Study supporting the evaluation of Regulation (EC) No 1013/2006 on shipments of waste

(Waste Shipments Regulation: WSR)

Final report

Contract details

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Presented by

Consortium led by:
Trinomics B.V.
Westersingel 34
3014 GS Rotterdam
the Netherlands

Written by

Wood (Keir McAndrew, Kastalie Bougas, Ellen Cunningham, Juan Calero)
Trinomics (Rob Williams, Katarina Svatikova, William Keeling)
Technopolis (Sebastian Otte, Ruslan Zhechkov)
Ramboll (Ferdinand Zotz, Emiel Adriaan de Bruijne)

Contact person

Mr. Rob Williams
T:+44 (0)7 950 229 107
E: rob.williams@trinomics.eu

Mr. Keir McAndrew
T: +44 (0)7 960 950 960
E: keir.mcandrew@woodplc.com

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technopolis |group|

bipro

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Abstract

This report presents the findings of an evaluation study contracted by the European Commission concerning 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. A combination of research methods and analytical tools have been used, including literature review and consultation via both open public questionnaires as well as targeted questionnaires and interviews. Overall, