying the 2018 report from the Commission to the European Parliament and the Council on the Implementation of Regulation (EC) No 1013/2006 of 14 June 2006 on shipments of waste, https://eur-lex.europa.eu/resource.html?uri=cellar:44a84bd6-ee4e-11e8-b690-01aa75ed71a1.0001.02/DOC_1&format=PDF

⁵³ https://ec.europa.eu/info/consultations_en

More information on the methodology and process followed for this evaluation (including on the consultation of stakeholders) can be found in the Annexes to the present report and on the webpage of the European Commission dedicated to the evaluation of the WSR⁵⁴.

4.3. Limitations and robustness of findings

Timeframe

The WSR has been subject to several amendments, the most recent of which came into force at the end of July 2016. Experience with the implementation of the provisions included through this latest amendment is limited, so that their evaluation cannot be as thorough as for other provisions.

Establishing the link between the Regulation and trends in waste shipments

While they seem to represent useful indicators to assess the implementation of the WSR, it is important to stress that the trends in waste shipments are largely impacted by external factors which are independent from the Regulation, such as economic growth and import policies by importing countries.

For example, during the period 2001-2007 there was a growth in shipments of hazardous waste for disposal and recovery within the EU and from the EU. However, since 2007 there has been a 20 percent decrease in such shipments. Whilst this coincides with the introduction of the WSR, it is likely that the decrease is largely the result of the financial and economic crisis in 2008. Decoupling such external impacts on waste shipments from the changes resulting from the WSR is subject to a large degree of uncertainty.

More recently, as indicated above, another key element impacting waste trade flows were the decisions by China, but also other Asian countries, to restrict the import of plastic waste and other non-hazardous wastes that were typically and massively exported from the EU.

These factors were taken into account when performing the evaluation, building on as much data and other evidence as could be gathered.

Data

The data on waste shipments reported by Member States have several limitations, including different approaches of Competent Authorities when determining waste types and reporting the data accordingly. Furthermore, the determination of end of waste is inconsistent across the EU resulting in certain categories of materials categorised as waste in one Member State and as product and, therefore, not reported in another Member State.

⁵⁴ http://ec.europa.eu/environment/waste/shipments/evaluation_of_the_wsr.htm#

Getting a clear view on the magnitude of illegal shipments is also challenging. Only limited information, mostly from reporting by the Member States or targeted initiatives by bodies like IMPEL, is available and little or no systematic research has been carried out on this issue.

Actual data on costs is limited and not readily available in public literature. Costs and benefits have been addressed quantitatively in most cases, and qualitatively in some cases.

Various data provided in the consultation and in public literature are from different years, thus making it difficult to establish a reference year for the analysis of trends in the application of the WSR. In addition to this, there were variations in the degree of details provided by the consulted stakeholders.

Also there has been a varied response rate to the surveys undertaken for the supporting study. This was taken into account when aggregating the answers to several questions. Some stakeholders based their answers on their subjective opinion without providing further explanations or data to support their statements. This brings the risk of misleading/biased answers. This was also taken into account in concluding on some of the issues.

There are good quality data available on the trade in waste, globally and within the EU. Eurostat maintains an extensive database, and global trade data is also available on the UN Comtrade database. For a number of questions triangulation of findings provided for robust conclusions, for other questions targeted consultations and interviews of key experts and stakeholders have delivered the necessary insights.

Despite the limitations, the data that form the basis for the findings in this evaluation are considered sufficiently solid.

5. ANALYSIS AND ANSWERS TO THE EVALUATION QUESTIONS

5.1. Effectiveness

5.1.1. To what extent have the objectives been achieved?

The objectives identified in section 2.2. above are used to assess the effectiveness of the WSR.

5.1.1.1. Effectiveness in achieving objective nr. 1: To ensure that wastes shipped between EU Member States are managed in an environmentally sound manner during their shipment and transported to a suitable destination for their treatment, in accordance with the relevant EU waste legislation, including the principles of proximity and self-sufficiency and priority for recovery.

The volume of waste shipped within the EU, as well as the destination treatment for these waste, are key element to assess the effectiveness of the WSR with regard to this objective, which relates exclusively to intra-EU movements of waste.

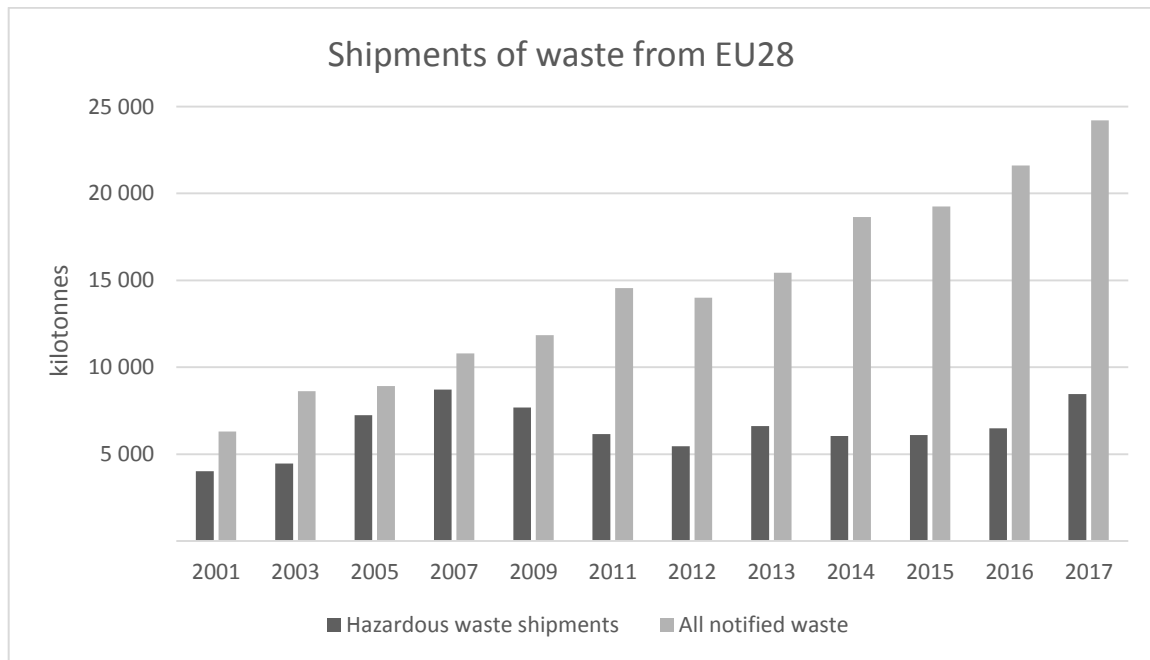
This section will refer to some of the data provided in section 3.2. These data are useful to assess the effectiveness of the WSR in achieving the objective set out above. Some positive aspects can be identified, but also some negative (see further below).

Around 8,5 million tonnes of hazardous wastes were shipped from EU Member States in 2017 (Figure 5-1), mostly to other EU Member States. The proportion of hazardous waste which is shipped outside the Member States where it is generated, compared to the amount of such wastes which are treated domestically, is generally low (see Figure 3-5). There are however important differences between the Member States, with some Member States (Ireland and Luxembourg especially, and Malta, Slovenia and Belgium to a lesser extent) shipping a considerable share of their hazardous waste abroad. The volume of shipments of hazardous wastes has been relatively steady since 2007, fluctuating between 5 and 8,7 million tonnes/year.

The shipments of other “notified waste” has been multiplied by nearly 7 between 2001 (2,3 million tonnes) and 2017 (15,6 million tonnes) (see Figure 5-1). Over the same period, the generation of these wastes in the EU went down (see Figure 5-2). This is largely due to the increasing amount of shipments of wastes collected from households and unlisted waste. As indicated in Section 5.1.1.2., a large majority of these wastes were shipped within the EU/EFTA area, and the rest to OECD countries.

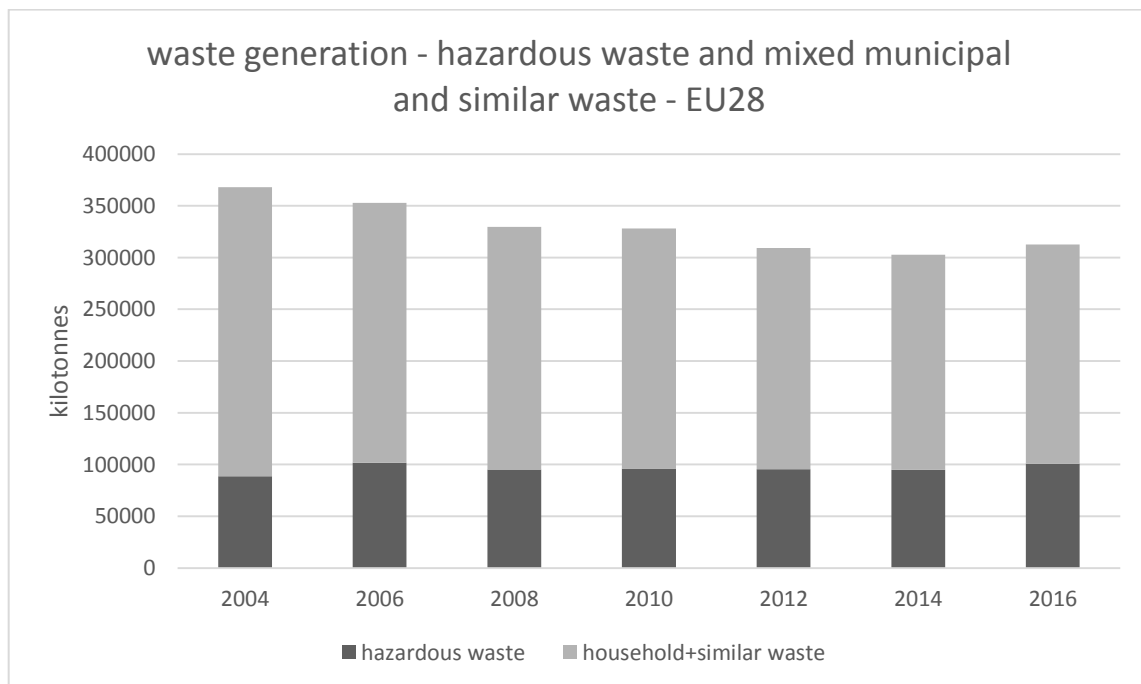
Overall, the volume of notified waste (mostly consisting of hazardous waste and household waste) shipped abroad and therefore not treated in the EU Member State where it was generated represented in 2016 around 10% of the overall amount of notified waste generated in the EU. This represents a relatively limited volume and show that these wastes are largely dealt with in accordance with the proximity principle in the EU, bearing in mind though that this proportion is much higher for some EU Member States.

Figure 5-1: Shipments of hazardous and other notified waste from EU28



Source: European Commission (2018)⁵⁵

Figure 5-2: Waste generation in the EU28 – hazardous and other notified waste



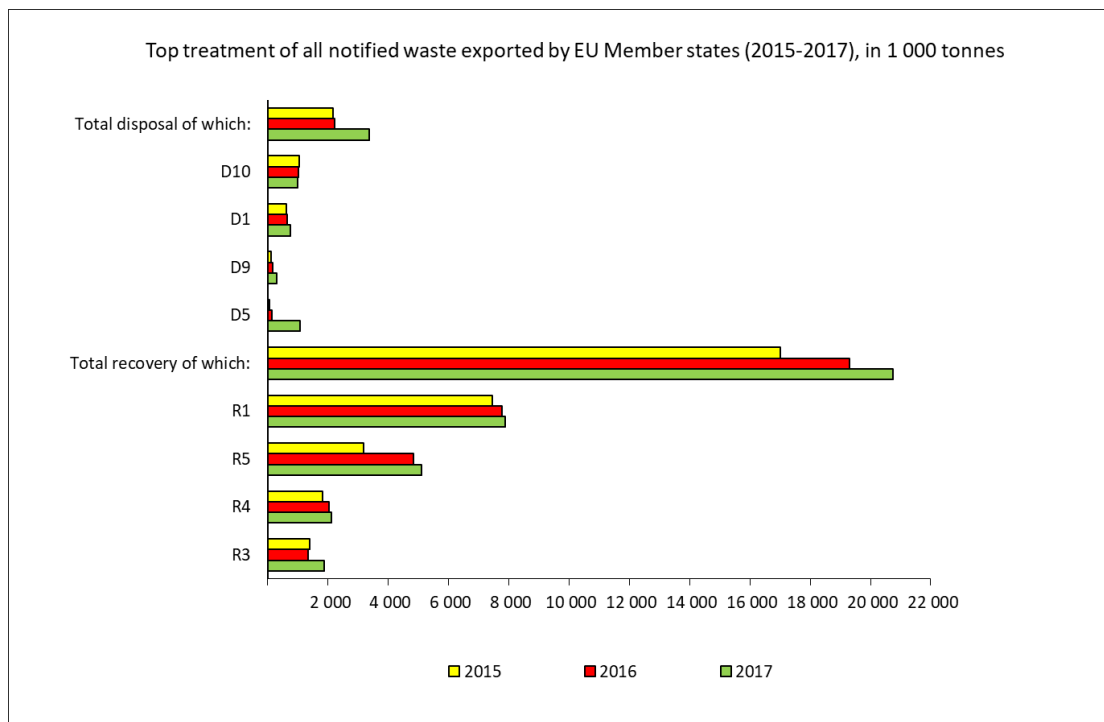
Source: Eurostat database: https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=env_wasgen&lang=en

⁵⁵ Commission Staff Working Document SWD (2018) 468 final accompanying the 2018 report from the Commission to the European Parliament and the Council on the Implementation of Regulation (EC) No 1013/2006 of 14 June 2006 on shipments of waste, https://eur-lex.europa.eu/resource.html?uri=cellar:44a84bd6-ee4e-11e8-b690-01aa75ed71a1.0001.02/DOC_1&format=PDF, figure updated with recent Eurostat data.

As shown in Figure 5-3, the large majority of “notified” waste is shipped for recovery operations, rather than disposal operations. This demonstrates that the WSR has been implemented in a way which is consistent with the principle that priority should be given to recovery over disposal for wastes exported outside a Member State. However, when looking in more detail at the destination treatment operation, most waste is still shipped to be incinerated with energy recovery (R1), and a smaller amount is shipped for recycling (R3-R4-R5), which is higher on the waste management hierarchy. It can be concluded that –in general- no priority is given at the moment for recycling over other forms of recovery when shipping waste abroad.

The fact that notified wastes are treated in the Member State where they were generated, or, to a lesser proportion, in another EU Member State (see also Figure 3-7), and that they are generally shipped for recovery are important indicators that these wastes are managed in an environmentally sound manner, given the EU acquis on waste management, and in line with the objective of the WSR.

Figure 5-3: Top Treatment of all Notified Waste shipped from EU Member States, 2015-2017, in kilotonnes



Source: European Commission (2018)⁵⁶

The above assessment relates to legal shipments of notified wastes. The assessment of the effectiveness of the WSR in achieving its objective to protect the environment and public within the EU should also take account of the problems posed by illegal shipments of waste. The prevalence of **illegal shipments of waste** is indeed a source of serious

⁵⁶ Ibid.

concern. In its latest EU Serious and Organised Crime Threat Assessment report⁵⁷, Europol points out to the involvement of criminal actors in illicit waste trafficking. Addressing waste trafficking was identified for the first time as a priority in the overall EU policy against organised crime for the period 2018-2021⁵⁸. Violations of EU waste legislation are also identified as areas where more efforts are foreseen as part of the 2018 Commission Communication on EU actions to improve environmental compliance and governance⁵⁹. Data are difficult to obtain on illegal shipments of waste, as for any other illegal activities. One source of data are the annual reports by Member States that contain information on illegal waste shipments⁶⁰. Overall, an increased amount of illegal cases is reported, however there is significant variation in the amount of reported cases per Member States, as well as in the level of detail of the reported information. In any case it only concerns the number of recorded illegal shipments of waste that is detected by Member State authorities. The actual number is expected to be higher.

Another important source of information is IMPEL, which regularly performs coordinated enforcement campaigns. Data compiled by IMPEL as part of campaigns with a large number of enforcement agencies from EU Member States, show that violations of the WSR during inspections were estimated to be around 20% for the period 2008-2011, 32% for 2012-2013 and 15%⁶¹ for 2014-2015⁶². While these rates relate to all types of violation – including those concerning mistakes in administration – they indicate that potentially thousands of illegal waste shipments occur every year. Most illegal shipments appear to be intra-EU movements, but yet still a fair amount of waste is exported illegally to countries outside the EU. This nuances the positive signals on the achievement of the objectives above. Inspection and monitoring efforts have over the years systematically increased, although progress can still be made. At the same time, important amounts of detected illegal shipments should not be systematically considered as evidence of the ineffectiveness of the WSR in achieving its objectives. A growing attention for the phenomenon of illegal shipments and how to detect them, together with the continuous rise in waste generated can probably also account for the increasing number of illegal shipment being detected.

From the fact that not all EU Member States participate to coordinated actions nor exchange information with agencies from other Member States, IMPEL concludes that considerable effort is still needed to move towards better enforcement to close ‘escape routes’ (e.g. by port-hopping) from the EU. This aspect is more extensively discussed in section 5.1.1.4 below.

⁵⁷ <https://www.europol.europa.eu/activities-services/main-reports/european-union-serious-and-organised-crime-threat-assessment-2017>

⁵⁸ <http://data.consilium.europa.eu/doc/document/st-9450-2017-init/en/pdf>

⁵⁹ https://ec.europa.eu/environment/legal/pdf/COM_2018_10_F1_COMMUNICATION_FROM_COMMISSION_TO_INST_EN_V8_P1_959219.pdf

⁶⁰ Commission Staff Working Document SWD (2018) 468 final accompanying the 2018 report from the Commission to the European Parliament and the Council on the Implementation of Regulation (EC) No 1013/2006 of 14 June 2006 on shipments of waste, gives an overview of this information for the period 2013-2015: https://eur-lex.europa.eu/resource.html?uri=cellar:44a84bd6-ee4e-11e8-b690-01aa75ed71a1.0001.02/DOC_2&format=PDF. More recent annual reports have been submitted since then, covering the period until 2017.

⁶¹ <https://www.impel.eu/wp-content/uploads/2016/10/IMPEL-Enforcement-Actions-2014-15-FINAL-report.pdf>

⁶² These data result from a specific initiative and should be regarded in their context, without basing general conclusions on illegal shipments on them.

IMPEL findings in 2016⁶³ show that the waste streams most commonly detected in transport violations were metals (19%), paper and cardboard (14%), plastics (13%), waste electrical and electronic equipment (WEEE) (12%) and end-of-life vehicles and car parts (11%). The latter two would in many cases be subject to the notification procedure, but so far metals, paper and plastics are mostly shipped as green listed waste under the general information requirements in Art. 18 of the WSR. Section 3.2.1 shows the increasing amounts of these sorts of waste being shipped globally. The difficulty to properly control shipments of these waste streams affects negatively the attainments of the objective of the WSR but, as this relates mostly to export outside the EU, this is discussed in the next section.

One of the underlying reasons for the persisting occurrence of illegal shipments is the lack of uniform enforcement throughout the EU (see also section 5.1.1.4). Since 2018, following the 2014 amendments of the WSR on enforcement⁶⁴, Member States have to report every year on the measures they take to address illegal shipments of waste (inspection plans), but as this information is gathered at EU level since 2018 only (for the reporting year 2017), it remains at the moment rather limited and no thorough analysis could be made yet on their effectiveness. At the moment general information on the prevention and handling of illegal shipments is reported, with some details on the amount of inspections and detected cases. The existence of national or regional inspection plans is reported, but not the plans themselves. There are furthermore no mechanisms foreseen in the current WSR reporting obligations to compare or otherwise assess these plans and the resulting outcome on the ground. The only official forum where these issues are debated at the EU level is the waste shipment correspondents meeting which convenes once a year. However, experience shows that enforcement issues only feature as a minor point on the agenda of these meetings. Moreover, the group of correspondents seems to be limited in its capability to serve as a body to really steer cooperation against illegal waste shipments across the EU from an operational point of view.

Hence no clear nor sufficiently detailed insights on the effectiveness of the control and enforcement of the WSR by the national authorities of the EU Member States can be obtained through reports at the moment. Revisiting the reporting requirements, *inter alia* on the inspection plans may bring added value.

It seems in any case apparent that the resources put into enforcement throughout the Member States differs considerably⁶⁵. The same is true for cooperation between Member States on enforcement. IMPEL represents in practice the body where enforcement of the WSR is mostly discussed and where coordinated actions among some enforcement agencies are taken, together with Europol, as part of its programme of work against environmental crime. There is however no official process for defining EU priorities on how to deal with illegal shipments of waste or steer such actions at the EU level. Section 5.1.1.4 further elaborates on the lack of uniform enforcement.

⁶³ <https://www.impel.eu/transboundary-enforcement-actions-project-results-in-17500-inspections/>

⁶⁴ *Inter alia* Art. 50(2a)

⁶⁵ This is also found in the recent GENVAL exercise where mutual evaluations throughout Member States were carried out to look into the practical implementation and operation of the European policies on prevention and combating environmental crime, with a special focus on illegal waste trafficking. More details on this can be found in section 5.1.1.4.

5.1.1.2. Effectiveness in achieving objective nr. 2: To ensure that wastes exported outside the EU do not create adverse effects on the environment or public health in the countries of destination, through the prohibition to export hazardous wastes to non-OECD Decision countries and wastes destined for disposal operations outside the EU/EFTA area, as well as through specific provisions on the export of other wastes;

As indicated in section 3.2. of this report, statistics show that the export from the EU of waste subject to the notification procedure (hazardous waste and household waste) represents a limited share of the waste generated in the EU and takes place mostly to EFTA countries (see figures 3-5, 3-6 and 3-7). This shows that the EU Member States have put in place the measures and procedures required to implement the main tools in the WSR relating to the export of such waste (notification procedure for OECD countries and export ban to countries outside the OECD). Similarly, data show that there are no (legal) exports of waste for disposal operations outside the EU/EFTA area, in line with the prohibitions set out in the WSR.

These findings must be counterbalanced with concerns relating to the prevalence of illegal shipments of waste, including wastes which might be subject to the notification procedure, outside the EU (see other sections of this report which deals more specifically with the issue of illegal shipments of waste).

The case of plastic waste illustrates one important challenge linked to the implementation of the waste shipment regulation in relation to the export of wastes which are not subject to the notification procedure (“green listed wastes”). Under the WSR, the export of such waste is subject to a number of conditions designed to ensure that the waste is managed without endangering public health and in an environmentally sound manner during the shipment and the treatment operations. More specifically, for export outside the EU, the wastes need to be operated “in accordance with human health and environmental protection standards that are broadly equivalent to standards established in the Community legislation”⁶⁶.

The revision of the WSR in 2014 led to the strengthening of the provisions on inspection and control applying to green listed waste⁶⁷. The new regime foresees notably that in order to ascertain whether a shipment of green-listed waste destined for recovery is in accordance with the requirements related to environmentally sound management, the inspection authorities may require the person who arranges the shipment to submit relevant documentary evidence, provided by the interim and non-interim recovery facility and, if necessary, approved by the competent authority of destination. Where the evidence has not been submitted to the authorities within the period specified by them, or they consider the evidence and information to be insufficient to reach a conclusion, the shipment concerned shall be considered as an illegal shipment. Experience shows however that the export of “green listed wastes” is often not controlled by national authorities as closely as the export of “notified wastes”. It is thus not always clear whether (and how) operators and authorities ensure that exported waste is treated in an environmentally sound manner. A recent study⁶⁸ was carried out to support the

⁶⁶ Art. 12 and 49 of the WSR

⁶⁷ See Article 50(4c) and (4d) of the WSR

⁶⁸ <https://op.europa.eu/en/publication-detail/-/publication/3d72ef00-bcac-11e9-9d01-01aa75ed71a1/language-en/format-PDF/source-102642024>

implementation of reporting obligations resulting from the new provisions on the waste framework legislation adopted in 2018. This study notably identified good practices and means of demonstrating compliance in ensuring that waste that has been exported for recycling outside the European Union is recycled in conditions broadly equivalent to EU standards. New rules on the reporting of data on waste under the Waste Framework Directive were also adopted in June 2019⁶⁹. These rules require Member States to provide a detailed description of measures to ensure that the exporter can prove that the shipment of waste complies with the requirements of the WSR and that the treatment of waste outside the Union took place under conditions that are broadly equivalent to the requirements laid down in relevant Union environmental law. This information, to be reported in the future by Member States, together with the further exploration of the findings of the before mentioned study, should help getting more elaborate views on how to best implement these provisions.

The case of the export of plastic waste from the EU shows that the implementation of these provisions has been challenging so far. In the last 15 years, the export of plastic waste has considerably increased, to a point where export outside the EU has become a common way to manage plastic wastes generated in the EU⁷⁰. In 2016, 3.1 million tonnes of plastic waste were exported from the EU to non-OECD countries. The recent decisions by China and other destination countries to ban the import of plastic wastes came as a result of growing concerns on the environmental and social impacts of these trade flows on their territories and in their marine environment⁷¹. Failing to monitor and control exports of green listed wastes is an issue as this can cause detrimental environmental impact in the importing countries: recent findings⁷² indicate that around 60% of all the plastics in global waters originates, also due to mismanagement of the waste, in exactly a number of these Asian destination countries for plastic waste from the EU.

This raises questions as to the effectiveness of the WSR in ensuring that the wastes were exported to destinations where the waste would be operated in conditions broadly equivalent to EU standards. For plastic waste, the regime will change from 2021 as a result of the decisions agreed at the Basel Convention in 2019, which will subject plastic waste to the PIC procedure, except for plastic waste that is non-hazardous and easy to recycle⁷³. For the EU, this change of classification in the Basel Convention will imply an export ban for such plastic wastes to non-OECD countries⁷⁴. The effectiveness of the monitoring of shipments of plastic waste which will not be subject to the notification regime, as well as of shipments of all other “green-listed” waste will however remain an issue that deserves full consideration.

⁶⁹ COMMISSION IMPLEMENTING DECISION (EU) 2019/1004 of 7 June 2019 laying down rules for the calculation, verification and reporting of data on waste in accordance with Directive 2008/98/EC of the European Parliament and of the Council and repealing Commission Implementing Decision C(2012) 2384

⁷⁰ Similar situations have developed for other waste streams like paper waste and textile waste.

⁷¹ Cf. report by the European Environment Agency “*Plastics waste trade and the environment*” (2019), available at <https://www.eionet.europa.eu/etcs/etc-wmge/products/etc-reports/plastics-waste-trade-and-the-environment>

⁷² <https://qz.com/595673/more-than-half-the-plastic-in-the-ocean-comes-from-these-five-countries/>; the countries named there are: China, the Philippines, Thailand, Indonesia and Vietnam.

⁷³ <http://www.basel.int/TheConvention/ConferenceoftheParties/Meetings/COP14/tabid/7520/Default.aspx>

⁷⁴ It should be noted that for trade of plastic waste within the EU and/or the OECD discussions are ongoing in the framework of OECD.

This is also a problem in relation to the implementation of the new provisions of the Waste Framework Directive with respect to recycling targets. Until now, the calculation of the targets was often simply based on the amount of waste collected for recycling; this included waste exported outside the EU, which was deemed to be exported for recycling. In the case of plastic waste, the export represented half of the amount of waste collected for recycling⁷⁵. Through Directive (EU) 2018/851 amending the Waste Framework Directive, the recycling calculation method has changed: the recycling rate will now have to be calculated on the basis of the amount of plastic waste which enters the recycling process. This stricter calculation method will require additional monitoring from exporting companies and competent authorities from exporting EU Member States as well as from countries of destination⁷⁶. This issue is addressed in the reporting requirements adopted by the Commission in June 2019⁷⁷.

In the current situation, the export of green-listed waste remains an issue where progress needs to be made to ensure that the objectives of the WSR are fully achieved. The changing patterns of global trade in waste commodities in the recent years, coupled with stricter calculation method for recycling targets, are causing changes in the management of *inter alia* plastic waste in Europe. European actors now have to consider the possible advantages of managing wastes in Europe, both from an economic and environmental point of view, as EU countries are in general technologically more advanced than other countries for the treatment of their waste.

5.1.1.3. Effectiveness in achieving objective nr. 3: The WSR is the implementation in EU law of the provisions of the Basel Convention and the OECD's Decision C(2001)107FINAL

The core provisions of the WSR stem from the Basel Convention and the OECD Decision. This is in particular the case for classification of wastes subject to the notification procedure and those exempted from this notification procedure, as well as the content of the notification procedure. The WSR prohibits the export of hazardous waste outside the OECD, thus also implementing the corresponding amendment to the Basel Convention, well before its entry into force globally on 5 December 2019.

In interviews, almost all stakeholders, both from competent authorities and private actors, agreed that the WSR has been largely beneficial in pursuing the objectives and provisions of *inter alia* the Basel Convention. In general, stakeholders from both public and private sectors reiterated that the WSR brought a robust way of transposing its requirements. They stated that if waste transport was only regulated by the Basel Convention, there would be more cases and areas where procedures would not be clear enough, which would make it more complicated to work with third countries each with their own interpretation. Moreover, the Basel Convention alone was not considered as providing enough control; without the level of detail of the WSR, there would be more risk of waste

⁷⁵ European Commission (2018) : Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, A European Strategy for Plastics in a Circular Economy, 2018(28)final.

⁷⁶ This means that the current calculation for achieving recycling targets for some waste streams (for which export represented an important share) might have to be re-evaluated.

⁷⁷ COMMISSION IMPLEMENTING DECISION (EU) 2019/1004 of 7 June 2019

flowing to the cheapest options, which would contradict the environmental protection targets of the EU.

5.1.1.4. Effectiveness in achieving objective nr. 4: To enable a uniform application of the regulation in all Member States

The following aspects were brought forward in this context:

- Differences in waste classification between Member States (waste vs non-waste, hazardous vs non-hazardous, listed vs “unlisted”);
- Different application and general differences in interpretation of the regulation. In this context existing guidance does not seem to be sufficient;
- Reporting of waste types is of low quality and is interpreted differently between Member States;
- Lack of uniform inspections and enforcement on waste shipments.

Differences in classification

Different waste classification among Member States, especially regarding green-listed wastes, results in companies not having legal clarity on shipments. One issue that was mentioned is the classification of wastes listed in annex III and IIIA and the thresholds for impurities to consider the waste as mixed waste. Whereas some Member States allow for higher amounts of impurities, other Member States classify waste as ‘mixed waste’ if they detect the presence of relatively low quantities of impurities. The issue of contamination or impurities was also mentioned during the stakeholder workshop. Furthermore, the question of the delineation between what constitutes a “mixture of wastes” and what constitutes a contamination was also raised as problematic.

The differences in the way that Member States decide on what is a waste and what ceases to be waste have been repeatedly raised as an important problem by actors involved in the shipment and treatment of waste in the EU. General conditions on the status of End of waste (EoW) are defined in the Waste Framework Directive⁷⁸. In practice, the competent authorities in the Member States retain a large margin of manoeuvre when it comes to deciding on the status of a commodity as waste or non-waste. For example, a material can be considered a non-waste in the country of dispatch, but it may be classified as a waste in the country of the facility that is receiving the material – which may then cause the shipment to be sent back. Competent authorities however pointed out that art. 28 in their view most often provides clarity on the procedures to apply in these cases. Divergent waste classifications and lack of mutual recognition (hazardous versus non-hazardous and waste versus non-waste (end-of-waste or by-product)) between Member States disrupt shipments to high quality recyclers and results in delays, regulatory uncertainty and unpredictability of shipments.

Stakeholders in general indicated that there is a need to harmonise waste classification⁷⁹. Also for a number of Basel codes, the description is very limited. It is often difficult to

⁷⁸ Article 6 of Directive 2008/98/EC on waste and repealing certain Directives, Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008L0098&from=EN>

⁷⁹ Feedback on the evaluation roadmap - Consultation Inputs from: BDE, EERA, EuRIC, EURITS, ERP, FEAD, RISG, Subdireccion General De Residuos, Finnish Environmental Industries YTP,

allocate such a code under the WSR. The publication in April 2018 of the Commission's technical guidance on the classification of waste (2018/C 124/01)⁸⁰, does not seem to alleviate the problems that actors face with allocating codes under the WSR.

Differences in interpretation and application

Different interpretations, for example of provisions in Art. 3⁸¹ and Art. 12⁸², result in restricting waste flows (and the free market). For example, some Member States request a higher amount of documentation than others.

In this context, stakeholders across all categories noted that illegal waste exporters look for legal loopholes in the legislation and that the ability to find loopholes is a factor that impacts the effectiveness of the regulation.

A number of recent court cases illustrate the room for interpretation linked to the lack of clarity of some provisions of the WSR and their different interpretation, sometimes in relation to other legislations:

- C-399/17: judgment in the framework of an infringement case, stating that the Commission cannot rely on Art. 28 of the WSR, but will have to prove that a certain substance is waste before it can apply the rules of the WSR (see para. 53).
- C-634/17 and C-21-23/19: both cases concern the interaction between the WSR and the Animal By-Products Regulation (ABPR), and more specifically the scope of the exemption of Article 1(3)(d) WSR in relation to the meaning of the term “approval requirements”.
- C-689/17: this judgment relates to the interpretation of the exclusion from the scope of the WSR of “*waste generated on board vehicles, trains, aeroplanes and ships, until such waste is offloaded in order to be recovered or disposed of*”.
- C-654/18 (and C-353/19 which was suspended by the Court awaiting the judgment in C-654/18) – no judgment yet: this case showed unclarity as regards what constitutes a “mixture of wastes”, especially as regards the interpretation of the concept of “one single entry”, which is used both in the definition of mixture of wastes in Art. 2(3) of the WSR and also in several instances in Art. 3 of the WSR in order to determine which procedure is applicable to a certain type of waste. What seems to be in particular unclear is whether one Basel Code (in this case B3020) qualifies as “one single entry” or whether it is rather all different indents and sub-indents that should be seen to qualify as “one single entry”. Furthermore, the question of the delineation between what constitutes a “mixture of wastes” and what constitutes a contamination is also considered in this case.

Anonymous 1, Anonymous 2, Fabrice Sancho (citizen), Arsi Saukkola (organisations other than business/companies/NGOs)

⁸⁰ As announced in the Commission's January 2018 Communication on options to address the interface between chemical, product and waste legislation.

⁸¹ Art. 3: Overall procedural framework

⁸² Art. 12: Objections to shipments of waste destined for recovery

Another issue relates to the so-called “**pre-consented facilities**”. The WSR (Article 14) foresees that the competent authorities of destination may decide to issue pre-consents to specific recovery facilities under their jurisdiction. The advantages of attaining this status are a faster delivery period for the consent and a longer lasting period in which shipments can take place. However, the specific procedures for the issuing of pre-consent are not laid down in the WSR and there seems to be a lack of commonly applied criteria or consistent interpretation between Member States of how to grant a facility the pre-consented status or how to implement the related shipment procedures. Moreover, the concept of pre-consented facilities is not accepted or trusted in all Member States, although it originates from the OECD Decision. Only 15 Member States have been making use of the provisions of the WSR on pre-consented facilities, and have in total reported a number of 331 pre-consented facilities within their borders to OECD⁸³. The other Member States have not reported any facilities and are considered not to apply the concept. In 2016 EERA⁸⁴ did a survey amongst competent authorities throughout the EU and found that only half of the authorities that responded apply the concept of art. 14 of the WSR and most of them apply it differently compared to each other. More recently, the North Sea Resources Roundabout⁸⁵ did a specific project on this matter, in search of remediation of the issues mentioned above.

A further specific issue concerns tacit consents by the competent authorities of the importing EU country. The period in which shipment can take place can differ, related to when tacit consent is considered to be given.

Another obstacle that was reported refers to the burdensome registration of carriers in multiple countries. In order to become a waste transporter, registration must take place with various competent authorities including fees to register and maintain this registration. It should be noted that these requirements stem from other legislation than the WSR, such as the Waste Framework Directive.

Waste Shipment Correspondents' Guidelines

The European Commission and Member State representatives have over the years jointly drafted guidelines on various topics, such as (the classification of) specific waste streams⁸⁶, the requirements in Article 18 and specification of a data model for the electronic data interchange.

These guidelines⁸⁷ represent the common understanding of all Member States on how some of the provisions of the WSR should be interpreted. These guidelines provide detailed guidance and offer assistance to Member States in their application of the WSR

⁸³ Data can be retrieved from the OECD database on Transboundary Movements of Wastes (last updated 5 November 2019)

<https://www.oecd.org/env/waste/theoecdcontrolsystemforwasterecovery.htm>

⁸⁴ European Electronics Recyclers Association

⁸⁵ <https://www.greendeals.nl/nieuws/international-green-deal-north-sea-resources-roundabout-work-new-case>

⁸⁶ Correspondents' Guidelines were developed on WEEE, waste generated by armed forces or relief organisations, end-of-life vehicles, the classification of fly ash, certain wood waste, slags, certain glass waste and waste cartridges containing toner or ink.

⁸⁷ Correspondents' Guidelines and other guidance documents. Available at: <http://ec.europa.eu/environment/waste/shipments/guidance.htm>

on a national level. The guidelines represent steps towards a more uniform implementation of the WSR. However, they are not legally binding, are only available in English and German⁸⁸, and are not sufficient to address all the difficulties linked to the implementation of the WSR. Moreover, it is unclear whether they are consistently implemented or even recognized throughout the EU.

Reporting

A large amount of data is recorded, linking to a variety of coding systems (Basel Convention, OECD, global customs codes, European list of Waste), but classification is done inconsistently. This negatively impacts effective comparison between Member States. Differing interpretations of waste classification between Member States may also affect data quality and reporting. Between 1995-2005 data regarding shipments of wastes between Member States should be considered with caution for cross-country comparison⁸⁹. While it predates the current WSR, according to an ETC/SCP report published in 2012, the quantities of waste are recorded differently when different waste classification schemes are considered and this could still be an issue today.⁹⁰

Lack of uniform enforcement

Stakeholders across all categories indicated that the WSR has contributed to harmonise inspection criteria and systems of inspection/controls among Member States. Furthermore, mainly public authorities indicated that the WSR has contributed to cooperation between Member States authorities. One factor that was identified as having a positive influence on the effectiveness of the WSR is the cooperation between the relevant competent authorities on the enforcement of the WSR and the work of IMPEL.

However, disparate systems of inspections/controls and lack of standardised inspection criteria, more specifically, on the frequency and quality of inspections undermine uniform enforcement of the WSR.

This is also one of the conclusions of the recent GENVAL exercise where mutual evaluations throughout Member States were carried out to look into the practical implementation and operation of the European policies on prevention and combating environmental crime, with a special focus on illegal waste trafficking⁹¹. The findings of this exercise are that in many Member States there is a fragmented landscape of enforcement bodies and considerable variations between Member States enforcement systems exist. In a few Member States well-functioning enforcement structures seem to

⁸⁸ German national translation made available to Correspondents

⁸⁹ ETC/RWM (2008) Transboundary shipments of waste in the EU : Developments 1995-2005 and possible drivers https://eea.eionet.europa.eu/Public/irc/eionet-circle/etc_waste/library?l=/working_papers/shipments290208pdf/EN_1.0_&a=d

⁹⁰ ETC/SCP (2012) Transboundary shipments of waste in the EU: reflections on data, environmental impacts and drivers https://www.google.be/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=2ahUKEwjjontkYvnAhWDLFAKH91BhMQFjABegQIBhAB&url=https%3A%2F%2Fwww.eea.europa.eu%2Fpublications%2Fmovements-of-waste-EU-2012%2Fdownload&usq=AOvVawlwWPjI_ZfAX64Av6xMEHtP

⁹¹ The eighth round of mutual evaluations in the framework of the Working Party on General Matters including Evaluation (GENVAL) was performed from 2016 to 2019. The final report is published here: <https://data.consilium.europa.eu/doc/document/ST-14065-2019-INIT/en/pdf>.

exist with sufficient capacity and experienced and well-equipped inspectors, while in other Member States a lack of information, knowledge, prioritisation and a central strategy seems to be lacking.

According to the European Union Action to Fight Environmental Crime (EFFACE) report on illegal e-waste shipments from the EU (2015)⁹², sanctions are highly variable between Member States. Even though the WSR requires Member States to penalise infringements, they are rarely brought to court. Therefore, the effectiveness of sanctions is mixed among the different Member States, as the extent to which penalties apply and the severity of the penalty itself, is variable.

The variety in the methodology used to classify hazardous materials, as well as the inconsistent use of waste codes has been identified as facilitating illegal transboundary shipments. The incorrect classifications of end-of-life vehicles and waste electrical and electronic equipment (WEEE or e-waste) as second-hand goods were mentioned as particularly problematic in this context.

In May 2014, Regulation 660/2014 amending the WSR was published, *inter alia* aiming to strengthen the Member State inspection systems by requiring Member States to establish inspection plans based on risk assessment to enhance enforcement and make progress towards achieving the regulation's objectives. These obligations were only recently implemented in Member States and experiences and data are too limited to carry out already a thorough assessment of the implementation of these provisions, notably to see if they have brought improvements on inspections across the EU. The annual reports from Member States should include information on these inspection plans. This information had to be reported only recently (reports by 31 December 2018 for the year 2017) and is rather concise for most Member States, if not missing. Structured efforts to gather and assess more insightful evidence may well be opportune in the near future.

Finally, a specific but relevant example in the context of inspections is the case of green listed waste, which are only subject to the general information requirements in the WSR⁹³. The document that is required to accompany the transport, must carry a signature of the person arranging the shipment prior to it taking place, a signature from the recovery facility and from the consignee when the waste has been received. However, enabling its uniform application requires knowledge of shipment information including waste type, treatment type, and the involved countries. Competent authorities in the EU reported challenges related to the enforcement of the general information requirements throughout the EU. Most competent authorities that provided input in the various consultations, indicate they do not have information about treatment standards applied in third countries, and do not consider that checking this is part of their duty and responsibility. Hence, the general information requirements in the WSR are not uniformly applied as they require a level of detail that is not monitored in all cases or by all Member States.

⁹² EFFACE (2015) Illegal shipment of e-waste from the EU.

https://efface.eu/sites/default/files/EFFACE_Illegal%20shipment%20of%20e%20waste%20from%20the%20EU.pdf

⁹³ Article 18 and Annex VII of the WSR

A specific difference in interpretation between Member States is the issue of the jurisdiction of the person in charge of the dispatch of the waste. Trade associations indicated that the different interpretations in different countries hinder recycling activities. According to them, some competent authorities interpret that the person who arranges the waste shipment must be established in the country of dispatch⁹⁴ or destination⁹⁵. This does not allow for dealers or brokers that are not based in the countries of origin or destination of the waste to take part in these transactions. On the other hand, there are Member States that only require the registration of the company (including dealers) in a national registry to comply with these provisions.

5.1.1.5. Effectiveness in achieving objective nr. 5: To keep waste shipment systems and procedures up to date by adaptation to technical progress

The regulation itself has undergone updates to ensure that scientific and technical progress is considered. Regulation No 660/2014 introduced that the Annexes may be amended by the Commission to take account of scientific and technical progress.

Most business operators that were consulted in the targeted survey as well as in the interviews disagree with the idea that the WSR is well adapted to technical and scientific progress. They have argued that too stringent controls and long administrative procedures hinder the companies' abilities to shift to circular economy business models. They furthermore reported that –according to them- there are a lot of wastes on the amber list that are not hazardous and should be on the green list. It should be noted here, that the list of hazardous waste stems from the Basel Convention and OECD Decision, so that there is only limited margin for changes to the WSR independently from the international framework.

Finally, all categories of stakeholders systematically reported that the WSR notification system is not adapted to technical progress: electronic systems (e.g. for waste movement documents) are used at Member State level, but are not harmonised at EU level. Cross-border procedures still require extensive paper work, leading to missed opportunities to save time as well as documents not arriving or being slow to reach their destination.

Also IMPEL found that there is still a large amount of paperwork that currently travels with the waste, which could be reduced or eliminated by the introduction of an electronic system for information and documents related to shipments of waste, which would also address the issue of confidentiality as the information would be centralised and secure⁹⁶. An EU-harmonised system for electronic data interchange for the transmission of documents and information relating to shipments of waste⁹⁷, is under development.

⁹⁴ Art 18.1(a) states: in order to assist the tracking of shipments of such waste, the person under the jurisdiction of the country of dispatch who arranges the shipment shall ensure that the waste is accompanied by the document contained in Annex VII.

⁹⁵ Art 18.1(b): the document contained in Annex VII shall be signed by the person who arranges the shipment before the shipment takes place and shall be signed by the recovery facility or the laboratory and the consignee when the waste in question is received.

⁹⁶ IMPEL (2011) Practicability and enforceability of the Waste Shipment Regulation

⁹⁷ Art. 26.4: “Subject to the agreement of the competent authorities concerned and of the notifier, the information and documents listed in paragraph 1 may be submitted and exchanged by means of electronic data interchange with electronic signature or electronic authentication in accordance with

On this aspect, the conclusion is that:

- Some of the procedures and controls in the WSR may hinder technical progress, *inter alia* relating to the transition towards a more circular economy (though the circular economy is arguably currently not an objective of the WSR) (see section 5.1.2. below);
- The WSR notification system is not adapted to technical progress, with information and data relevant for the administration of the regulation still largely paper-based. An EU wide electronic data interchange system is lacking and should probably be commonly used by all actors when developed.

5.1.1.6. How has Regulation 1418/2007 contributed to the achievement of the WSR objectives?

The EU does not have any legal obligation under the Basel Convention or the OECD Decision to restrict exports of non-hazardous waste. Commission Regulation 1418/2007 was put in place, based on the precautionary principle, to protect the environment in vulnerable (non-OECD) countries which may not be equipped to receive such waste. The instrument was designed so that, if a third country does not react to the questionnaire, foreseen under the Regulation, EU operators wishing to export non-hazardous waste there would have to use a notification procedure. The Regulation also provides an overview of any restrictions and procedures in relevant countries.

Overall, the respondents to the consultation did not regard Regulation 1418/2007 as creating a level-playing field for operators, for recycling, for innovation and for energy recovery. They did however recognise the positive impacts of this legislation on human health and the environment.

Public authorities and businesses consistently pointed to the issue that since 2014 the European Commission has not undertaken work to update this Regulation, even though in the meantime many third countries have changed their rules on acceptance or not of waste / secondary raw materials and have made applicable procedures stricter. Regulation 1418/2007 assumes that the position of countries on whether to accept certain types of waste is well-informed and will remain unchanged in the future. However, countries may wish to amend their position on whether or not to accept a certain type of waste and the European regulation only reflects this belatedly.

Hence, – if a third country decides to change its policy and accept a certain type of waste, even without application of the notification procedure, the Regulation does not reflect this change immediately. This may lead to a lack of level playing field on the global waste trade market. Non-EU countries that are not bound by this Regulation could for example make use of policy changes in destination countries before EU countries can, due to the legal provisions still in place for some time. The opposite is also true, as the list of waste accepted by some countries according to Regulation 1418/2007 is not up to

Directive 1999/93/EC of the European Parliament and of the Council^[...], or a comparable electronic authentication system which provides the same level of security.[...]"

date anymore: for example China, India, Malaysia and Vietnam do no longer accept all the waste listed in the Regulation. This can lead to shipments arriving at their destination in line with EU legislation, but not being accepted at the destination.

Making changes in Regulation 1418/2007 is a very burdensome process for the European Commission, as it requires obtaining official up-to-date information on waste regimes of over 150 non-OECD countries. Stakeholders, mainly from the public sector, consistently argued that the Regulation 1418/2007 should not be withdrawn, but that updating the information contained in there should be made easier.

Other comments made on the implementation of the Regulation related to different interpretations by national authorities (e.g. with respect to end-of-waste status and acceptable levels of impurities in waste) and the traceability of waste flows up to their final destination.

5.1.1.7. Have there been any unintended or unexpected positive/negative consequences as a result of the WSR?

One argument made on the possible unintended consequences of the WSR is that it does not ensure business confidentiality to dealers or brokers of waste. For example, the level of detail of information required by the Annex VII document is seen by some business actors as obliging them to disclose companies' confidential information which could cause financial damage to these companies. It is not evident in how far confidentiality is breached, but the mentioned stakeholders argue that keeping commercial confidentiality could be improved through electronic systems, where the information would be only accessible to authorities for control purposes.

According to one stakeholder interview, the limit of 25 kg of waste under the exemption from prior written notification for waste explicitly destined for laboratory analysis⁹⁸ also had unexpected consequences for operators: when a new recycling facility is to be opened (e.g. after China introduced import restrictions), there is a need to carry out testing on commercial scale. This requires tonnes of waste to run representative testing, hence quantities are required that are far above this limit of 25 kg which is more appropriate for lab testing. Increasing this limit could avoid unnecessary and discouraging burden and facilitate investments in innovative and additional treatment capacity.

5.1.2. Progress towards closer links with Circular Economy objectives

At the time of the adoption of the current WSR, the EU legislators did not consider that it should pursue the objective of facilitating the transition of the waste sector to a circular economy.

Nevertheless, a number of links with Circular Economy objectives already appear in the previous sections: the cumbersome procedures and controls and the way they are processed (paper-based, differences across the EU) can hinder progress in innovation and

⁹⁸ Article 3(4) of the WSR

do not support a well-functioning market for secondary raw materials. This was highlighted by stakeholders from all categories.

Another example is when a shipment leaves one country as a non-waste (end-of-waste or by-product) and is delivered to or transiting through another country and classified as (hazardous) waste there. In practice, this results in additional bureaucracy, for both the competent public authorities and industries. Although this involves an efficiency issue, it can also be linked with the effectiveness (and relevance – see section 5.3.1.2) of the WSR to facilitate a transition to a circular economy as a broader EU policy objective.

At the same time it has to be noted that, despite these problems, the cross-border shipments of waste have increased considerably over the years, both in the EU (notably for notified waste) and from the EU to third countries (especially for green-listed waste), as shown by the data and figures mentioned above.

5.1.3. What factors influenced the achievements observed?

With the WSR, a considerable gain in harmonisation between Member States and how they control and monitor waste shipments has been achieved. For some aspects however harmonisation is not fully established.

The factors which have influenced these achievements are the lack of harmonised enforcement, varying interpretations and implementation of regulatory provisions, and high administrative burden. Section 5.1.1.4 above discusses these aspects in more detail.

Another external factor which influenced the implementation of the WSR is the economic context. For example, over the last decade, the prices of raw materials have been high and the demand for virgin and secondary materials in Asia's growing economy combined with low transport costs for shipping goods from the EU to Asia, contributed to the increase in trade in waste to Asian countries. On the other hand, recent policy initiatives in these countries have started to limit the inflow of certain wastes to these countries.

5.2. Efficiency

5.2.1. To what extent are the costs involved justified/proportionate, given the effects which have been achieved?

5.2.1.1. What are the costs and benefits (monetary and non-monetary) associated with the implementation of the WSR for the different stakeholders at local, national, and EU-level?

- The costs associated to the implementation of the WSR for companies are the following:
 - Human resource costs for administration;
 - Opportunity costs (delays in notification, etc.);
 - Financial guarantees;
 - Translation of documents;
 - Disclosing of company information, which might be potentially damaging;
 - Different costs incurred in case of disputes.
- The costs associated to the implementation of the WSR for Member States are the following:
 - Resources for checking notifications, inspection and infrastructure including law enforcement and customs.
 - Human resource costs for intercepting and dealing with illegal shipments and administration.
 - Cost for intercepting and taking back (repatriating) illegal shipments when there is no company to charge it to.
- Benefits to society
 - Improved environment and human health;
 - Employment.
- Benefits to Member States
 - WSR as tool for monitoring waste shipments.
- Benefits to companies
 - Traceability;
 - Legal certainty derived from having a single set of rules aligned with the international regime.

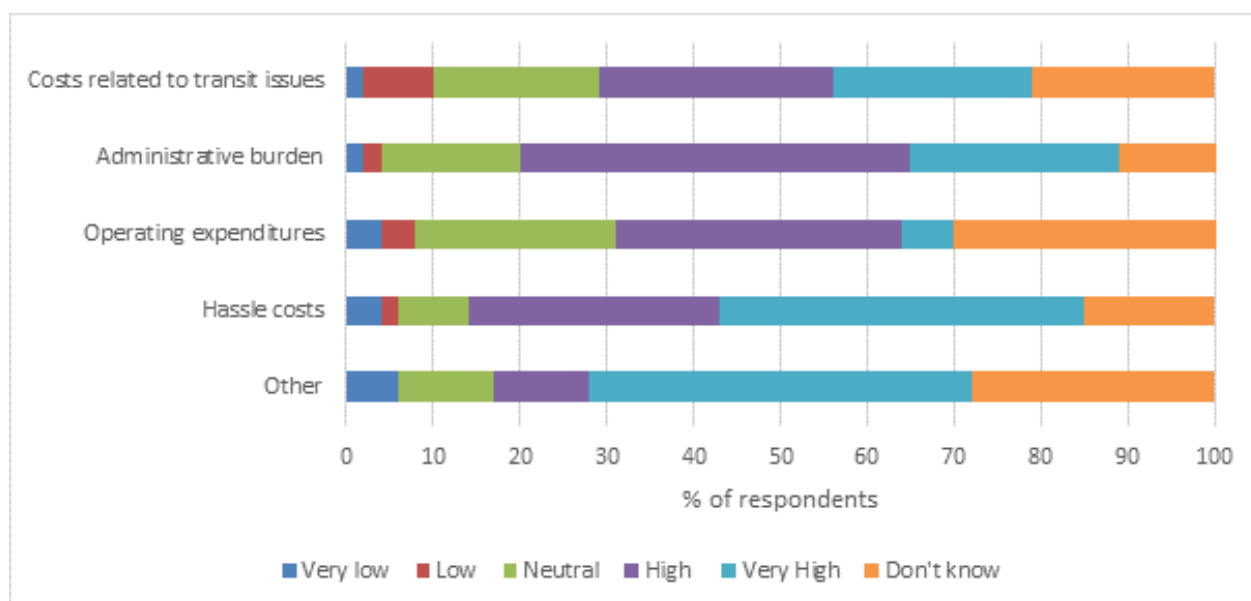
Costs and benefits to companies

Figure 5-7 shows an assessment of the costs associated with the WSR by stakeholders throughout the various consultations (both public and targeted)⁹⁹. All statements show that most respondents assess costs stemming from the WSR to be high or very high. In general, all types of stakeholders give consistent answers. The highest costs were associated with the waiting times and the submission of information to public authorities. Operating costs are also seen as relatively high according to most respondents. Having a

⁹⁹ It should be mentioned here that at this stage there are only few other actual data on costs than coming from these consultations. Other sources are specified further in the text.

single set of rules on EU level that is aligned with the applicable international regime constitutes on the other hand an important benefit.

Figure 5-4: Assessment of the costs stemming from the WSR by survey respondents¹⁰⁰



Source: Waste Shipment Regulation Targeted Survey, 2018

Some of the business actors indicated that the notification procedures for waste shipments entail large (and burdensome) **administration costs** for companies, although others are of the opinion that the costs are not very substantial.

Various business stakeholders have pointed to costs associated with the implementation of the WSR, while they associated no or little benefits with this. Substantial **human resource costs** are associated with the administrative implementation of the WSR, in particular for the following tasks:

- fulfilling obligations involve filling in Annex VII documents,
- preparing notifications,
- negotiating the financial guarantee,
- training employees, and assigning or
- hiring personnel to complete these tasks.

Depending on the size of the companies, this would require between 1 and 4¹⁰¹ full time employees per year working on these issues. Moreover, these tasks require senior to intermediate level employees for such positions.

Additional **operating costs** (e.g. administration during transports) are in general lower, more or less half the administrative burden. In fact, these economic operators have

¹⁰⁰ 104 respondents replied to the survey (see also Annex 2)

¹⁰¹ These figures indicate the minimum and maximum values provided by the respondents to the consultations

indicated that it requires between 0.5 and 2¹⁰² full time equivalent per year and usually the positions require a lower level of seniority.

However, it was also stated by business stakeholders that if the person in charge of handling waste shipment is knowledgeable about the regulation, there are negligible additional costs, and that in this case, the cost of human resources is mostly outweighed by the benefits of the implementation of the WSR.

Another category of costs brought forward by nearly all stakeholders that were consulted is **related to the differences in implementation** of the WSR between Member States. These include: additional costs for trucks blocked because of disputes, legal fees for disputes, and settlement costs (considered as the easiest solution for ending disputes). Business association respondents highlighted that non-monetary costs are linked to the opportunity cost and business lost due to lengthy procedures, which often leads to the use of sub-standard solutions for waste streams. Usually these lengthy procedures arise from delays in the notification processing by different Member States. Business operators have indicated that it is difficult to specify quantitative information associated with such waiting time and delays. A rough average estimated cost that was provided by some business stakeholders amounts to €150,000 for such waiting times in case a shipment is delayed¹⁰³.

A specific cost is related to the **financial guarantees** or the equivalent insurance including the associated administrative burden. Stakeholders, both from public and private sectors, highlighted that financial guarantees¹⁰⁴ were very rarely used in order to meet the costs of returning waste shipments. Bank guarantees are reported as expensive, and administratively time-consuming. In some Member States the guarantees can be a barrier to ship waste. Each country has its own approach on financial guarantees (including the levels required): some destination countries insist on having guarantees that comply with their own levels, rather than the levels set by the country of origin. Similarly, there are differences in the timing of when the guarantee is released: in some Member States, it is only released after final treatment, and the money is retained for a longer period.

Finally, more in general, stakeholders from the business community noted that unequal interpretation of the WSR between Member States is a barrier for the waste management industry to invest, and also emphasized that this leads to the lack of a level playing field for compliant recyclers.

A more circular economy implies that increasing amounts of waste materials will have to be recycled in sophisticated facilities. To be able to do so in a cost-effective way, facilities need to handle large volumes, hence the circular economy may prompt more waste shipments which will have to be shipped without undue constraints. Throughout

¹⁰² These figures indicate the minimum and maximum values provided by the respondents

¹⁰³ The cost figure provided is an average of the costs reported by business operators

¹⁰⁴ Art. 6 of the WSR reflects the obligation in the Basel Convention that all shipments of waste for which notification is required shall be subject to the requirement of a financial guarantee or equivalent insurance covering: (a) costs of transport; (b) costs of recovery or disposal, including any necessary interim operation; and (c) costs of storage for 90 days. Costs are to be covered that arise in the context of: (a) cases where a shipment or the recovery or disposal cannot be completed as intended, and (b) cases where a shipment or the recovery or disposal is illegal.

the consultation this aspect was brought forward by many stakeholders, mainly from the business side. It is however important in that regard to also note that shipments of wastes, notably within the EU, have steadily increased over the last years (see section 3.2. and Figures 5-2, 5-5 and 5-6 above), despite of the above mentioned constraints.

Costs and benefits to Member State competent authorities and society

Costs

One of the main costs to Member State competent authorities identified by the Commission Staff Working document¹⁰⁵ in preparation of the most recent review of the Regulation, is linked with **managing illegal waste shipments**. In the reporting period between 2010 and 2012, 2,500 cases of illegal shipments were reported within the EU¹⁰⁶. IMPEL found in its latest Transboundary Enforcement Actions campaign¹⁰⁷ (2014-2015) almost 5000 violations out of approx. 17500 inspections. It should be noted here that costs for Member States related to illegal shipment would have been incurred in the absence of WSR as well.

Costs include operations to clean-up illegally shipped and dumped waste. For example, in 2011, approximately 130,000 tonnes of waste was detected as illegally dumped. Cleaning and extraction costs amounted to €160 per ton, adding up to €21 million¹⁰⁸. The costs also include the repatriation of intercepted illegal waste shipments back to the country of origin¹⁰⁹. A notable example of these repatriation costs is the case where hazardous waste destined for Nigeria had to be brought back to the port of Rotterdam, with costs amounting to €1.2 million¹¹⁰.

Benefits

One of the main benefits (non-monetary) of the Regulation that was consistently brought forward by stakeholders in general, but explicitly by competent authorities, is the protection of the environment, because it has been successful in minimising the negative impacts of hazardous waste shipments within and outside the EU. The WSR also brings information to the competent authorities on the type of waste shipped, the routes and the waste treatment methods.

¹⁰⁵ European Commission (2013), Impact Assessment: accompanying document to a legislative proposal and additional non-legislative measures strengthening the inspections and enforcement of Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006, http://ec.europa.eu/environment/waste/shipments/pdf/sec_2013_268.pdf

¹⁰⁶ European Commission (2015), Report from the Commission to the European Parliament and the council on the Implementation of Regulation (EC) No 1013/2006 of 14 June 2006 on shipments of waste, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0660&from=EN>

¹⁰⁷ <https://www.impel.eu/wp-content/uploads/2016/10/IMPEL-Enforcement-Actions-2014-15-FINAL-report.pdf>

¹⁰⁸ Europol (2011), Europol warns of increase in illegal waste dumping, <https://www.europol.europa.eu/newsroom/news/europol-warns-of-increase-in-illegal-waste-dumping>

¹⁰⁹ European Commission (2015), *ibid*

¹¹⁰ European Commission (2013), *ibid*

It was furthermore expressed by stakeholders in general that the implementation of the WSR incentivised the development of the waste treatment sector considerably in many Member States, also creating jobs and economic activity.

Data from EEA¹¹¹ quoting Eurostat, indicate that there are over a million workers in the waste management sector in the EU. More recent data from Eurostat show an increase of approx. 10% over the last decade¹¹². Most of them are low-skilled workers, although medium- and high-skilled jobs also exist. Employment has grown steadily in the recycling sub-sector, with an increase of almost 70% from 2000 to 2008. These figures do not consider activities that occur in the broader economy, such as the collection of recyclable materials or other activities that enable the use of recyclables. This suggests that real employment figures are higher. More than 130 000 persons were employed in activities related to waste trade within and between countries in 2008, an increase of around 25% since 2000¹¹³. Although these numbers are rather dated, they still show the beneficial trend in employment related to waste treatment and trade.

5.2.1.2. Are the costs proportionate to the benefits the WSR has brought?

In the context of waste shipments the costs are born by a particular group of stakeholders involved, while the benefits are broader societal benefits. This makes it difficult to compare costs to benefits. Also the costs are immediate, but the benefits are likely to be long-term.

Overall, business operators indicated that for them they do not feel that costs involved in the implementation of the Regulation are justified by the benefits. They feel that the regulation has room for improvement on this aspect. In the opinion of many stakeholders, the protection of the environment from dumping untreated waste is a necessity, but this could be achieved without restricting trade in future secondary raw materials.

Often, a negative perception by businesses that costs are disproportionate is linked to the own costs that they have to endure as a result of the WSR. This gets nuanced as soon as businesses look at the general societal benefit rather than at their financial situation only.

Nonetheless, it was also highlighted that there are some benefits to the WSR (in comparison to the absence of the WSR), for example some companies developed specifically linked to waste shipment activities and would not exist if it wasn't for the need to implement the WSR. Public authorities were also of the opinion that costs are justified given the benefits that will be achieved in the longer term, mostly related to protection of the environment and human health.

Overall, and as further elaborated on in section 5.5, one of the most important benefits of the WSR is its contribution to ensuring a level playing field for the implementation and enforcement of waste shipment rules, and in limiting illegal shipments of waste which hamper EU and international trade and create a danger for human health and the environment. It was however also mentioned by business actors that distinction should be

¹¹¹ EEA (2012) "Movements of waste across the EU's internal and external borders". European Environment Agency. <https://www.eea.europa.eu/publications/movements-of-waste-EU-2012>

¹¹² Eurostat: <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>

¹¹³ EEA (2011) "Earnings, jobs and innovation: the role of recycling in a green economy". Report No. 8/2011.

made between administrative errors and illegal shipments of a more severe nature. It was also suggested by these respondents that this distinction could be clarified in Article 2.35(g)iii of the WSR, which defines illegal shipments.

5.2.1.3. How are costs and benefits varying by size of enterprises?

There is currently little information on differences between costs and benefits for companies of different size. Business operators in micro and small enterprises expressed in the consultation that they do have the experience and feelings that there are high costs associated with the WSR.

Three obstacles related to SMEs and micro firms (0-9 employees) were noted during the public consultation:

- administrative burden of becoming a pre-consented facility;
- the impact of financial guarantees on liquid assets; and
- the rigidity of the WSR which prevents experiments needed to scale up new technologies which are trying to evolve to modern markets.

When it comes to fulfilling the obligations to public authorities, it appears that larger firms tend to assign more senior profiles to these positions, as opposed to medium and small firms assigning intermediate profiles. SMEs indicated that they feel that costs and administrative burdens linked with the implementation of the Regulation are not proportionate to their activity and revenues. Additionally, they face a higher risk of mishandling administrative procedures, which increases the chances of getting their shipment classified as illegal.

5.2.2. What factors influenced the efficiency with which the achievements observed were obtained?

5.2.2.1. What, if any, good or bad practices can be identified in the implementation of the WSR?

The support study revealed, mainly based on the inputs in the various consultations, the following good and bad practices related to the implementation of the WSR:

Good practices

- Electronic platforms and digital notification systems for processing waste shipments;
- Interoperability of electronic systems in neighbouring countries;
- Single point contact for different international initiatives and frameworks;
- Cross-border waste transport information system;
- Waste shipment portal;
- Exchange of good practices between countries.

Bad practices

- Problems with the establishment of a common electronic data interchange tool for the notification procedure at EU level;
- Inefficient application of pre-consented certification scheme;

- National online notification systems seen as an obstacle to developing an EU-wide one;
- Lack of a common interpretation of the regulation;
- Insufficient control of the destination of Green Listed waste by the country of origin;
- Use of Basel Convention waste codes instead of the European waste codes in the List of Waste.

In general, the good practices are linked with technological uptake and streamlining of outdated procedures (e.g. use of paper). The increasing inter-operability of different EU Member States' electronic systems contributes to the set of technological good practices. But on the other hand, still a large number of such systems are unable to communicate with each other. The Administrative Burden Report¹¹⁴ also identified the development and use of an electronic data interchange system for waste shipment notifications and the use of electronic signatures as a way to streamline and simplify the administrative system of the WSR. Since then, work has been going under the umbrella of the Correspondents Meeting¹¹⁵ to the WSR on the further develop such an EU wide electronic data interchange system.

Moreover, the lack of a common interpretation leads to issues between Member States, as well as Member States with third world countries. These include differing quality standards related to pre-consents as well as the divergence in waste classification.

Finally, it should be noted that the last bad practice in the list above is a consequence of the provisions of the WSR itself. The WSR at the moment provides that to distinguish between procedures, the Basel codes rather than the European list of wastes must be applied.

5.2.2.2. What evidence is there that the WSR and Regulation 1418/2007 have caused unnecessary regulatory burden or complexity?

The replies from stakeholders throughout the consultation as well as earlier sources¹¹⁶ identified the following burdens and complexities. Some views were commonly shared:

- Complex procedures in general;
- Administrative burden associated with pre-consented facilities;
- No harmonised interface between national systems or an EU-wide common electronic platform;
- Financial guarantees;
- End-of-waste status¹¹⁷;

¹¹⁴ ICF (2015), ABRplus study, Final report, https://ec.europa.eu/info/sites/info/files/abrplus-study-final-report_mar2015_en.pdf

¹¹⁵ Art. 57 of the WSR installs this meeting of Commission and Member States experts on waste shipment issues.

¹¹⁶ E.g. the REFIT Platform: https://ec.europa.eu/info/sites/info/files/recommendation-ix-3a-c_regulation-on-shipment-of-waste_en.pdf

¹¹⁷ This has created another layer of complexity as recyclates can either be considered as waste or as non-waste

- Out of date Regulation 1418/2007;
- Divergence in waste classification.

Others were more specifically expressed by business operators:

- Validity of permits of pre-consented facilities;
- Processing time for notification procedures which is considered too long;
- The documentation requirements as specified by the Annexes IA and IB of the regulation;
- A three-day notification period prior to each transport;
- Excessive attention to detail leading to corrections and costs;
- The necessity of providing the name of the transporter and specifying the route in the documentation.

5.2.2.3. How have the costs and benefits of the WSR varied at local, national and EU level?

There is no evidence from stakeholders interviewed on the variation of costs and benefits in time. However, costs and benefits are reported to vary across Member States.

As explained in various other sections of this report, differences in applying, interpreting and enforcing the WSR are one of the main issues that comes forward in this evaluation as impeding the functioning to the WSR.

Specifically on enforcement, experience over the years has shown that differences between Member States' performance and prioritisation lead to so-called 'port hopping' whereby waste is sent illegally through the ports with the least control.

Further, sometimes, inexperienced inspectors intercept a shipment and classify a fully legal shipment as illegal. Then the burden to prove the legality of the shipment is on the shipper, leading to additional costs.

Finally, there is also a difference across Member States in the number of infringements brought to the courts.

5.2.2.4. If there are significant cost/benefit differences between Member States, what is causing them?

The causes for different costs and benefits between Member States can be summarised as follows:

- Different inspection intensity;
- Different willingness of the inspection systems to prosecute infringements;
- Costs related to adapting inspection systems to more advanced Member States;
- Administrative costs related to adapting to the different Member States' interpretations;
- Different financial guarantee requirements;
- Lack of mutual recognition of documents and transport registries;
- Differences in interpretation of impurities within green-listed waste;
- Differences in the way the notification fee is calculated;
- Differences in applying art. 14 of the WSR (pre-consented facilities).

More intensive inspection programmes and more stringent prosecution of infringement by the legal systems of some countries, cause higher implementation costs. On the other hand, countries with less intensive inspection systems risk incurring higher environmental and health costs because of more frequent illegal shipments. It has been reiterated many times and by different categories of stakeholders that differences in costs between Member States also come from the fact that authorities in different countries have different demands with regards to the number of requested documents and contract requirement. This leads to additional time and human resources for economic operators to dedicate. It also costs companies to get and stay up to date with the different interpretations in the different Member States.

There are differences in how the notification fee is calculated amongst competent authorities in different Member States: some relate the fee to the tonnages, others to the amount of individual shipments. Further, there are different legal costs and different amounts of insurance required for returning illegal shipments. Finally, different countries have different licensing requirements for transporters and therefore have different fixed costs for waste transport.

Industry stakeholders have raised as an issue the administrative burden of the lengthy application procedures, and the associated costs for facilities to become a pre-consented treatment facility, as provided for in art. 14 of the WSR (see also section 5.1.1.4., subsection *Differences in interpretation and application*). This burden may discourage facilities from engaging in the registration process. Industry associations also highlighted the high burden of becoming a pre-consented facility compared to the benefits obtained, in particular the prolonged period of validity of three years and administrative requirements. Member States Competent Authorities mentioned the challenge of dealing with notifications in a very short delay in case of an art. 14 procedure¹¹⁸.

5.2.2.5. *Could the reporting under WSR and Regulation 1418/2007 be more efficient?*

As already discussed under section 5.1, throughout the consultation the need for an increased harmonisation of waste classification was voiced. The various sets of waste codes – Basel Convention, EU List of Waste, national – increase the complexity of waste shipment and make harmonisation difficult. It was reported by industry stakeholders during the consultation that certain Member States use the Basel Convention codes¹¹⁹ very differently, resulting in a substantial amount of waste not or not consistently being classified. The literature review further revealed that Member States use codes from the Basel Convention and the EU List of Waste interchangeably, leading to increased complexity¹²⁰ as these codes are not always easy to compare.

¹¹⁸ Art. 14.4 states that the time limit for imposing conditions, raising objections or requesting additional information related to shipments to a pre-consented facility, is seven working days instead of thirty.

¹¹⁹ Y-codes in Annex I of the Basel Convention

¹²⁰ EEA, 2012, Movements of waste across the EU's internal and external borders

5.3. Relevance

5.3.1. How well do the original objectives correspond to the policy objectives of the EU (and its global partners), including the EU's international obligations resulting from inter alia the Basel Convention and the relevant OECD Decision?

The original objectives of the WSR (protecting the environment and public health, and implementing the Basel Convention and OECD Decision) correspond to clear current EU policy objectives, as well as those of neighbouring states and other third countries, as reflected notably in the UN Sustainable development Goals.

Consulted stakeholders broadly recognise the relevance of the WSR in relation to multilateral agreements like the Basel Convention and the OECD Decision (see section 5.1 for more information on this issue).

The support to the transition to a more circular economy was not an explicit objective of the WSR when it was adopted, but moving towards more circularity has in the meantime become an important EU political priority. While not an objective of the current WSR, the WSR has an important role to play in the context of the transition towards a circular economy.

5.3.1.1. To what extent does the WSR address the environmental, climate and health impacts of transboundary shipments of waste within, into, out of and through the EU?

The results of the stakeholder interviews and interviews with Competent Authorities show that environmental protection is considered one of the main benefits of the WSR.

It was deemed by stakeholders in general that if the WSR were not in place, there would be less recovery and recycling, and higher social costs caused by suboptimal waste management. The WSR has resulted in the elimination of the export of hazardous waste outside the OECD, even if illegal shipments remain an issue.

The policy objectives related to climate changes were not taken into account explicitly when developing the current regulation. Facilitating the environmentally sound management of wastes, with a clear preference for the options higher up the waste management hierarchy (e.g. recycling over energy recovery or disposal) contributes to reducing the need for new products and their associated costs in terms of emission of greenhouse gases. At this moment, the WSR does not fully accommodate this preference.

5.3.1.2. How does the WSR help enhance the efficient use of resources and establish a well-functioning single market for waste treatment services and secondary raw materials within a more circular EU economy?

An important focus of the EU Action Plan for the Circular Economy is to promote the recycling of wastes, so as to transform them into “secondary raw materials” which are injected back into the economy, thus increasing the security of supply.

On the one hand the WSR facilitates the recovery of waste, but on the other hand the preference for recycling is not yet fully integrated in the Regulation. Furthermore, one of the potential obstacles for establishing markets for secondary raw materials is overcoming the additional administrative burden associated with their management and trade, which is exacerbated by the inconsistent interpretations of the WSR between Member States. Reducing the administrative burden by switching to a harmonised

electronic system and encouraging fast track procedures for certain waste types were highlighted by most stakeholders as a means of encouraging the circular economy and developing waste markets.

5.3.2. How well adapted is the WSR to (subsequent) technical and scientific progress and EU and global market developments?

Section 5.1.1.5 above looks into the aspect of the WSR's ability to adapt to technical and scientific progress.

Specifically on the WSR's relevance in times of increasing digitalisation and electronic data interchange, it is noted here, that also according to the Feasibility Study conducted by TRASYS for the establishment of an electronic data interchange for Waste Shipments, in order to adapt to technical progress and increase efficiency¹²¹, a standardised electronic database system would be beneficial as a means of recording relevant information for waste shipments and adapting to the business requirements of stakeholders, while also allowing for more effective information sharing between Member States regarding notification procedures. Currently, information is reported inconsistently between Member States, some of whom use paper-based methods, while others have their own electronic systems. The WSR allows at the moment electronic data interchanges, however no mechanism is in place to harmonise and perhaps even mandates this.

On the question how well the WSR is adapted to global market developments, the following can be noted: market developments are mostly driven by economic factors (notably prices paid for waste shipments and costs for waste treatments). These developments have led to important fluctuations in the volume, value and destination countries of waste traded within and outside the EU. The WSR bans exports of some waste streams to certain destinations, which has a direct impact on the market. For other waste streams however, the WSR had a limited impact on market developments, as its objective is to control waste shipments to avoid their negative impacts on the environment and public health, but not to restrict or stop them. As a matter of fact, exports of wastes have generally increased since the adoption of the WSR. In some instances (plastic wastes), the increase has been such that it has led to concerns on the impact of trade on the environment and public health in destination countries. In reaction, destination countries took steps to limit the inflow of these wastes and the international community introduced new controls on shipments of plastic wastes through the Basel Convention. These will have to be implemented into the WSR by 2021. This shows that the Basel and WSR framework can adapt to market developments, when important negative environmental or health externalities occur.

¹²¹ TRASYS (2014) "*Feasibility study for the establishment of an Electronic Data Interchange for Waste Shipments*"
http://ec.europa.eu/environment/waste/shipments/pdf/3a_ArchitectureOverview EDI for WSR.pdf

5.3.3. Is there any provision irrelevant or outdated/obsolete in the WSR?

Different views were expressed in the consultation on this question. 50% of Member State competent authorities considered that there are no irrelevant or outdated/obsolete provisions in the WSR.

However, particular examples of issues arising from certain provisions of the WSR were highlighted during the targeted interviews, mostly by business actors. For example, the system of financial guarantees was mentioned. The guarantees are an obligation under the Basel Convention. These guarantees are designed to allow for the payment for the return of waste to its place of origin as part of the take-back obligations system in the WSR. Many stakeholders, both from the public and private sector, pointed out that the guarantees are very rarely used, but are expensive and time-consuming to arrange. Many consider this to be as an example of an unnecessary cost and delay which can limit the financial liquidity of companies.

Another example is the proximity principle, which is included in the provisions of the WSR. Some business stakeholders do not consider that this principle should prevail in case wastes are shipped for recycling. They deem that even if waste is not recycled close by, this is preferable to not being recycled at all. It was also noted that for certain waste streams which undergo complex treatment (e.g. WEEE/plastics), it is not possible to have treatment installations in every Member State. Hence, it is more useful to ensure that waste can move swiftly to the most adequate facilities.

5.4. Coherence

5.4.1. To what extent is the WSR (together with Regulation (EC) No 1418/2007) coherent with other European policies?

5.4.1.1. How do different policies affect positively or negatively the implementation of the WSR? Are there weaknesses or gaps as a result of the interaction of the WSR with other EU legislation? Are there inconsistencies or contradictions as a result of the interaction of the WSR with other EU legislation?

For some specific waste streams and the related legislation a positive effect occurs. E.g. in the framework of the WEEE Directive (see also section 2.1.6) work is prepared to substantiate the conditions to be met as regards the treatment of WEEE. These standards clarify, in the case of WEEE, which conditions have to be met to comply with the provisions of the WSR¹²².

On the other hand weaknesses, gaps and inconsistencies can be identified.

Weaknesses or gaps

The fact that illegal shipments still occur, notably of wastes like ELV, WEEE and batteries, is a weakness of both those pieces of legislation and the WSR.

Another aspect of the relation with the recycling targets in relevant legislation (see also section 5.1.1.2), is the fact that currently the WSR does for example not provide clear means to favour shipments for recycling over energy recovery, thus not supporting explicitly the implementation of the waste management hierarchy in that regard.

Inconsistencies

Those that stated that there are inconsistencies with other EU waste legislation are mostly (SME) business operators and trade associations. Among competent authorities, opinions are more positive in general.

A significant number of stakeholders stated that there are inconsistencies between the WSR on the one hand, and the Waste Framework Directive and the WEEE Directive on the other, mainly related to the different definitions of waste and the differences between hazardous and non-hazardous waste.

Another overlap, leading to inconsistent application of the existing procedures, exists between the Animal by-products Regulation, the Waste Framework Directive and the WSR. It is not entirely clear when each applies in certain cases, due notably to the definitions of waste in the Waste Framework Directive and the lack of clarity in cases where both the Animal By-product Regulation and the WSR could apply.

It was furthermore highlighted that the Circular Economy Action Plan aims at promoting, among other things, a market for secondary materials. It was claimed by a number of stakeholders (mostly business actors) that the various definitions, inconsistencies, different interpretations and complex procedures within the WSR are posing difficulties

¹²² Notably Art. 49.

to the achievement of that objective. This leads to the question on what can be done to better align the WSR with the objectives of the Circular Economy policy and the Raw Materials Initiative, in particular to facilitate certain waste shipments in the internal market while at the same time ensuring compliance with environmentally sound management principles for waste that is exported to non-EU countries.

Several stakeholders (mostly competent authorities) indicated that there are inconsistencies between the EU customs legislation and the WSR, especially regarding the different classification codes used in each. This causes the same object/material to be considered a waste by some countries and a product (non-waste) by other countries, leading to business operators having to pay customs fees for exporting what is a “product” in a destination country, whereas it was waste in the exporting country. According to a report commissioned by DG TAXUD in 2011¹²³, the systems were both developed for different purposes, hence the difficulty to ensure their compatibility. This hinders the collection of statistics on trade of goods and waste management and this has an impact on policy, trade, economic and enforcement and monitoring. However, it is worth noting that this is a more general reporting issue that emanates from the divergences in goods and waste reporting statistics in general and not from the WSR itself.

5.4.1.2. . Are there overlaps as a result of the interaction of the WSR with other legislation?

There is overlap between EU legislation covering waste and the WSR, such as the synergies identified and described in section 5.4.1.1., but also the inconsistencies and contradictions described there.

5.4.1.3. To what extent does the WSR support the EU internal market and the creation of a level playing field for economic operators, especially SMEs?

The response from business stakeholders was mainly that the WSR did not increase the competitiveness of EU industry.

In this context it is noted that Article 28 of the WSR regulates how the material is classified should the Member States involved in a transboundary shipment disagree with each other as regards the waste status. It instructs that in such cases the waste status prevails. This situation may lead to potential inconsistencies between regulatory regimes¹²⁴.

It is further noted that the single set of rules on EU level is expected to have the potential to provide opportunities for the EU internal market for waste treatment.

¹²³ O’Laoire Russell Associates (2011) Study on the role of customs in enforcement of European Community legislation governing the protection of the environment and its best practice. Final report for DG Taxation and Customs Union. Available from:

https://ec.europa.eu/taxation_customs/sites/taxation/files/docs/body/customs_envirnt_en.pdf

¹²⁴ Relevant policy information related to this can be found *inter alia* in the publication of the Commission Communication on the implementation of the circular economy package: options to address the interface between chemical, product and waste legislation COM(2018) 32 final

5.4.1.4. To what extent does the WSR promote industrial innovation?

There was limited information on this topic found in the literature sources consulted during the evaluation.

Relevant in this context are the recent restrictions on plastic waste exports that have been imposed globally, where as a consequence high quality recycling could be incentivized on an EU level by facilitating the smooth functioning of the internal market of plastic waste trade.

A specific issue highlighted by some stakeholders that are active in waste treatment, is that it is hard to implement innovative approaches as these need to be tested before a big financial investment is made. However, companies that are developing or testing new processes often are not permitted to receive waste. This can be linked with their permit, which is more an issue related to the implementation of the Waste Framework Directive, rather than the WSR. It can however also be linked with the limited amount that is allowed to be shipped easily for testing purposes¹²⁵. This impacts them financially and hinders the potential for investing in innovative processes.

5.4.2. To what extent is the WSR coherent internally, including with Regulation (EC) No 1418/2007?

The consultation process did not result in identifying major problems linked to the internal coherence of the provisions of the WSR. Most comments pointed to a possible lack of clarity in the definitions and exemptions from the WSR, or to the differing interpretation of the WSR in the Member States (which is discussed in section 5.1.1.4 above).

As regards the coherence between the WSR and Regulation 1418/2007, stakeholders generally indicated that there are no major inconsistencies or contradictions. There were a few stakeholders that stated that there are inconsistencies and provided examples. However, most of these examples do not reflect inconsistencies between the two regulations, but the delay in updating Regulation 1418/2007 with the latest prohibitions and requirements imposed by some countries (e.g. China).

One possible inconsistency might occur between Article 36.1(f) of the WSR and the regime established under Regulation 1418/2007. Article 36.1(f) applies to the exports from the EU to non-OECD countries that prohibited the import of certain wastes in the scope of Regulation 1418/2007. It is unclear to some competent authorities whether such a ban solely applies to the restrictions defined in Regulation 1418/2007 or whether it also applies to purely national restrictions that are not part of the Regulation 1418/2007.

¹²⁵ Limit of 25 kg established by Article 3.4 of the WSR; see also section 5.1.1.7

5.4.3. To what extent are strategies/ legislation at Member State level coherent with the WSR, in particular Article 33 on shipments within Member States?

Despite the limited availability of information¹²⁶ regarding the coherence of the WSR with strategies and legislation from Member States, several differences between the application of the Regulation in the different Member States were identified. However, these differences are mainly related to how the WSR is applied in different Member States in general (as considered in different sections of this report on differing interpretation and implementation of the Regulation by Member States competent authorities), rather than specifically related to the systems for supervision and control of shipments of waste exclusively within Member States, as covered by Article 33.

5.4.4. To which extent is the WSR coherent with international commitments on waste?

5.4.4.1. *Basel Convention*

While the WSR is generally coherent with the Basel Convention, there are a few differences, namely:

- The WSR regime goes further than the Basel Convention and bans the export of “other wastes” (i.e. household waste, residual waste and, from 2021, certain types of plastic waste) to non-OECD countries
- Differences in waste classification systems;
- The WSR provides for more detailed rules on financial guarantees;
- Differences in the requirements for green-listed waste.
- Differences in the time for competent authorities to respond to notifications (30/60 days).

As an illustration of the difference in the classification of wastes between the Basel Convention and the WSR, the shipment notification application form included in Annex IA of the WSR requests information on all the following codes:

- Basel Y-codes according to Annexes I and II of the Basel Convention (47 code numbers, 45 of which are for hazardous waste);
- Detailed Basel codes according to Annexes VIII and IX of the Convention (120 code numbers, 60 of which are for hazardous waste);
- OECD codes (150 code numbers are available, 60 of which are for hazardous waste);
- European List of Waste codes (790 code numbers, 384 of which are for hazardous waste).

However, the Basel Convention requirements only include the Basel Y-codes and the detailed Basel codes.

¹²⁶ In general, stakeholders that were consulted understood the question in terms of the varying interpretation of the WSR in different Member States, rather than the coherence of the WSR within the Member States.

Eurostat published data on cross-border waste shipments since 2011 that show the differences in waste codes used under the Basel Convention and the European List of Waste. In 2015, Eurostat¹²⁷ published an article on the potential of using the EU List of Waste classification alongside the Basel Convention classification to produce better information on cross-border waste shipments.

Further, the additional development of the financial guarantee concept in the WSR has severe financial consequences, according to certain business stakeholders.

In the Basel Convention, there are no requirements for waste listed in Annex IX (green-listed waste as in Annex III of the WSR). However, under the WSR these wastes are subject to the general information requirements¹²⁸.

The time limit for competent authorities to respond to notifications is 30 days in the WSR, compared to 60 days in the Basel Convention, reflecting the 30 days' time limit set in the OECD Decision.

It can be concluded that the WSR provides for a more detailed and robust legal framework on waste shipments, while remaining coherent with the Basel Convention.

5.4.4.2. OECD Council Decision C(2001)179

As with the Basel Convention, the limited information available suggests that the WSR is generally coherent with the OECD Decision. A few inconsistencies highlighted are:

- Financial guarantees;
- Differences in the waste classification systems.

It was highlighted that the OECD waste codes should be updated to be more consistent with the WSR and that the WSR demands a financial guarantee even if the country of destination may be outside the EU and may not require one.

5.4.4.3. Impact of the current international instruments on the EU ability to regulate waste shipments

As indicated in preceding sections, the Basel Convention and OECD Decision are legally binding instruments, implemented in the EU through the WSR. The provisions in the WSR implementing the OECD Decision on the transboundary shipments of waste for recovery are structured in a way which makes no distinction between shipments occurring exclusively within the EU on the one hand, and shipments from the EU to other OECD countries on the other hand (i.e. similar rules apply to shipments of waste for recovery between one EU Member State and another EU Member State, and to shipments between one EU Member State and a third country located in the OECD). Recent discussions in the OECD on how to implement changes to the Annexes of Basel Convention on trade in plastic waste have illustrated that this situation makes it difficult

¹²⁷ Eurostat (2015) “Waste shipment statistics based on the European list of waste codes”. Available from: http://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_shipment_statistics_based_on_the_European_list_of_waste_codes (

¹²⁸ Article 18 of the WSR.

for the EU to adopt rules which would apply only in relation to waste shipments within the EU. The EU has developed a comprehensive regime of principles, policies and rules on waste management, which has been regularly updated since 2007, when the WSR entered into force. There is therefore a clear level playing field within the EU when it comes to waste management. It is less obvious that such level playing field exists within the OECD. In that context, the logic of treating waste shipments in the EU in a similar way than shipments of waste from the EU to OECD countries can be questioned.

It is also worth noting that the EU has so far not made use of the possibility under Article 11 of the Basel Convention to notify its regulatory framework as a regional agreement, which would allow the EU to adopt specific provisions for intra-EU shipments of waste (that derogate from the provisions in the Convention, but should be no less environmentally sound than those in the Convention)¹²⁹.

¹²⁹ The situation of the EU in the Basel Convention is different from its status in a number of other international agreements containing trade measures, such as the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, or the Convention on International Trade in Endangered Species, where the EU Member States, in view of the EU common rules as a single market and other rules, do not have to implement exactly the same controls when it comes to trade with another EU Member State, compared to trade with a third country.

5.5. EU added value

5.5.1. What has been the EU added value compared to what could be achieved by Member States applying national rules across the EU and/or implementing multilateral environmental agreements in this field (the Basel Convention and OECD Decision)?

The WSR has improved the consistency of approaches between and even within Member States and has provided useful extra detail, compared to Basel and the OECD approaches. It thus contributes significantly to a level playing field between Member States, which are all Parties to the Basel Convention, but not all a member to the OECD. It further enhances coherence of the rules on waste shipments with the rest of the EU waste acquis, which refers to the WSR for a number of purposes: in the absence of the WSR, the different pieces of EU legislation on specific waste streams would have to contain provisions on their shipments abroad. Despite these positive aspects some variations remain in the approach of Member States. These have been dealt with in previous sections of this document.

Member States and companies made clear throughout the consultation that, without the WSR, transboundary movements of waste would be more difficult. This would reduce opportunities to treat wastes in another EU Member State and likely reduce opportunities for recycling, as not all Member States have proper treatment facilities, especially for recycling all types of waste streams.

5.5.2. To what extent do the issues addressed by the WSR continue to require action at EU level?

The reasoning in section 5.5.1. applies here as well. This question also has a significant overlap with the questions relating to relevance (see section 5.3).

The objectives of the policy to address shipments of waste can still not be sufficiently achieved by the Member States individually, and continuous EU action is needed.

The 2013 Impact Assessment (IA) for strengthening the inspections and enforcement of the WSR¹³⁰ includes a section on the EU's right to act and justification. On the necessity test, the IA states that "Waste shipments are by nature international and require the implementation and enforcement of regulations in the same way by all Member States to ensure a level playing field and limit unlawful shipments of waste which hamper EU and international trade and create a danger for human health and the environment."

The section of the IA also points out the interest that Member States have in the WSR being consistently implemented across all Member States, because waste shipped to third countries is often initially moved within the EU, so if the inspections in the Member State

¹³⁰ SWD(2013) 268 final. COMMISSION STAFF WORKING PAPER. IMPACT ASSESSMENT. Accompanying document to a legislative proposal and additional non-legislative measures strengthening the inspections and enforcement of Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste. Available at: http://ec.europa.eu/environment/waste/shipments/pdf/sec_2013_268.pdf

of dispatch are inadequate it creates more work for the transit Member State(s). The IA also makes the point that companies engaged in illegal activities may move waste to Member States where the WSR is less rigorously implemented to reduce their chances of being caught.

The views expressed by public and private stakeholders on this point reflect the above. The WSR improves the consistency of the approach to waste shipments across the Member States. In order to maintain the level of consistency and enhance the harmonised application of control measures for waste shipments, continued action on EU level is required.

5.5.3. What has been the EU added value of the Regulation (EC) No 1418/2007 on the export for recovery of certain non-hazardous waste to non-OECD countries?

Both Member State competent authorities and business stakeholders feel that Regulation 1418/2007 adds value, as it provides a structured and centrally available overview of the legal framework on shipments of non-hazardous waste in non-OECD countries outside the EU. The relative infrequency and slow pace of updates are however considered problematic. It was felt that the updates could be done quicker: in the opinion of certain companies it's a technical issue, so the ideal would be a technical update system rather than the current political type update.

One positive aspect of article 37 of the WSR, which is the basis of Regulation 1418/2007, is that it links the obligations on financial guarantees (to cover the cost of returning waste shipments) to certain green-listed waste shipped outside Europe, with one competent authority feeling that the system is working, with positive experience of (for example) mixed plastic waste shipments being returned from outside Europe after they had been exported illegally.

Both public and private actors noted that without Regulation 1418/2007, Member State authorities would have a much greater burden in researching information on waste shipment to other countries and dealing with illegal shipments. This centralises that information and reduces the burden for them.

Also in the context of the Regulation 1418 the issue was brought forward of how to verify whether exported waste is treated in conditions broadly equivalent to the those in the EU as required in art. 49 of the WSR. The lack of specific provisions in the WSR or related waste legislation, like the Waste Framework Directive, was perceived as a weakness.

5.5.4. What would be the most likely consequences of stopping EU action?

Stakeholders in general predicted that the situation would be to fall back on the Basel agreement plus the OECD decisions along with bilateral or multilateral arrangements between Member States. The Competent Authorities felt that this would increase the risk of discrepancies between Member States. This would also increase the risk of unscrupulous waste transporters finding the path of least resistance, by transporting waste through the least well-regulated Member States.

The Basel Convention and OECD Decision have much less detailed provisions than the WSR. Most stakeholders across all categories agreed that the problems caused by stopping EU action include the following:

- An increase in the number of illegal shipments (including those out of the EU, partly because it is harder to control cross-border illegal activities with a lack of a common approach);
- Reduction in trade of waste for recycling, with a negative impact on the secondary commodities market due to national variations in regulations, and thus a negative effect on the transition towards a circular economy;
- Even more inconsistency between Member States and use of national approaches which are less detailed and could lead to more delays due to the lack of consistency;
- An increased risk of environmental harm;
- EU would be in breach with international law (Basel Convention) as it would not implement the provisions of the Convention to which it is a Party;
- Loss of waste traceability.

6. CONCLUSIONS

The Waste Shipment Regulation has been evaluated under five criteria, namely the Regulation's effectiveness, efficiency, relevance, coherence and EU added value. Commission Regulation (EC) 1418/2007 adopted pursuant art. 37(1) of the WSR, was also taken into consideration.

6.1. Findings

6.1.1. Effectiveness

The WSR has established a robust legal framework, which has been implemented by the Member States and generally led to a better control of shipments of waste and the environmentally sound management of shipped wastes at national and EU level.

However, various challenges remain:

- First, different levels and manners of applying and enforcing the WSR, often combined with diverging interpretations of its provisions, result in suboptimal implementation throughout the EU. One concrete example relates to end-of-waste criteria and their different interpretations across Member States. This results in delays in and burdens on shipments of wastes across the EU, despite the fact that in many cases waste flows are of good quality and are sent for proper recovery.
- Second, illegal shipments of waste and illegal treatment of legally shipped waste remain a considerable problem. This is the case especially for export of wastes outside the EU, in particular to developing countries. There are also illegal shipments of wastes within the EU, linked to activities of organised criminal networks. The persistence of illegal waste shipments is *inter alia* due to the fact that competent authorities in Member States often lack comparable resources and that Member States do not cooperate sufficiently. Illegal shipments find the path of least resistance to get through or leave Europe. The difficulties for competent authorities of the EU Member States to verify that waste exported outside the EU is managed in an environmentally sound management in the importing countries is a particular challenge.

Sustained and improved enforcement efforts are vital in this context, including through targeted inspections and controls, deterrent penalties, and by tackling understaffing. These issues are under the responsibility of Member States in the first place. In recent years, important EU initiatives have nevertheless been taken in this field, such as the revision of the WSR in 2016 (which aimed at reinforcing inspections on illegal shipments of waste) and the strengthening of EU policy and actions against environmental crime. Despite this, there still is ample scope to reinforce an EU integrated approach to combat illegal shipments of waste.

- Finally, while Regulation (EC) No 1418/2007 regulating exports of non-hazardous wastes to non-EU, non-OECD countries has contributed to the achievement of the WSR's environmental objectives, in its current form it suffers from a slow and very resource intensive update mechanism.

6.1.2. Efficiency

It is difficult to provide a comprehensive quantitative evaluation of the costs and benefits of the WSR. Little or no data is available.

Costs can typically be attributed to certain actors and have a more or less immediate effect, while benefits are typically societal, much broader, and difficult to attribute to the regulation.

This is also why business often consider costs being more significant than benefits: they bear the costs and do not seem to get direct benefits. Nonetheless, in general stakeholders agree benefits outweigh costs.

Costs linked to the implementation of the WSR were identified at different levels, notably at public authority, company and societal level. For Member States, resources for inspection and law enforcement infrastructure represent the main share of the costs together with the costs for dealing with illegal shipments. Costs for companies are linked to administrative requirements, direct financial costs and dispute settlement costs. Different interpretations of whether and how a material is classified as waste often lead to costly delays in waste shipments.

Most of the direct costs linked to the WSR are of procedural and administrative nature. The main obstacles are the complex and time-consuming - often paper-based - notification procedures.

The lack of common interpretation of WSR provisions also leads to delays in shipments. These delays can e.g. lead to additional storage costs for waste whilst decisions are pending, as well as to shipments being rerouted to destinations where they would be treated in a less environmentally sound manner than initially planned.

Another major cost - mostly for Member State competent authorities - concerns the taking back of illegal waste shipments.

Benefits are mainly societal. The most important societal benefits stem from better environmental protection. Job creation in the waste treatment sector can also be counted as a benefit.

For Member States, but also for companies, the WSR represents a tool for monitoring waste shipments. For companies the enhanced legal clarity, compared to the absence of the Regulation, is a benefit.

In general, public bodies are of the view that the costs involved in the implementation of the WSR are justified by its benefits, while business operators often feel the opposite. The business sector generally believes that the costs stemming from the Regulation are high. This is especially the case for SMEs, which feel that costs and administrative burdens linked to the Regulation's implementation are not proportionate to their activity and revenues. Additionally, they face a higher risk of mishandling administrative procedures, which increases the chances of getting their shipment classified as illegal.

The lack of substantial data means that it is difficult to draw conclusions on the cost-benefit ratio of the WSR at different levels (i.e. local, national and EU). However, interviews with businesses suggest that some local authorities require more stringent insurance documents as well as a fee for providing advice on how to fill them in.

Moreover, there have been cases where (local) authorities do not have the required knowledge to determine whether a shipment is legal or not. This has entailed higher costs for economic operators in terms of delay and repatriation costs.

6.1.3. Relevance

Relevance of the WSR for environmental and health protection

The WSR is relevant to protect the environment and human health within the EU, as well in as neighbouring states and third countries, *inter alia* by reducing the risks associated with shipments of hazardous waste and of waste for disposal. Illegal shipments and environmentally unsound management of shipped waste still occur though.

The WSR and circular economy

Promoting the transition towards a circular economy and protecting the environment and human health in Europe have emerged as pillars of the EU policy for sustainable development. A specific milestone was the adoption of the Circular Economy Action Plan¹³¹ in 2015. The WSR was developed much earlier and focussed on the protection of the environment and human health; it was not specifically designed to promote the transition towards a circular economy. The creation of a safe and yet dynamic market for secondary raw materials in the EU is a key enabler for a European circular economy, which requires smooth cross-border circulation throughout the EU for waste streams destined for recycling. The procedures and administrative burdens linked to the WSR sometimes act as a disincentive to the circulation of these waste streams within the EU.

Relevance of the WSR in terms of the Basel Convention and the OECD Decision

The WSR is definitely relevant to international agreements such as the Basel Convention and the OECD Decision. It has encouraged their implementation throughout the European Union in a way tailored to the EU waste management situation.

6.1.4. Coherence

Synergies as a result of the interaction of the WSR with other legislation

There are synergies between the WSR and other pieces of EU waste legislation, especially the Waste Framework Directive and Directives covering specific waste streams. The ELV Directive, Batteries Directive, the Packaging and Packaging Waste Directive and the WEEE Directive all contain specific provisions on transboundary movement of the waste streams in question that refer to the WSR. Since the WSR's adoption, waste shipments of these streams, especially within the EU, have increased.

¹³¹ EU action plan for the Circular Economy, see http://ec.europa.eu/environment/circular-economy/index_en.htm

Weaknesses, contradictions and inconsistencies of the interaction of the WSR with other legislation and policy objectives

Despite the synergies that do exist, several challenges remain. Illegal shipments and waste shipments organised by illegal operators still occur in the area of the waste stream legislation mentioned above.

The codes used in the Basel Convention, the OECD, the EU List of Waste and those applied for customs purposes are all different. Work is ongoing to align some of the codes. Nevertheless, the varying classification as “waste” or “non-waste”, or as “hazardous” or “non-hazardous” waste and the interpretation of related definitions in different Member States make shipments of certain waste streams difficult. Other inconsistencies are related to animal by-products and to the interface between waste, chemicals and products legislation.

In 2018, an important part of EU waste legislation was substantially amended to enhance its contribution to a circular economy (e.g. more ambitious recycling rates). The WSR itself, however, does not clearly reflect the need to favour recycling (and preparation for re-use) over other recovery operations (like incineration), so that in this respect it is not fully aligned with the rest of EU waste legislation.

Another challenge is the link between the WSR provisions on the export of waste outside the EU and the methodology used to calculate recycling rates in other pieces of EU waste legislation. The WSR provisions that set the conditions in that respect¹³² are not sufficiently prescriptive to ensure that recycling actually happens properly in the destination countries.

Yet another inconsistency relates to the EU customs legislation. Different interpretations of classification codes used in EU customs legislation versus those applied under the WSR lead some EU operators having to pay customs fees for exporting waste as it is considered a “product” in the destination country.

The WSR and the EU internal market

In its current form, the WSR is not fully facilitating the creation and promotion of a market for secondary materials, partly because of different interpretations across Member States, and also because the current Regulation was not crafted with this explicit objective in mind.

The multiplication of import restrictions by third countries will only reinforce the need for the EU internal market to be more oriented towards facilitating high quality recycling.

Internal coherence of the WSR

No major problems were identified as regards the internal coherence of the articles of the WSR itself, nor with respect to the coherence of the WSR with Regulation (EC) No 1418/2007.

¹³² Notably art. 12.1(c)(ii) and art. 49

Coherence of the WSR with Member State internal strategies and with Article 33¹³³

The WSR appears to be by and large coherent with Member State internal policies and strategies. However, the interpretation of the Regulation in each country varies, even at subnational level.

Coherence of the WSR with the Basel Convention and OECD decision C(2001)107

In general, the WSR is coherent with these overarching international instruments. However, there are a few differences, such as:

- Differences in the waste classification systems
- Financial guarantees (more detailed in WSR)
- Differences in the requirements for green-listed waste (as compared to the Basel Convention)
- Differences in the time for competent authorities to respond to notifications (compared to the Basel Convention)

In addition, the way in which the Basel Convention and the OECD Decision are implemented in the EU through the WSR limits the EU's ability to adopt rules which would apply to intra-EU shipments only.

6.1.5. EU Added Value

The WSR has provided for greater consistency of approaches across Member States and has offered useful extra detail and legal clarity compared to the Basel Convention and the OECD Decision. Throughout the consultation, Member States underlined the importance of the WSR being implemented consistently throughout the EU.

While circular economy objectives are currently not an explicit part of the WSR, the Regulation is a key instrument to promote it within the EU. If the WSR were to make a greater contribution to the circular economy, while continuing to reduce negative impacts on the environment and public health, this would significantly increase its EU added value.

EU added value of regulation (EC) No 1418/2007

Regulation 1418/2007 provides useful information on waste import regimes in third countries that would otherwise be more dispersed. This information helps to reduce EU exports of (non-hazardous) waste that is not wanted in those countries. However, the formal process of updating the information takes significant time and is resource intensive. This means that it can become out of date, the clearest recent example being the Chinese rules plastic and other waste import. Improving the timeliness of the data collection would impose substantial additional administrative burdens on the Commission, in what is already a time-consuming task. Future work on the WSR could however look into different ways of providing up-to-date information.

¹³³ Application of the Regulation to shipments exclusively within Member States

What would be the most likely consequences of stopping EU action?

The likely result would be that cross-border waste shipments would only be controlled by the Basel Convention, the OECD Decision and agreements between individual Member States. Negative consequences would stem from the lack of consistency and detail on the applicable rules. This would lead to an increase in environmental risks, slower progress towards the goals of the waste management hierarchy and the circular economy (due to even higher barriers to the movement of waste to, adequate recycling facilities in other Member States) and potential distortions in the waste market (due to the lack of a level playing field). The legal clarity and certainty, for example the right to return illegal waste shipments (both within the EU and from outside the EU) would also be become less well defined without EU level action.

6.2. Lessons learnt

The Regulation has **contributed to more harmonised and detailed implementation** of international instruments such as the Basel Convention. Through that, it has performed well on its environmental objectives as it has resulted in **better protection of human health and the environment**. However, a number of challenges clearly remain.

A range of factors is perceived among public and private stakeholders to have negatively influenced the implementation of the WSR. These factors include:

- **Lack of consistent implementation** of the Regulation across the EU: over the years, a number of provisions have been implemented in different ways;
- **Administrative burden** related to procedures;
- **Lack of harmonisation in enforcement**: differences in enforcement levels and practices seem to exist throughout Member States.

The lack of a common interpretation of relevant provisions and procedures leads to disputes between Member States, as well as between Member States and third countries. These range from different quality levels to divergence in waste classification.

Competent authorities mainly call for adjusting the legislation, rather than substantially restructuring it: **more guidance and deeper harmonisation** of how the WSR is implemented is considered a higher priority than introducing fundamental changes to the legislation itself.

Time is a key element for business operators. **Easier and faster notification and pre-consent processes** (including a fast-track system) would be greatly beneficial to economic operators. Moreover, **harmonising national approaches** on dealing with the procedures and enforcement would help in solving inefficiencies.

The need to look into the provisions on the export of waste outside the EU was also highlighted, in view of the challenges linked to controlling that they managed properly in the importing countries.

Further suggestions made during the evaluation were the necessity for increased cooperation between competent authorities, a harmonised application of procedures, including related timeframes and clear enforcement deadlines.

In general, identified good practices are linked to **better integrating technological tools and streamlining of outdated procedures** (e.g. use of paper). The increasing interoperability of different national electronic systems contributes to the set of technological good practices. On the other hand, bad practices can arise from the inability of such systems to communicate with each other. For example, certain Member States are already establishing an electronic data exchange as a means of reducing administrative burden – but a standardised and coordinated system across Europe would contribute to harmonisation and has the potential to increase efficiency while also reducing the likelihood of administrative errors, allowing for more resources to be redirected into inspections for illegal shipments.

If the WSR would enable better a circular economy approach, while continuing to reduce negative impacts of waste shipments on the environment and public health, this would significantly increase its EU added value. There is a strong call to better **connect the objectives of the WSR to those of the EU’s ongoing transition to a circular economy and to ensure that it facilitates the most “circular” waste treatment option.**

Annex 1: Procedural information

Lead DGs and internal references

The evaluation has been coordinated by the European Commission's Directorate-General (DG) for Environment supported by an interservice steering group (ISG) involving representatives of DG Internal Market, Industry, Entrepreneurship and SMEs, DG Taxation and Customs Union, DG Energy, DG Health and Food Safety, DG Trade, DG Mobility and Transport, the Legal Service and the Secretariat-General. The group steered and monitored the evaluation's progress and ensured that it met the necessary standards for quality, impartiality and usefulness.

Organisation and timing

The roadmap was published on 27 January 2017 and feedback on this roadmap was received until March 2017.

The stakeholder consultation strategy was prepared and made publicly available in 2017¹³⁴. It set a number of consultation activities comprising a public consultation and targeted consultation in the form of interviews and surveys. While a detailed consultation synopsis is provided in Annex 2, a brief explanation of consultation activities follows here.

The public consultation started on 30th January 2018 and ended on April 27th, 2018. To maximise the response rate, a link to the questionnaires was placed on the Consultations page within the EUROPA Website,¹³⁵ and several organisations were also contacted directly and asked to help disseminate the link to the questionnaire. The public consultation triggered 215 responses.

20 interviews were carried out among Member States, and 15 interviews among other stakeholders. A total of 104 responses were received to the targeted survey across 19 Member States. Two workshops, gathering each around 60 participants, were held to actively involve Member State competent authorities and stakeholders. REFIT platform issued their opinion on submissions by the Danish Business Forum, Finnish Survey for Better Regulation and a member of the Stakeholder Group on the Regulation on Shipment of Waste on 19/03/2018. Finally, a number of add hoc contributions was received (more details in Annex 2).

Two workshops were held in undertaking the evaluation, the first took place in January 2018 and the second in September 2018.

The interservice group met at the inception and interim stages of the evaluation work and provided guidance and comments on draft reports.

On 24 June 2019 the interservice steering group met to discuss the draft Staff Working Document.

¹³⁴ https://ec.europa.eu/info/sites/info/files/wsr_evaluation_consultation_strategy.pdf

¹³⁵ https://ec.europa.eu/info/consultations/public-consultation-evaluation-waste-shipment-regulation_en

A Europa webpage was set up to provide information on the evaluation process¹³⁶.

Exceptions to the Better Regulation Guidelines

No exceptions were made to the Better Regulation Guidelines¹³⁷ during this evaluation.

Consultation of the RSB

The Regulatory Scrutiny Board selected the evaluation of the WSR for scrutiny. An upstream meeting was held with the Board on 13 June 2019. The initial advices that resulted from that meeting were incorporated in the draft, which was sent in July 2019 to the RSB. A revised draft was then sent on 20 September 2019 to the Board. No further meeting was held with the Board, but informal remarks from members of the Board were received on 25 October 2019 and taken into consideration in the final report. .

Evidence, sources and quality

The evaluation was supported by a study that *inter alia* provided support on stakeholder consultation. This study was initiated in 2017 and was performed by a consortium led by Trinomics¹³⁸. The study was completed in May 2019¹³⁹.

Stakeholder consultation and targeted data collection were an important element of the exercise (see Annex 2). Two workshops were held to actively involve Member State competent authorities and stakeholders.

The following studies and reports have been taken into account:

- Commission reports to the European Parliament and the Council as part of the requirements of Article 51 of the Regulation covering the implementation of the Regulation overall. Such reports need to be compiled every three years by the Commission, based on the reporting by the Member States. The most recent report¹⁴⁰ dates from 22 November 2018;
- the study done to underpin the present evaluation report¹⁴¹;
- A report on “The efficient functioning of waste markets in the European Union - legislative and policy options¹⁴²”.
- A feasibility study for the establishment of electronic data interchanges for Waste Shipments¹⁴³;

¹³⁶ http://ec.europa.eu/environment/waste/shipments/evaluation_of_the_wsr.htm

¹³⁷ https://ec.europa.eu/info/better-regulation-guidelines-and-toolbox_en

¹³⁸ Study consortium under the lead of Trinomics, with Wood, Technopolis group and Bipro, under the framework-contract ENV.F.1/FRA/2014/0063

¹³⁹ <https://publications.europa.eu/en/publication-detail/-/publication/926420bc-8284-11e9-9f05-01aa75ed71a1/language-en/format-PDF>

¹⁴⁰ <http://ec.europa.eu/environment/waste/shipments/reports.htm>.

¹⁴¹ <https://publications.europa.eu/en/publication-detail/-/publication/926420bc-8284-11e9-9f05-01aa75ed71a1/language-en/format-PDF>

¹⁴² http://ec.europa.eu/environment/waste/studies/pdf/waste_market_study.pdf

- A study on criteria and requirements for waste shipments inspections¹⁴⁴;
- A report on analysis of the implementation/enforcement of Annex VII and Articles 18 and 49-50 of the WSR¹⁴⁵ in all Member States, including a summary report of national provisions¹⁴⁶;
- A study on the implementation of financial guarantees and equivalent insurance in all Member States¹⁴⁷;
- A Study on Annex IIIA of the EU Waste Shipment Regulation¹⁴⁸;
- A frequently-asked-questions (FAQ) document summarising questions from a Helpdesk on the WSR¹⁴⁹.

¹⁴³ TRASYS (2014) “*Feasibility study for the establishment of an Electronic Data Interchange for Waste Shipments*”

http://ec.europa.eu/environment/waste/shipments/pdf/3a_ArchitectureOverview_EDI_for_WSR.pdf

¹⁴⁴ European Commissions (2007) Review on Recommended Minimum Criteria for Environmental Inspections (RMCEI)

¹⁴⁵ Addressing certain information requirements, environmentally sound management and enforcement in Member States

¹⁴⁶ European Commission - Expert Team for Assessing and Guidance for the Implementation of Waste Legislation (ETAGIW). (2011) Report on analysis of the implementation/enforcement of Annex VII and Article 18 and 49-50 of the WSR in all Member States, including a summary report of national provisions <http://ec.europa.eu/environment/waste/shipments/pdf/Annex%20VII.pdf>

¹⁴⁷ Method of calculation in the Member States of the financial guarantee and equivalent insurance pursuant to Art. 6 of Regulation No 1013/2006 on shipments of waste. <http://ec.europa.eu/environment/waste/shipments/pdf/Calculation%20of%20financial%20guarantee.pdf>

¹⁴⁸ Addressing mixtures for two or more wastes listed in Annex III to the WSR and not classified under one single entry

¹⁴⁹ European Commission (2009) Report on the experience gained with the helpdesk for questions related to the WSR.

http://ec.europa.eu/environment/waste/shipments/pdf/report_helpdesk_forum.pdf

Annex 2: Stakeholder consultation

Introduction

This annex summarises the results of all of the consultation activities undertaken as part of the evaluation of Regulation (EC) No 1013/2006 on shipments of waste as amended (the Waste Shipment Regulation or WSR) as well as Regulation (EC) No 1418/2007 concerning the export for recovery of certain waste listed in Annex III or IIIA to Regulation (EC) No 1013/2006 to certain countries to which the OECD Decision on the control of transboundary movements of wastes does not apply.

The consultation strategy

The consultation strategy for the evaluation of the WSR was presented by the Commission in 2017 and can be found here: https://ec.europa.eu/info/sites/info/files/wsr_evaluation_consultation_strategy.pdf.

Public consultation

The Public Consultation aimed to gather the opinion of any interested citizen or organisation, in particular targeting stakeholders that would be unlikely to be involved in the other more specialist targeted strands of the consultation activities.

The questionnaire was drafted to be accessible to the public and, to this end, contained a limited amount of technical language in relation to the WSR. It was made available in all EU languages and uploaded on the Have your say¹⁵⁰ portal using the EU Survey tool¹⁵¹. The consultation period started on 30th January 2018 and ended on April 27th, 2018. To maximise the response rate, a link to the questionnaire was also placed on the Consultations page within the EUROPA Website,¹⁵² and a number of organisations were also contacted directly and asked to help disseminate the link to the questionnaire.

In total 215 respondents filled in the questionnaires during the consultation period. Figure B-1 below provides a breakdown of respondents by type.

Among the Consultation's participants, 89 (41% of the total) answered on behalf of companies, of which 44 were large companies (more than 250 employees) and 26 had from 1-50 employees. 31 respondents were National business organisation, 28 European business organisations, 21 national public authorities, 19 non-governmental organisations, 10 citizens, as many as regional/local public authorities (10), and 7 accounted for consultancies, trade unions and the category "Others" (3 respondents of which, a self-employed, a professional body and an interest group). The stakeholder type distribution is shown in the figure B-1 below.

¹⁵⁰ https://ec.europa.eu/info/law/better-regulation/have-your-say_en

¹⁵¹ <https://ec.europa.eu/eusurvey/home/welcome>

¹⁵² https://ec.europa.eu/info/consultations/public-consultation-evaluation-waste-shipment-regulation_en

Figure B-1 WRS Evaluation Public Consultation stakeholders type breakdown

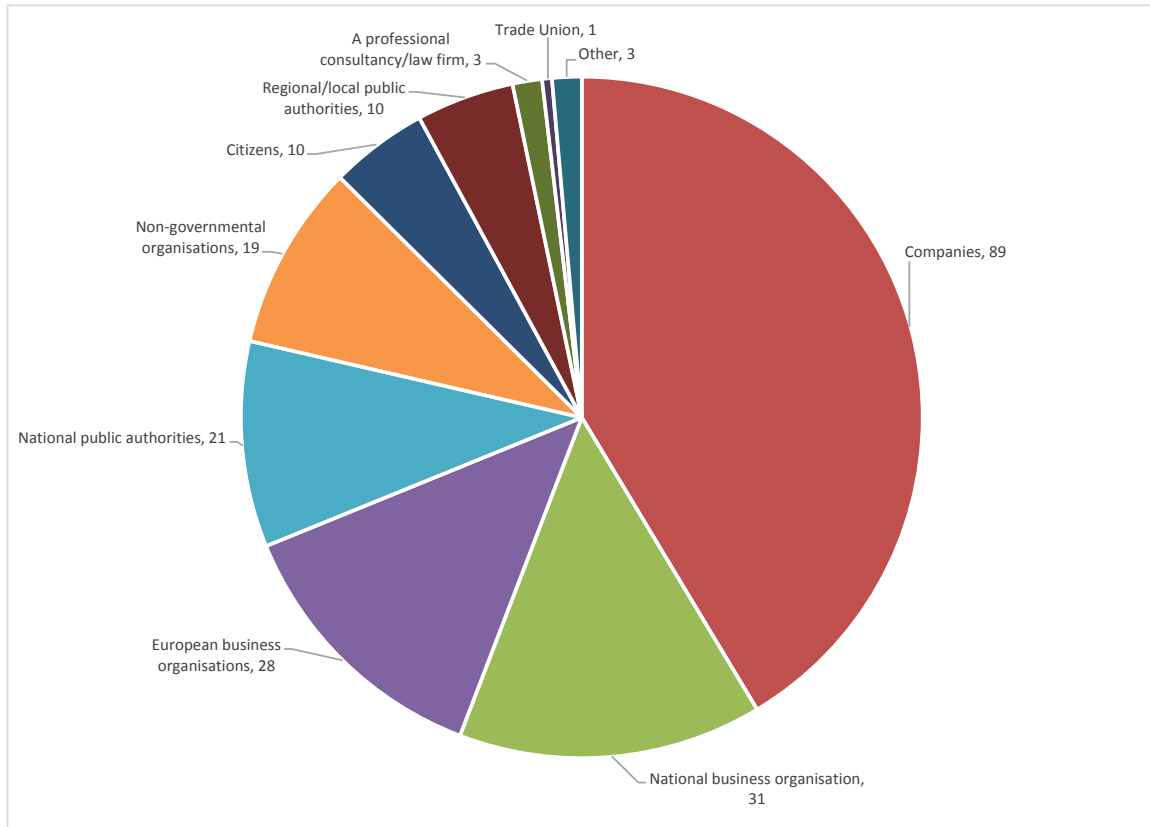
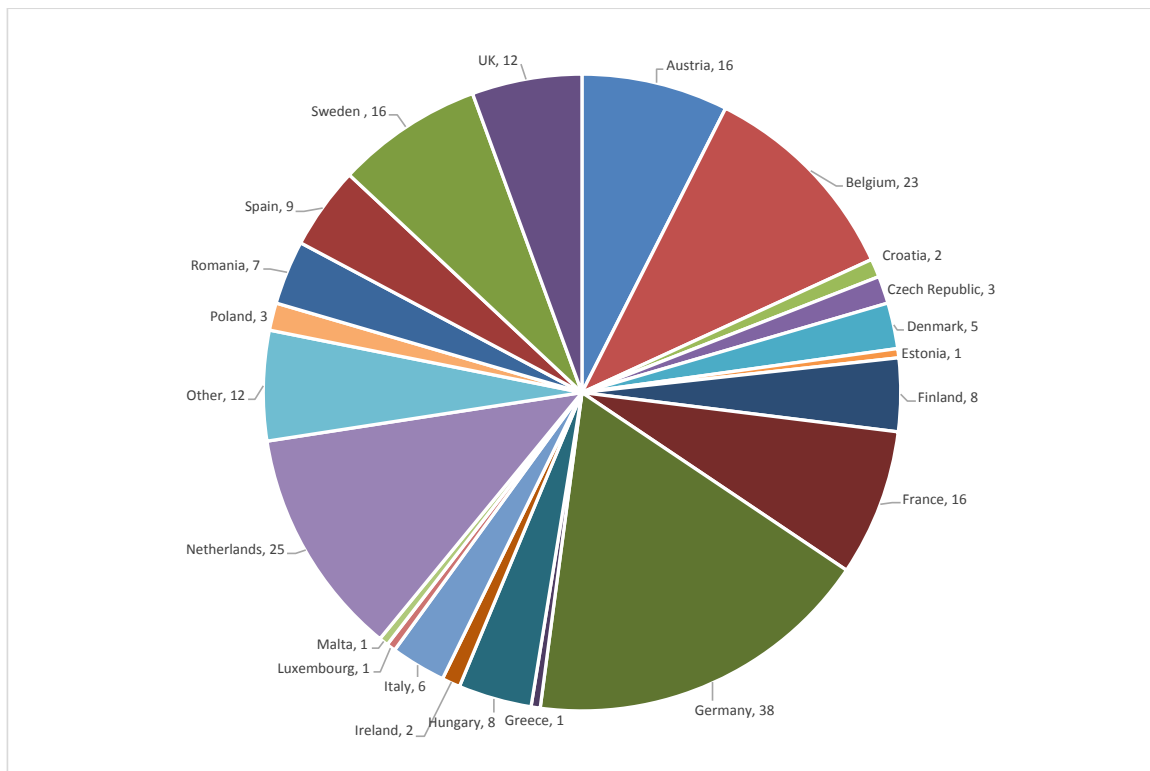


Figure B-2 WRS Evaluation Public Consultation country breakdown



Concerning the origin of the respondents, only 12 were not based in the European Union (EU 28); and namely came from Norway, Switzerland, Iceland, while two declared “the main business to be in the European Union”. Within the EU, the most represented

countries were Germany (38), Netherlands (25), and Belgium (23). Related to the latter, the fact is that Brussels hosts many of the organisations representing different groups of interest before EU Institutions, such as industry associations, non-governmental and consumers' organisations etc. The country distribution is reported in the figure B-2.

Targeted consultations through interviews and surveys

Targeted consultation took the form of interviews with specific stakeholders and use of electronic survey tools as summarised below.

Initial expert interviews

Early in the data collection process 12 structured pilot and short interviews with experts were undertaken in order to complement the information collected through literature review. Representatives from waste industries, Member States and NGOs were involved in these interviews, with the results being used to confirm the initial scope of the evaluation, expected sources of data and data gaps as well as to inform the primary data collection from the open public consultation and targeted consultation exercises undertaken later in the evaluation process.

Targeted surveys

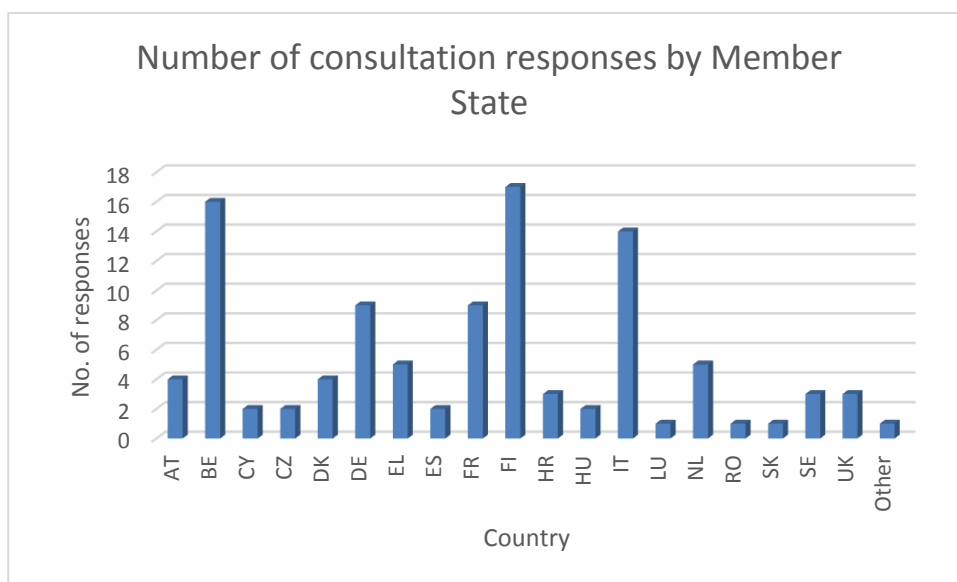
A targeted survey was developed for completion using CheckMarket – an online survey tool - and split into two parts aimed at those stakeholders (Member States and their competent authorities, trade associations and non-governmental organisations) that were familiar with the WSR and/or came into contact with the WSR during their work. The first part of the survey addressed questions against the five evaluation criteria applicable to all targeted stakeholders. The second part of the survey was addressed specifically to Member State competent authorities, with a particular focus on the inspection and enforcement provisions of the WSR.

Prior to the targeted survey being released, the system was tested by a small group of users both within the team and at the European Commission. The survey was issued at the end of May 2018 and closed at the end of June 2018.

A total of 104 responses to the targeted survey were received across 19 Member States¹⁵³. The survey was designed to allow stakeholders to be selective in the questions that they answered, albeit 59 percent of responses provided answers to all questions.

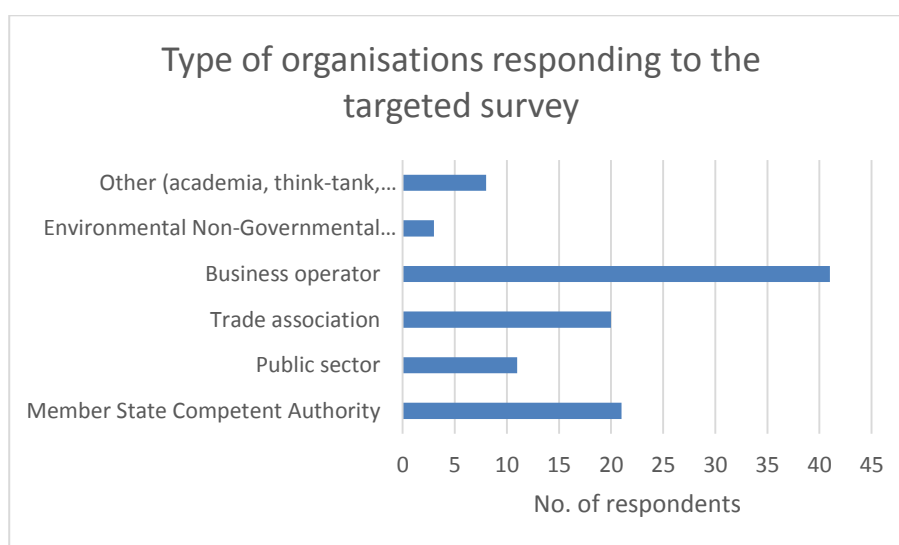
Figure B-3 Number of consultation responses by Member State

¹⁵³ Combined with the responses from the public consultation, no responses were received from only 4 Member States. No additional effort were made to seek further responses there.



Examining the types of organisations that responded to the survey indicates a majority of respondents were split between business operators, trade associations and Member State competent authorities. Environmental NGOs and Public Sector represent the minority of responses received.

Figure B-4 Type of organisations responded to the targeted survey



Member State Competent Authority and other stakeholder targeted interviews

In order to consider some of the submissions made during both the public consultation and targeted online survey interviews were held with two main sets of stakeholders.

Firstly, representatives of Member State competent authorities and their administrations from the NL, BE (Flanders), DE, CZ, DK, and ES were interviewed. The team also contacted BG, as they had not provided a response to the targeted online survey, to ensure that the responses taken as a whole from both the targeted survey and interviews addressed 20 Member States. The interviews with Member State competent authorities addressed the key themes that had been identified in the evaluation to date, provisions in

relation to inspection and enforcement and materials provided by the Member States concerned.

Secondly, interviews with 15 other stakeholders were undertaken across a variety of trade associations as well as with some individual companies involved in waste shipments. Similarly, to the Member State competent authority interviews, the questions raised during the interviews were organised around the five evaluation criteria with interviewees provided with an opportunity to raise any other issues that they considered relevant in respect of the evaluation that had not been addressed in the questions posed up to this point.

Responses to the interviews were shared across the evaluation team, along with any further additional materials (e.g. position papers) submitted as part of the analysis of data informing this evaluation.

Finally, two interviews were held with United Nations Environment Programme Secretariat staff from the Basel Convention on the Transboundary Movements of Hazardous Wastes and Their Disposal as well as OECD staff involved in OECD Council Decision C(2001) 107 establishing the control system for waste destined for recovery.

Stakeholder workshops

Two workshops were held in undertaking the evaluation, the first took place in January 2018 and the second in September 2018. Around 60 attendees from all targeted stakeholder groups participated in both of the workshops. Extensive reports of these workshops by the supporting consultants led by Trinomics, can be consulted in Appendix G of the support study¹⁵⁴.

The first one day workshop was held in Brussels on Thursday 11th January 2018 and was used to confirm the main issues encountered in the implementation of the WSR to date, considering both positive and negative impacts, and to consider the scope of the further data collection exercises.

As well as providing an introduction to the aims and process for the evaluation several technical sessions were split according to:

- Overall procedural framework and prior written consent (Articles 3-17);
- General information requirements (Article 18 and Annex VII);
- General issues (Articles 19-21 on prohibition of mixing, keeping of documents and public access to notifications, Articles 22-25 covering take-back, Articles 26-30 on general administrative provisions and Article 33 concerning shipments exclusively within Member States);
- Enforcement and inspection (Articles 49-56);
- Export, import and transit (Articles 31-32 for shipments within the community with transit via Third Countries, Articles 34-39 concerning

¹⁵⁴ <https://publications.europa.eu/en/publication-detail/-/publication/926420bc-8284-11e9-9f05-01aa75ed71a1/language-en/format-PDF>

exports to Third Countries, Articles 41-46 concerning imports from Third Countries, Articles 47 and 48 concerning transit from and to Third Countries and Regulation 1418/2007).

Participants were provided with a summary of issues identified from the literature review and initial interviews for the above topics and asked to confirm, refute and provide additional thoughts and materials in relation to these topics.

Generally, the topics addressed, and issues identified were confirmed by participants, with emphasis placed on the use of existing reports provided by Member States in the implementation of the WSR, the importance of considering all interested parties in the evaluation and the original objectives of the WSR in comparison to the changing waste market and, in particular, the relationship with the circular economy.

The second one day workshop was held in Brussels on Tuesday 11th September 2018 and was used to confirm the draft conclusions resulting from the evaluation of evidence provided against the evaluation criteria and questions. Attendees of the workshop were provided with:

- i. a summary paper in advance of the workshop that provided a brief summary of the conclusions reached as part of the evaluation; and
- ii. presentations at the workshop itself that were further explained by the consultants assisting the Commission in the evaluation process that provided more detail against the conclusions presented in the summary paper.

The agenda was split against the evaluation criteria:

- Session 1 addressed Effectiveness;
- Session 2 addressed Efficiency;
- Session 3 addressed Relevance;
- Session 4 addressed Coherence; and
- Session 5 addressed EU added value.

During each session, and following presentations by the consultants, attendees were asked their opinion on the draft conclusions. These were recorded in the workshop report that was issued for consultation in draft following the workshop. Comments received from attendees were then incorporated in the final workshop report.

In general, the draft conclusions presented were agreed by stakeholders, subject to changing in language and addition of necessary nuance to address all stakeholder points of view.

On effectiveness, participants' reactions mainly concerned the relationship between the WSR and the transition to a circular economy and to what extent it is, or should be, part of the WSR's objective. Certain stakeholders – mainly from the business community, thought the WSR impairs or prevents trade and flow of wastes considered as secondary materials, which are crucial to improving the transition towards a more circular economy.

Other topics that were brought forward were the need to clarify definitions and terms in or related to the WSR, and issues with classification of waste.

On efficiency, the session identified the overview of costs related to the WSR for both public and private stakeholders. Participants' reactions further mainly focussed on potential efficiency gains through digitalisation, proportionality of costs and inefficiency because of disharmonised application of provisions on pre-consented facilities, timing of procedures and waste classification (including disputes on end-of-waste classification). Participants did not or only limited react on the conclusions presented for the topic of differentiation of costs and benefits between industry sectors and the variation at local, national and EU-level.

On relevance, there was a focus in the discussions on plastic waste, related to the recent developments globally, and again the transition to a circular economy. Some of the provisions or concepts that were mentioned to be outdated by participants were: financial guarantees, although obliged by Basel, should be rethought. Also documentation requirements for interim operations were mentioned in that sense.

On coherence, the role of producer's responsibility in take-backs was brought up by participants, and some specific issues with specific related legislation like the Animal By-Product Regulation. Most other presented conclusions received no explicit reactions of participants at the workshop.

On EU-added value, a specific discussion on Regulation 1418/2007 and plastic waste was held. Some participants referred to the level playing field that it created, while others took the recent rapid developments of Asian countries that shut their borders for inter alia plastic waste but where these restrictions are not yet reflected in the Regulation.

Feedback received on the evaluation roadmap

Feedback was provided by BDE (a DE association representing mainly private companies in the waste and wastewater management industries), the European Electronics Recyclers Association (EERA), the European Recycling Industries' Confederation (EuRIC), the European Union for Responsible Incineration and Treatment of Special Waste (EURITS), the European Recycling Platform (ERP), the European Federation of Waste Management and Environmental Services (FEAD), Remondis Industrie Service Group (RISG), Subdireccion General De Residuos, Finnish Environmental Industries YTP, Fabrice Sancho (citizen), Arsi Saukkola (organisations other than business/companies/NGOs) and 2 anonymous respondents. The opinions raised and evidence provided in this feedback was used in the evaluative study directly, with a number of the respondents providing further materials as part of the other consultation activities undertaken as described above.

REFIT Platform Opinion

The REFIT Platform has considered submissions by the Danish Business Forum, Finnish Survey for Better Regulation and a member of the Stakeholder Group on the Regulation

on Shipment of Waste and adopted its opinion on 19/03/2018¹⁵⁵. The Stakeholder group noted that over the years a number of concerns were raised by national authorities and stakeholders about certain provisions of the Regulation causing unnecessary administrative burden as well as delays and additional costs for shipments of waste. They also recognized the continuous occurrence of illegal shipments of waste.

The two first submissions that were looked upon, both touch upon the unclear definition of waste and status of certain waste and the potential consequences to enhance waste recycling in the EU. The Stakeholder Group recognizes these problems hamper the development of a real internal market for waste recycling as well as the development of a circular economy. The Stakeholder Group was aware of the work done in the context of the revision of the Waste Framework Directive to help distinguish between waste and non-waste and in the context of the then upcoming Communication addressing the interface between chemical, products and waste.

The Stakeholder group encouraged the Commission to use the review of the regulation on the Shipment of Waste to get clarity on these issues and ensure that definitions and interpretations are harmonised across the Member States. The current patchwork of interpretations and related enforcement damages businesses opportunities linked to waste recycling and the circular economy. The Stakeholder Group recommended that the Commission reinforces exchange of best practises on implementation and enforcement and moves towards a more uniform enforcement.

The Stakeholder Group found the idea of investigating whether more types of waste can be added to the “green list” to reduce the administrative burdens interesting. This should however only be done after thoroughly analysing the properties of the types of waste and their potential impact on the environment. Suggestion was also to investigate how to establish a registry of certified recycling facilities and how to reduce licensing duties in EU if waste is shipped to any of these certified facilities.

The last submission concerned the more specific issue of the lack of mutual recognition of registrations. Member States appear to not mutually recognize each other's registrations, which leads to many parallel registrations, which is administratively demanding for the carriers. Furthermore, in practice it is said to be very complicated for carriers to make registrations in non-home states for several reasons: different modes and validity of registrations, different requirements to provide information for registrations, and language issues. In consequence transports are delayed because carriers awaiting the registration or the carrier in question loses the assignment. Another challenge is the fact that the carrier is prevented from changing the company's corporate form. The carrier must change the corporate form of the company before he can apply for registration, and when this is done, they must wait for the response of the request of registration from the Member States. Meanwhile, the company is excluded from the market. Finally, digital solutions are not always compatible between different countries.

The Stakeholder Group supported the suggestion to ensure mutual recognition of waste carrier registrations. They deemed that if minimum requirements and procedural steps for

¹⁵⁵ https://ec.europa.eu/info/sites/info/files/recommendation-ix-3a-c_regulation-on-shipment-of-waste_en.pdf

registration were to be defined at EU level and reflected in national registration systems, the same level of protection of the environment and human health could be ensured.

Specifically on plastic waste exports, the Stakeholder Group referred in its opinion in the evolving global situation on exports of plastic waste. It proved so that waste that used to be shipped to China, re-routed recently following China’s decision to ban the import of certain types of plastic waste. The Stakeholder Group also indicated the creation of opportunities for EU recyclers due to this evolution.

Ad hoc contributions

Ad hoc contributions were provided according to the table below:

Organisation	Represented interests	Nature of the contribution
Danish Chamber of Commerce	Danish industry	Written submission in addition to contributions made during targeted stakeholder consultation. Generally the submissions provided additional evidence against one or more of the evaluation criteria.
EuRIC	European Recycling Industries	
Eurometaux	European non-ferrous metal industry	
Hazardous Waste Europe	EU hazardous waste treatment sector	
FEAD	EU Waste Management and Environmental Services Sectors	
HOSZ Hungary	Hungarian waste management sector	
VDEH Germany	German steel manufacturers	
Veolia	Private sector – waste management services	

Use of the information gathered

All of the information gathered as part of the data collection exercise, both through the consultation highlighted in this synopsis report, as well as literature review and evidence gathering by the team of consultants was combined into a single data repository. This repository provided for the examination of all data sources against each of evaluation questions, noting relevant sources of evidence that are then quoted in the main body of the evaluative study. Data was then analysed to identify contradictory or supportive statements and evidence to reach the conclusions contained in the final evaluative study. To this end, the second stakeholder workshop was used to confirm the draft final findings based on this information and to adjust the conclusions according to that workshop. In

this context, all widely supported views are entirely considered in the final report, with less widely supported views identified as such.

Annex 3. Methods used in preparing the evaluation

This annex provides the overall evaluation framework as presented in Appendix B of the preparatory study performed by the consortium led by Trinomics in support of this evaluation¹⁵⁶. It links with the various methodological tools used (i.e. interviews, workshops, survey, open public consultation, literature analysis) and supplements section 4 to this report.

Effectiveness: how successful the EU action has been in achieving or progressing toward its objectives					
Evaluation question	Evaluation sub-question	Judgment Criteria	Indicators	Method	Sources
EQ1 To what extent have the objectives been achieved?	SQ 1.1 What progress has been made over time towards achieving the objectives set out in the WSR?	That there are clear indicators of the extent of progress on this objective	Quantitative indicators such as quantity of waste shipped, quantity of waste treated and qualitative indicators such as perception from Member States of cooperation to prevent illegal waste shipments.	Quantitative analysis of the literature/ data for each of the objectives Qualitative analysis from information gathered through consultation and interviews	Review of the regulation implementation Review of relevant literature sources Review of Eurostat and other statistics Consultation and questionnaire analysis Public consultation
	SQ 1.2 What progress has been made in implementing the Basel Convention?	That there are clear indicators of the extent of progress on this objective	Qualitative indicators such as level of implementation of the Basel Convention	Quantitative analysis of the literature/ data for each of the objectives Qualitative analysis from information gathered through consultation and interviews Comparison with other economies, e.g. US, Japan, BRICS, etc.	Review of the regulation implementation Review of the Basel Convention implementation Review of relevant literature sources Review of Eurostat and other statistics Consultation and questionnaire analysis Public consultation

¹⁵⁶ <https://publications.europa.eu/en/publication-detail/-/publication/926420bc-8284-11e9-9f05-01aa75ed71a1/language-en/format-PDF>

Effectiveness: how successful the EU action has been in achieving or progressing toward its objectives

	SQ 1.3 How has the WSR helped / hindered this progress?	That there is understanding of the contribution / impacts that the WSR has made toward the specific objectives identified in EQ1	Commentary and example on the role of the WSR in reaching the objectives Comparison of quantitative data before and after adoption of the WSR	Qualitative analysis from information gathered through consultation and interviews	Review of relevant literature sources Consultation and questionnaire analysis Public consultation
	SQ 1.4 What are the main obstacles to the effective functioning of WSR?	Identification of obstacles to the effective functioning of the legislation and that there is understanding of the effects of those on the functioning	The list of obstacles and subsequent effects.	Qualitative analysis from information gathered through consultation and interviews	Review of relevant literature sources (e.g. waste market report, implementation reports) Consultation and questionnaire analysis Public consultation
	SQ 1.5 How has the WSR contributed to the combating of illicit trafficking of waste across borders?	That there are clear indicators of progress on this objective	Experts judgment, and quantitative indicators if possible, on issues such as avoided waste trafficked illicitly, increased transparency of waste shipments	Quantitative analysis of the literature/ data for each of the objectives Qualitative analysis from information gathered through consultation and interviews	Review of the regulation implementation Review of relevant literature sources Consultation and questionnaire analysis Public consultation
	SQ 1.6 How has Regulation (EC) No 1418/2007 contributed in the achievement of the WSR objectives?	That the role and contribution of Regulation (EC) No 1418/2007 to the effective functioning of WSR can be observed	Commentary and example on the contributions from Reg 1418/2008 and their role in achieving the objectives of the WSR	Quantitative analysis of the literature/ data for each of the objectives Qualitative analysis from information gathered through consultation and interviews	Review of the regulation implementation Review of relevant literature sources Consultation and questionnaire analysis Public consultation
	SQ 1.7 Has there been any unintended or unexpected positive/negative consequences as a result of the WSR?	The identification of any unintended or unexpected positive/negative changes and their consequences (e.g. gold-plating)	The list of the unintended or unexpected changes and their consequences. Reasons for their occurrence	Qualitative description, categorisation and assessment of unintended/unexpected consequences.	Review of relevant literature sources (e.g. waste market reports) Consultation and questionnaire analysis in particular with Member States authorities and industry Public consultation
EQ 2 What factors influenced the achievements observed?	SQ 2.1 How have different factors influenced effectiveness? Are there factors that limit the effectiveness of the WSR and would they be avoidable?	That the role of the different factors on the effects can be observed	Commentary and example on the factors being considered and their role in achieving the effects listed the previous question. Such factors could be uneven implementation, size of company, sector, etc.	Qualitative analysis from information gathered through consultation and interviews	Review of the regulation implementation Review of relevant literature sources (including the REFIT platform) Consultation and questionnaire analysis

Effectiveness: how successful the EU action has been in achieving or progressing toward its objectives

					Public consultation
	<p>SQ 2.2 How does implementation vary across Member States and what is the influence? Are the main elements of the WSR effectively and consistently implemented across all MS? What are the consequences of such disparities between MS?</p>	<p>Identification of disparities between Member States, the causes and severity of these disparities and how these relate to the state of implementation</p>	<p>The list of disparities and differences in implementation in different Member States, and the consequences on effectiveness</p>	<p>Qualitative analysis from information gathered through consultation and interviews</p>	<p>Review of the regulation implementation Review of relevant literature sources (e.g. implementation reports) Consultation and questionnaire analysis Public consultation</p>
	<p>SQ 2.3 To what extent is enforcement effective and consistent across all MS? Is the frequency of controls, sanctions and liabilities consistent and comparable in different Member States? Are there any measures in place at EU level to support enforcement? Are these tools effective and sufficient?</p>	<p>Identification of disparities in the enforcement between MS; the causes of these disparities and how these relate to the state of enforcement</p>	<p>Commentary on enforcement level in different MS</p>	<p>Qualitative analysis from information gathered through consultation and interviews</p>	<p>Review of the regulation implementation Review of relevant literature sources (e.g. implementation reports) Consultation and questionnaire analysis Public consultation</p>
	<p>SQ 2.4 Were inspection plans effective?</p>	<p>Identification of disparities in the inspections plans between MS; the causes of these disparities and how these relate to the state of inspection</p>	<p>Commentary on inspections in different MS</p>	<p>Qualitative analysis from information gathered through consultation and interviews</p>	<p>Review of the regulation implementation Review of relevant literature sources (e.g. implementation reports) Consultation and questionnaire analysis Public consultation</p>

Efficiency - how efficient is the implementation of the Regulation in terms of the human resources involved, the costs incurred and the benefits accomplished in achieving its objective

Evaluation question	Evaluation sub-question	Judgment Criteria	Indicators	Method	Sources
<p>EQ3. To what extent are the costs involved justified/proportionate, given the effects which have been achieved?</p>	<p>EQ3.1. What are the costs and benefits (monetary and non-monetary) associated with the implementation of the WSR for the different stakeholders at local,</p>	<p>The costs (monetary/non-monetary) to Member States' and EU public authorities, the public and private organisations (including the influence of sizes of</p>	<p>Monetisation of admin burden and operating expenditures. Quantification of Hassle costs (i.e. associated with waiting time, delays, redundant legal</p>	<p>Primarily through consultation with industry representations and competent authority. Use of proxies to ensure comparability of data and the</p>	<p>Review of relevant literature Stakeholder questionnaire Member State specific questionnaire and follow-up interviews Stakeholder interview</p>

Efficiency - how efficient is the implementation of the Regulation in terms of the human resources involved, the costs incurred and the benefits accomplished in achieving its objective

	national and EU level?"	<p>enterprises on costs) were assessed and understood</p> <p>The associated benefits / impacts (monetary/non-monetary).</p>	<p>provisions and corruption) using proxy indicators or qualitatively</p> <p>Costs for national authorities to monitor and enforce the Regulation: Monetisation of monitoring and verification costs.</p> <p>Indirect regulatory costs (i.e. substitution of product and services due to the potential disincentive of export of waste): Qualitative assessment</p> <p>Direct benefits of improved wellbeing: Avoided health effects, avoided emissions to the environment, reduced contribution to climate change. Direct financial/economic benefits: Avoided clean-up costs, avoided repatriation costs, increase in material/energy recovery. Indirect benefits: Possible spill-over effects (qualitative)</p>	<p>use of the Administrative Burdens Calculator and SCM: Special focus will put on administrative burden and hassle costs as a priority due to their importance in the context of the WSR. Admin burden and operating costs: SCM Direct hassle and indirect costs: Proxy indicators (i.e. days of delay) or qualitative assessment. Monitoring and verification costs: SCM Costs will be defined for SMmE / non-SMmE to identify possible additional burden in the case of SMmE</p> <p>Quantitative / Qualitative analysis: Direct benefits of improved wellbeing: Scale of importance according to stakeholders. Direct financial/economic benefits: Judgment based on literature review, secondary data and interviews. Spill-over effects: Qualitative analysis</p>	Public open consultation
	SQ3.2. Are the costs proportionate to the benefits the WSR has brought?	Results setting out costs and benefits will be discussed with stakeholders to obtain views on whether these are proportionate	Relationship between costs and benefits resulting from the Regulation. Qualitative mainly but quantitative for issues such as operational costs, etc. It will also draw from the results of SQ3.1 and SQ3.2 above and will compare this with stakeholders' views	Quantitative and qualitative analysis drawing from SQ3.1 and 2	Stakeholder questionnaire Stakeholder interview

Efficiency - how efficient is the implementation of the Regulation in terms of the human resources involved, the costs incurred and the benefits accomplished in achieving its objective					
	SQ3.3. How have costs and benefits varied by size of enterprises (micro/small/medium-sized enterprises)?	Identification of cost differences among SMmE and how these may relate to the implementation of the Directive	Description of specific examples of cost differences, reasons and consequences, with a graphic display of quantitative results where appropriate and possible	Quantitative and qualitative analysis drawing on the results of EQ3 and focussing on the judgment criteria	As in EQ3 above
EQ4. What factors influenced the efficiency with which the achievements observed were obtained?	SQ4.1. What, if any, good or bad practices can be identified in the implementation of the WSR?	Identification of good practices or bad practices when considering implementation of the WSR	Description of practices highlighted as good / bad	Qualitative analysis based on the responses of questions SQ5.3 and SQ5.4	Review of the relevant literature (e.g. waste markets report) Consultation and questionnaire analysis Public consultation
	SQ4.2 What evidence is there that WSR and Regulation (EC) No 1418/2007 have caused unnecessary regulatory burden or complexity?	Comparison of costs and benefit data with other similar regime	Difference in costs compared to other comparable regimes.	Quantitative and qualitative analysis drawing on the results of question EQ3	Consultation and questionnaire analysis Results in EQ3
	SQ4.3. How have the costs and benefits of the WSR varied at local, national and EU level?	Linking with the above, we will identify associated benefits at local, national and international level (i.e. differences between MS) focusing on cost and benefit differences and how these relate to the state of implementation	Descriptions of specific examples of how affordable the costs borne by different stakeholder groups at local, national and EU level. Graphic display of quantitative results where appropriate and possible	Quantitative and qualitative analysis drawing on the results of EQ3 and focussing on the judgment criteria	As in EQ3 above
	SQ4.4 If there are significant cost/benefit differences between Member States, what is causing them?	Identification of influencing factors when considering cost/benefit in the implementation of the WSR across Member States	Description of influencing factors	Qualitative analysis	Review of the relevant literature (e.g. waste markets report) Consultation and questionnaire analysis Public consultation
	SQ4.5. Could the reporting under WSR and Regulation 1418/2007 be more efficient?	Elements/ provisions that could be simplified in the WSR are identified or deemed not necessary.	Comparison of the specific obligations under the WSR and wider waste legislation. Identification of where dovetailing of these obligations could be brought together to reduce burdens and where barriers to this exists. Identification of whether the opportunities to deliver	Qualitative analysis	Consultation and questionnaire analysis Public consultation Review of relevant literature sources (e.g. waste market reports)

Efficiency - how efficient is the implementation of the Regulation in terms of the human resources involved, the costs incurred and the benefits accomplished in achieving its objective

			<p>simplification have been taken. Where opportunities were not taken or barriers exist, analysis of why this is the case. Identification of whether more could be obtained from the WSR without increasing costs (e.g. further data generated, more information exchanged)</p>		
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Relevance - Is the WSR still relevant in light of its main objective, the Circular Economy agenda, EU raw materials policy and any other relevant EU policy objectives?

Evaluation question	Evaluation sub-question	Judgment Criteria	Indicators	Method	Sources
EQ 5 How well do the original objectives correspond to the policy objectives of the EU (and its global partners)?	SQ 5.1 To what extent does the WSR address the environmental, climate and health impact(s) of transboundary shipments of waste within, into, out of and through the European Union?	The extent to which identified objectives relating to the environmental, climate and health impacts of transboundary shipments of waste are addressed by the Regulation.	Identification of the current needs. The extent to which these needs are met by the objectives of the Regulation.	Cross-reference against all elements of the intervention logic and commentary	Review of relevant literature sources Consultation and questionnaire analysis Public consultation
	SQ 5.2 How does the WSR help enhance the efficient use of resources and establish a well-functioning single market for waste treatment services and secondary raw materials within a more circular EU economy?	The extent to which identified objectives relating to resource use are addressed by the Regulation.	Identification of the current needs. The extent to which these needs are met by the objectives of the Regulation.	Cross-reference against all elements of the intervention logic and commentary	Review of relevant literature sources (e.g. waste market report) Consultation and questionnaire analysis Public consultation

Relevance - Is the WSR still relevant in light of its main objective, the Circular Economy agenda, EU raw materials policy and any other relevant EU policy objectives?

<p>EQ 6 How well adapted is the WSR to (subsequent) technical and scientific progress and EU and global market developments?</p>	<p>/</p>	<p>Technical and other developments have occurred which should affect the scope of reporting or means of reporting and in how data are made available to the public. The Regulation is flexible to adapt to technical and scientific progress (e.g. from end-of-waste regulation) The Regulation has been kept fit for purpose through adaptation to technical and scientific progress.</p>	<p>Degree of flexibility allowed within the Regulation to adapt to technical and scientific progress (i.e. availability of suitable mechanisms to ensure adaptation). List of elements where adaptation to progress has been made (and listing of outstanding issues).</p>	<p>Qualitative analysis based on consultations evidence</p>	<p>Review of relevant literature sources Consultation and questionnaire analysis, in particular from industry Public consultation</p>
<p>EQ 7 How relevant is the WSR in the context of the EU's international obligations resulting from inter alia the Basel Convention and the relevant OECD Decision?</p>	<p>/</p>	<p>The extent to which the WSR contributes to achieving EU international obligations</p>	<p>Evidence of relevance of the WSR and commentary</p>	<p>Qualitative analysis</p>	<p>Review of relevant literature sources Consultation and questionnaire analysis Public consultation</p>
<p>EQ 8 Is there any provision irrelevant or outdated/obsolete in the WSR?</p>	<p>/</p>	<p>Evidence gathered allows for the identification of obsolete or irrelevant provisions</p>	<p>List of any obsolete provisions and commentary.</p>	<p>Qualitative analysis</p>	<p>Review of relevant literature sources Consultation and questionnaire analysis Public consultation</p>

Coherence - To what extent is the WSR (together with Regulation (EC) No 1418/2007) coherent with other EU policies?

Evaluation question	Evaluation sub-question	Judgment Criteria	Indicators	Method	Sources
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Coherence - To what extent is the WSR (together with Regulation (EC) No 1418/2007) coherent with other EU policies?

<p>EQ 9. To what extent is the WSR (together with Regulation (EC) No 1418/2007) coherent with other European policies? How do different policies affect positively or negatively the implementation of the WSR? Identify any particular strengths, efficiencies, synergies, weaknesses, inconsistencies, overlaps, contradictions, etc. Particular consideration should be given to:</p> <ul style="list-style-type: none"> • Other EU waste legislation including the Waste Framework Directive, the WEED, the ELVD, the Decision on the list of waste and the Ship Recycling Regulation 	<p>SQ 9.1. Are there synergies (e.g. strengths, efficiencies, etc.) as a result of the interaction of the WSR with other EU legislation?</p>	<p>The extent to which the interaction of the WSR with other EU policies and legislation creates synergies which help to achieve the objectives and processes.</p>	<p>List of elements in the Regulation which may lead to synergies when combined with other EU legislation. Particular attention will be paid to the relationship between the WSR and the CE package in relation to facilitating the market for secondary materials in the EU</p>	<p>Review and comparison of the objectives and provisions of the WSR and the other legislation / policies considered.</p>	<p>Review of the legislation and policy frameworks Review of relevant literature Consultation and questionnaire Public consultation</p>
	<p>SQ 9.2. Are there weaknesses or gaps as a result of the interaction of the WSR with other EU legislation?</p>	<p>The extent to which identified weaknesses and gaps that may arise as a result of the incoherence of the WSR with other instruments hampers the achievements of the objectives and processes.</p>	<p>List of elements in the Regulation which may lead to weaknesses when combined with other EU legislation. Possible gaps that are not addressed by the WSR or that result of the interaction of the WSR with other instruments</p>	<p>Review and comparison of the objectives and provisions of the WSR and the other legislation / policies considered.</p>	<p>Review of the legislation and policy frameworks Review of relevant literature Consultation and questionnaire Public consultation</p>
	<p>SQ 9.3. Are there overlaps as a result of the interaction of the WSR with other EU legislation?</p>	<p>The extent to which identified overlaps in other instruments hampers the achievements of the objectives and processes.</p>	<p>List of elements in the Regulation which are not externally coherent (and potential consequences), with focus on overlaps</p>	<p>Review and comparison of the objectives and provisions of the WSR and the other legislation / policies considered.</p>	<p>Review of the legislation and policy frameworks Review of relevant literature Consultation and questionnaire Public consultation</p>

Coherence - To what extent is the WSR (together with Regulation (EC) No 1418/2007) coherent with other EU policies?

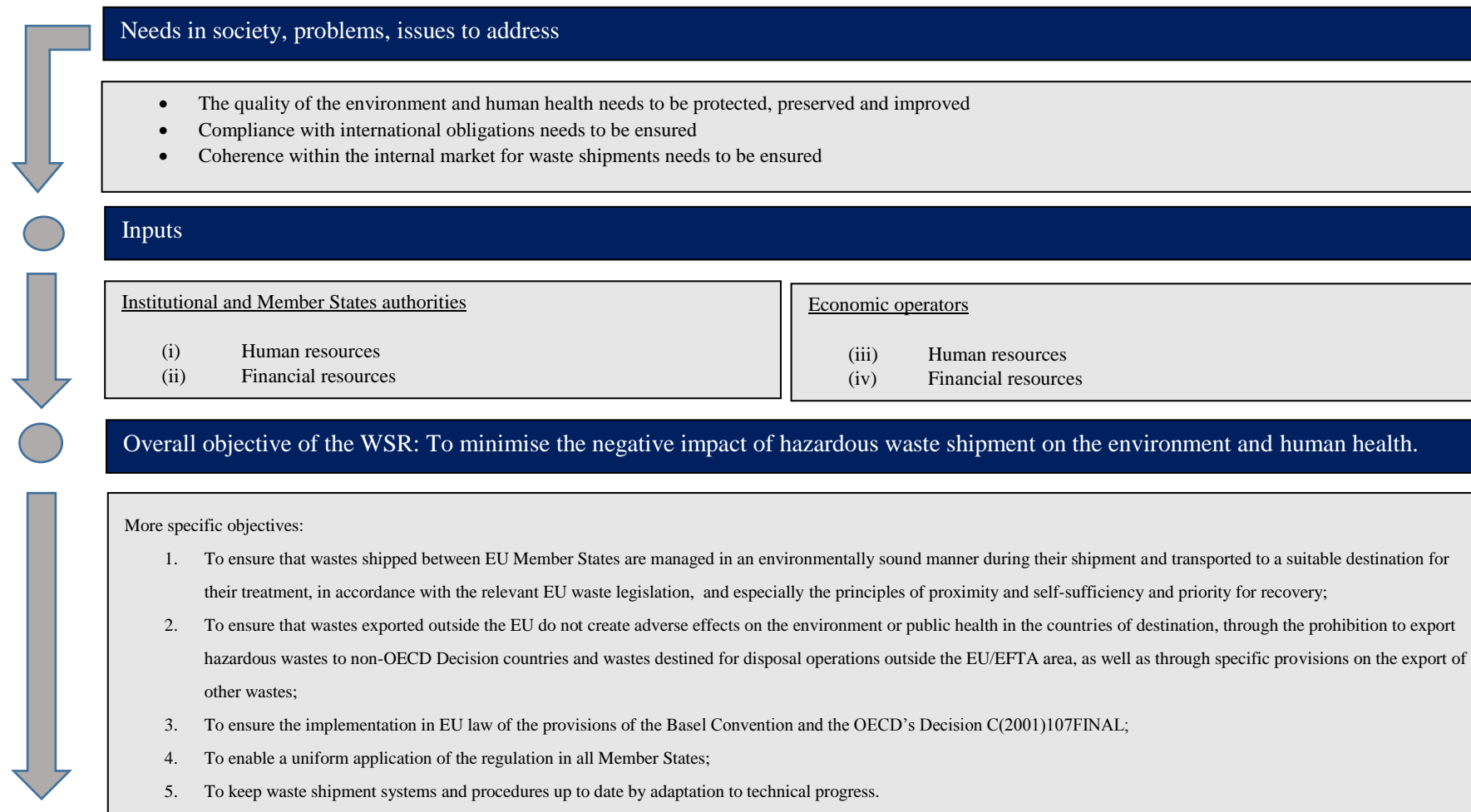
<ul style="list-style-type: none"> ●EU Greenhouse Gas Emissions Trading Scheme, ●EU raw materials policy and the Commission's Circular Economy Action Plan, ●REACH ●Product and substance legislation applicable to recycled materials, ●Customs legislation and EU trade policy, ●EU raw materials policy, ●Animal By-Products Regulation, ●Policy on streamlining of Members States' reporting to the European Commission; 	<p>SQ 9.4 Are there inconsistencies or contradictions as a result of the interaction of the WSR with other EU legislation?</p>	<p>The extent to which identified inconsistencies and contradictions in other instruments hampers the achievements of the objectives and processes.</p>	<p>List of elements in the Regulation which are not externally coherent (and potential consequences), with focus on inconsistencies</p>	<p>Review and comparison of the objectives and provisions of the WSR and the other legislation / policies considered.</p>	<p>Review of the legislation and policy frameworks Review of relevant literature Consultation and questionnaire Public consultation</p>
	<p>SQ9.5. To what extent does the WSR support the EU internal market and the creation of a level playing field for economic operators, especially SMEs?</p>	<p>The extent to which the WSR achieve the objectives considered in coherence with other EU rules</p>	<p>List of elements that support EU internal market. Direct financial/economic benefits: level-playing field for operators (versus evidence on lack of level playing field between Member States and sectors). Special attention will be given to potential issues with accessing secondary raw materials.</p>	<p>Quantification of level-playing field based on various proxy indicators such as the degree of delocalisation, relocation of jobs in waste management etc.</p>	<p>Review of existing policy initiatives Review of relevant literature (e.g. waste markets report) Consultation and questionnaire analysis, in particular from SMEs Public consultation</p>
	<p>SQ9.6. To what extent does the WSR promote industrial innovation?</p>	<p>The extent to which the WSR achieve the objectives considered in coherence with other EU rules</p>	<p>List of elements in the Regulation that contribute to supporting industrial innovation in the EU.</p>	<p>Judgment based on literature review and secondary data.</p>	<p>Review of existing policy initiatives Review of relevant literature</p>

Coherence - To what extent is the WSR (together with Regulation (EC) No 1418/2007) coherent with other EU policies?					
	SQ9.7. To what extent does the WSR provide additional employment opportunities?	The extent to which the WSR achieve the objectives considered in coherence with other EU rules	List of elements in the Regulation that contribute to supporting employment. Quantification of the direct economic benefit of creating new jobs	Judgment based on literature review, secondary data and interviews.	Review of existing policy initiatives Review of relevant literature Consultation and questionnaire analysis, in particular from industry
EQ 10. To what extent is the WSR coherent internally, including with Regulation (EC) No 1418/2007.	-	That the objectives of the Regulation are delivered in a coherent and simple manner with no requirements unnecessary, unclear or contradictory	List of elements in the Regulation which are not internally coherent (and potential consequences).	Review of the objectives and provisions of the Regulation.	Review of the legislation Review of relevant literature Consultation and questionnaire analysis Public consultation
EQ 11. To what extent are strategies/ legislation at Member State level coherent with the WSR, in particular Article 33?	-	The extent to which identified overlaps, gaps discrepancies, contradictions or similar issues in other instruments hampers the achievements of the objectives and processes.	List of elements in the Regulation which are not coherent (and potential consequences) with Member States' legislation or legislative initiatives at national level.	Review and comparison of the objectives and provisions of the WSR and the other legislation / policies considered.	Review of the legislation Review of relevant literature (e.g. implementation reports) Consultation and questionnaire analysis Public consultation
EQ 12. To which extent is the WSR coherent with international commitments on waste?	SQ12.1. What is the coherence of the WSR with the Basel convention?	The extent to which identified overlaps, gaps discrepancies, contradictions or similar issues in other instruments hampers the achievements of the objectives and processes.	List of elements in the Regulation which are not externally coherent (and potential consequences) with the Basel convention.	Review and comparison of the objectives and provisions of the WSR and the other legislation / policies considered.	Review of the legislation and policy frameworks Review of relevant literature
	SQ12.2. What is the coherence of the WSR with OECD Council Decision C(2001)107?	The extent to which identified overlaps, gaps discrepancies, contradictions or similar issues in other instruments hampers the achievements of the objectives and processes.	List of elements in the Regulation which are not externally coherent (and potential consequences) with OECD Council Decision C(2001)107	Review and comparison of the objectives and provisions of the WSR and the other legislation / policies considered.	Review of the legislation and policy frameworks Review of relevant literature
EU-added value - what is the added value brought about through the application of the EU WSR regime in comparison to what could be achieved by Member States at national, regional and international levels alone?					
Evaluation question	Evaluation sub-question	Judgment Criteria	Indicators	Method	Sources
EQ 13. What has been the EU added value (of the WSR together with Regulation (EC) No	/	The EU added value of the Regulation can be established by comparison with what could reasonably be expected to be achieved by Member	Views on the value of the additional benefits delivered by this being addressed at EU level	Qualitative analysis	Review of relevant literature sources (e.g. impact assessment) Consultation and questionnaire analysis

EU-added value - what is the added value brought about through the application of the EU WSR regime in comparison to what could be achieved by Member States at national, regional and international levels alone?					
1418/2007, and of the two separately) compared to what could be achieved by Member States applying national rules across the EU and/or implementing multilateral environmental agreements in this field (the UN Basel Convention and OECD decisions)?		States themselves The extent to which the enforcement committee of the Basel Convention would be as effective as a judgment of the European Court of Justice.			Public consultation
EQ 14. To what extent do the issues addressed by the WSR continue to require action at EU level?	/	The identification of needs with regards to waste shipments which are best addressed at EU level	List of specific needs at EU level.	Qualitative analysis	Review of relevant literature sources Consultation and questionnaire analysis Public consultation
EQ 15. What has been the EU added value of the Regulation EC No 1418/2007 on the export for recovery of certain non-hazardous waste to non-OECD countries?	/	The EU added value of the Regulation can be established by comparison with what could reasonably be expected to be achieved by Member States themselves.	Views on the value of the additional benefits delivered by this being addressed at EU level	Qualitative analysis	Review of relevant literature sources Consultation and questionnaire analysis Public consultation
EQ 16. What would be the most likely consequences of stopping EU action?	/	Extent to which repealing the WSR would lead to a change in the environmental impacts of waste shipments	Views on the value of the WSR and the related EU action	Qualitative analysis	Review of relevant literature sources Consultation and questionnaire analysis Public consultation

Annex 4: Intervention logic

This annex provides a more extensively presented intervention logic. In section 2.2 a summarized version can be found.



Actions undertaken (linked to operational objectives) to achieve the expected results

Control procedures

Competent authorities/Member States :

- Prior written notification and consent procedure for amber listed and unlisted waste (Art. 4)
- General information requirements for green listed waste (Art. 18)
- Competent authorities may lay down specific conditions attached to their consent for shipments (Art. 10)
- Competent authorities may object to shipments (Art. 11 and 12)
- Facilities can be pre-consented as regards shipments for recovery (Art. 14)

Notifiers :

- Waste shipments are subject to the procedure of prior written notification and consent or to a regime of general information requirements depending on the type of waste (Art. 3)
- Waste shipments for which a notification is required must be covered by a financial guarantee (Art. 6)

Other:

- The person in charge of the shipment in the country of dispatch: certain shipments must be accompanied by specific information (Art. 18)

Trade bans

Competent authorities/Member States :

- Export of waste for disposal outside the EU/EFTA is prohibited (Art. 34)
- Export of hazardous waste to non-OECD countries is prohibited (Art. 36) and export for recovery of non-hazardous waste to these countries is regulated (Art. 37)
- Imports of certain waste can be prohibited (Art. 41)

Inspection systems

Competent authorities/Member States:

- Ensure that Member States carry out effective inspections of establishments, undertakings, brokers and dealers. Member States must adopt inspection plans based on risk assessments covering specific waste streams and sources of illegal shipments (Art. 50)
- Authorities may require the notifier, the person who arranges the transport, the carrier, the consignee and the facility that receives the waste to submit relevant documentary evidence to them within a period specified by them (Art. 50(4c))
- Authorities may require the notifier, the person who arranges the transport, the holder or the carrier to submit relevant documentary evidence that a substance or object being carried is not waste (burden of proof) within a period specified by them (Art. 50(4a) and (4b))
- Member States to cooperate in preventing and detecting illegal shipments (Art. 50)

Other provisions

Competent authorities/Member States:

- Member States must adopt a system of penalties applicable in case of infringements. Penalties must be effective, proportionate and dissuasive
- Member States must report annually to the Commission the report submitted to the Secretariat of the Basel Convention and a report as specified in Annex IX (Art. 51)
- Notifications of waste shipments may be made publicly available (Art. 21)
- Ensure the environmentally sound management of any waste shipped (Art. 49)

Notifiers :

- Ensure that waste treatment facilities for exported waste are operated in accordance with human health and environmental protection standards that are broadly equivalent to those in the EU (Art. 49)

Expected results – direct effect of action, short and mid-term deliverables attributable to the regulatory activity

Results against objectives

Overall:

- Uncontrolled waste dumpings abroad is prevented
- The potential impacts on the environment from shipments of waste is minimised as far as possible
- Waste for recovery is only destined to facilities that are managed in an environmentally sound manner

More specific:

- 1) Sufficient measures are taken to implement the principles of proximity, priority for recovery and self-sufficiency at Community/national levels
- 1) Waste generated within the EU is disposed of within the EU/EFTA area
- 1) The amount and severity of illegal shipments are reduced
- 2) The provisions of the Basel Convention, in particular those related to the prior informed consent procedure and the environmentally sound management of hazardous and other waste, are implemented and applied properly
- 3) Hazardous waste is not sent for recovery to countries that lack proper treatment capacity, in particular to non-OECD countries
- 3) The negative environmental and health effects of illegal shipments from the EU to less developed countries is mitigated
- 4) The WSR is applied in a harmonised way
- 4) Member States cooperation, information sharing and stakeholder awareness are improved
- 5) The WSR is kept up to date (adaptation to technical progress)
- 5) Electronic instead of paper-based data interchange is applied across the EU

Broader effect

- Broader environmental and health impacts
- Socioeconomic consequences
- Improved relationship between the EU and the rest of the world

External factors – factors independent of the WSR activity's intervention which could partly or entirely be the cause of changes (results or impacts)

- Other waste legislation including Member States' national legislation, and circular economy concept
- Member States' policy efficiency and effectiveness – cooperation between national, regional and local authorities and other actors, in particular for effective inspections and penalties
- Other international agreements
- Disagreement on classification issues amongst Member States
- Stakeholders interests and wider public concerns
- Technology progress, including on electronic systems to interchange data and to improve monitoring
- Political will to reduce undue regulatory burden
- Wider economic context, in particular in light of the transition towards a circular economy and related to commodity/raw materials prices and demands

Annex 5: List of amendments

Title	Official Journal Reference	Summary of changes made	Date of effect
Commission Regulation (EC) No 1418/2007 on export for recovery of certain waste listed in Annex III or IIA to regulation (EC) No 1013/2006 to certain countries to which the OECD Decision on the control of transboundary movements of waste does not apply	<i>OJ L 316/6, 04.12.2007</i>	Following clarifications made by a number of countries to which the OECD Decision does not apply, this regulation sets out the procedures for transboundary movements of waste for each of these countries in the Annex	29.11.2007
Commission Regulation (EC) No 1379/2007 amending Annexes IA, IB, VII and VIII of Regulation (EC) No 1013/2006 on shipments of waste, for the purposes of taking account of technical progress and changes agreed under the Basel Convention	<i>OJ L 309, 27.11.2007, p. 7</i>	Replaced: Annex IA – Notification document for transboundary movements / shipments of waste; Annex IB – Movement document for transboundary movements/shipments of waste; Annex VII – Information accompanying shipments of waste Annex VIII – Guidelines on environmentally sound management	30.11.2007
Commission Regulation (EC) No 669/2008 on completing Annex IC of Regulation (EC) No 1013/2006 on shipments of waste	<i>OJ L 188, 16.7.2008, p. 7</i>	Provided specific instructions for complement notification and movement documents	19.7.2008
Commission Regulation (EC) No 219/2009 adapting a number of instruments subject to the procedure referred to in Article 251 of the Treaty to Council Decision 1999/468/EC with regard to the regulatory procedure with scrutiny — Adaptation to the regulatory procedure with scrutiny — Part Two	<i>OJ L 87, 31.3.2009, p. 109</i>	Adapted the Regulation in line with the entry into force of the Lisbon Treaty in particular with regard to the introduction of the regulatory procedure with scrutiny laid down in Article 251 of the Treaty. This did not really address any technical matters but those of a political nature in relation to the operation of the EU Decision making process.	20.4.2009
Commission Regulation (EC) No 308/2009 amending, for the purposes of adaptation to scientific and technical progress, Annexes IIIA and VI to Regulation (EC) No 1013/2006 on shipments of waste	<i>OJ L 97, 16.4.2009, p. 8</i>	Replaced: Annex IIIA concerning mixtures of two or more wastes listed in Annex III and not classified under one single entry; Annex VI concerning the form for pre-consented facilities	19.4.2009

Title	Official Journal Reference	Summary of changes made	Date of effect
Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide	<i>OJ L 140, 5.6.2009, p. 114</i>	Excluded CO ₂ captured and transported for the purpose of geological storage from the scope of the Regulation.	25.6.2009
Commission Regulation (EU) No 413/2010 amending Annexes III, IV and V to Regulation (EC) No 1013/2006 on shipments of waste so as to take account of changes adopted by OECD Council Decision C(2008) 156	<i>OJ L 119, 13.5.2010, p. 1–</i>	Following clarifications at the OECD Working Group on Waste Prevention and Recycling (WGWRP) concerning certain waste types the Regulation was required to be amended to ensure consistency with the OECD wording.	16.5.2010
Commission Regulation (EU) No 664/2011 amending Regulation (EC) No 1013/2006 on shipments of waste to include certain mixtures of wastes in Annex IIIA	<i>OJ L 182, 12.7.2011, p. 2</i>	Following representations made by a number of Member States concerning the Basel Convention and the Commission's consideration of procedures at the OECD level Annex IIIA of the Regulation was amended to include certain mixtures of wastes.	1.8.2011
Commission Regulation (EU) No 135/2012 amending Regulation (EC) No 1013/2006 on shipments of waste to include certain unclassified wastes in Annex IIIB	<i>OJ L 46, 17.2.2012, p. 30</i>	Following representations made by a number of Member States concerning the possible inclusion of certain unclassified wastes into Annex IIIB of the Regulation and similar considerations under the Basel Convention and by the OECD Annex IIIB of the Regulation was amended to provide clarity with regard to contamination of wastes as well as to include new wastes.	8.3.2012
Commission Regulation (EU) No 255/2013 amending, for the purposes of adaptation to scientific and technical progress, Annexes IC, VII and VIII to Regulation (EC) No 1013/2006 on shipments of waste	<i>OJ L 79, 21.3.2013, p. 19</i>	Amended Annex IC to delete certain provisions as well as to add clarity with regard to the use of codes for waste types. Replaced: Annex VII concerning information accompanying shipments of waste: Annex VIII guidelines on environmentally sound management	10.4.2013
Regulation (EU) No 1257/2013 on ship recycling and amending Regulation (EC) No 1013/2006 and Directive 2009/16/EC	<i>OJ L 330, 10.12.2013, p. 1</i>	Excluded from the scope of the WSR ships flying the flag of a Member State falling under the scope of the ship recycling Regulation, essentially to avoid duplication in regulation.	30.12.2013
Regulation (EU) No 660/2014 amending Regulation (EC) No 1013/2006 on shipments of waste	<i>OJ L 189, 27.6.2014, p. 135</i>	Significantly enhanced the inspections provisions of the Regulation placing a new onus on Member States with regard to the planning and undertaking of inspections as well as improving bilateral and multilateral collaboration between Member States in respect of prevention and detection of illegal shipments	1.1.2016

Title	Official Journal Reference	Summary of changes made	Date of effect
		of waste. Inserted a review clause for the Regulation to be undertaken by the Commission.	
Commission Regulation (EU) No 1234/2014 amending Annexes IIB, V and VIII to Regulation (EC) No 1013/2006 on shipments of waste	<i>OJ L 332, 19.11.2014, p. 15</i>	Amended the lists of wastes included in Annex IIB and Annex V of the Regulation as well as amending Annex VIII with regard to guidelines on environmentally sound management primarily as a result of changes under the Basel Convention.	26.5.2014
Commission Regulation (EU) 2015/2002 amending Annexes IC and V to Regulation (EC) No 1013/2006 on shipments of waste	<i>OJ L 294, 11.11.2015, p. 1</i>	Following changes in the EU waste acquis and legislation on the classification, labelling and packaging of substances and mixtures it was deemed necessary to amend the Regulation to ensure consistency with that amended legislation.	1.6.2015
Commission Regulation (EU) No 660/2014 amending Regulation (EC) No 1013/2006 on shipments of waste	<i>OJ L 189, 27.6.2014, p. 135–142</i>		
Commission Implementing Regulation (EU) 2016/1245 of 28 July 2016 setting out a preliminary correlation table between codes of the Combined Nomenclature provided for in Council Regulation (EEC) No 2658/87 and entries of waste listed in Annexes III, IV and V to Regulation (EC) No 1013/2006 of the European Parliament and of the Council on shipments of waste	<i>OJ L 204, 29.7.2016, p. 11–69</i>	This Regulation does not amend the WSR, but provides a linked preliminary table showing the correlation between the codes of the Combined Nomenclature ('CN codes') provided for in Regulation (EEC) No 2658/87 and the entries of waste listed in Annexes III, IV and V to Regulation (EC) No 1013/2006, which is set out in the Annex to this Regulation.	28.7.2016
Newly consolidated WSR (EC) No 660/2014		A new version of the consolidated WSR became available, which includes amendments introduced by Regulation (EC) No 660/2014. For instance, it provides an amended Annex IX. This is not under the scope of this evaluation.	01.01.2018

Annex 6: Overview of costs - benefits

<i>I. Overview of costs – benefits identified in the evaluation</i>									
		Society		Businesses		Administrations		Enforcement bodies (including customs)	
		Qualitative	Quantitative / monetary	Qualitative	Quantitative / monetary	Qualitative	Quantitative / monetary	Qualitative	Quantitative / monetary
Human resource costs	- Administrative cost Direct Recurring				- 1-4 FTE/yr, senior to intermediate level employees; 2 - 3 working days prep per dossier	Medium		Medium to high	
	- Additional operating costs			- lower to negligible in case of extended experience with WSR	- 0,5-2 FTE/yr; lower seniority				
Human resources for intercepting and dealing with illegal shipments (incl take back)	Direct cost, recurring							High	€21 million
Opportunity costs (e.g. delay in notification)	Administrative burden, hassle cost, indirect cost				Can amount to €150000				
Disclosing of company information	Indirect cost			Not quantifiable; potentially damaging commercial					

				position.					
Notification fee	Direct cost, recurring				Differs from Member States to Member State; up to a few 100 euros per dossier				
Financial guarantee	Direct cost, recurring			Significant cost					
Translation of documents	Direct cost, irregular			Medium					
Costs incurred in case of disputes	Direct cost, irregular			Can be high					
Inspection and infrastructure	Direct cost, recurring							High	
Employment	Societal benefit	Job creation expected to increase further in relation to the transition to a more circular economy	Employment in the recycling sub-sector increased almost 70% from 2000 to 2008; 130.000 jobs in 2008			Not quantifiable, specifically linked to WSR		Not quantifiable specifically linked to WSR	
Environmental protection	Environmental + societal benefit	Health and environmental benefits to consumers and citizens				Environmental policy objectives significantly supported by implementation of the WSR			
Traceability				Large benefit		Large benefit		Large benefit	

Annex 7: Provisions within the WSR identified as posing challenges

The following table shows those provisions of the WSR that have been identified throughout the study by Trinomics as challenging in terms of either achieving the objectives of the WSR or being potentially detrimental to other EU policy. These are included here as a source of information.

Table C-1 Challenges in relation to the WSR highlighted in this evaluation

Article(s):	Challenges identified
Article 3(1) on notification, article 4 on prior written notification, article 9(a) on acknowledgment of receipt, article 10 for consent with conditions and articles 11 and 12 for objection.	Lengthy and burdensome procedure of preparation and submission of required documentation by notifier.
Article 3(1) on notification, article 4 on prior written notification, article 9(a) on acknowledgment of receipt, article 10 for consent with conditions and articles 11 and 12 for objection.	Not fully adapted to technical progress, e.g. extensive paper use and posting of material.
Article 3(1) on notification, article 4 on prior written notification, article 9(a) on acknowledgment of receipt, article 10 for consent with conditions and articles 11 and 12 for objection.	Lengthy and burdensome notification procedures affect the internal market for secondary raw materials.
Article 14 on pre-consents for specific recovery facilities.	Burden from currently lengthy application procedure and associated costs. Issues related to inconsistency between Member States with criteria for interpretation.
Overall Regulation and coherence with the waste framework directive 2008/98/EC	Issues related to resource efficiency and establishment of waste markets and the circular economy.
Article 1(2), article 2(1), article 3(1) and article 6 on definitions and criteria for specific types of waste not set at Union level.	Variation in the application of ‘by-product’ and ‘end-of-waste’ criteria.
Articles on principle of proximity and self-sufficiency, from the Waste Framework Directive article 16(1) and considered in the WSR.	Non-harmonised interpretation and application among Member States and differing interpretations of the distinction between recovery and disposal in the context of these two principles.
Article 6(1) and article 6(4) on financial guarantees.	Financial and administrative burden associated with acquiring financial guarantees for those shipments where they might not be necessary, as well as the process of releasing the guarantee.
Article 6(1) and article 6(4) on financial guarantees.	Harmonisation issues related to how Member States apply the requirement of financial guarantee.
Article 50 on inspections.	Non-uniform application of waste shipment inspections. Lack of criteria for the frequency and quality of inspections.
Article 3(2) and 3(4) on exemptions for waste used for experimental / trial recycling.	Financial impacts and limited potential for investing in innovative processes with the current limit of 25 kg established in article 3(4).
Article 1(2), article 3(1), article 3(2) and annexes of the WSR.	Not uniform legal approach and disparities in interpretation between and within Member States on classification of substances/object as waste or not.

Article(s):	Challenges identified
	<p>Not uniform application of the classification system of the annexes to the WSR within Member States.</p> <p>Unclear whether a waste treatment is to be considered recovery or disposal.</p> <p>Legal uncertainty caused by divergent classification within the WSR and across other pieces of legislation like the Annexes of the Basel Convention and the EU Waste Framework Directive.</p>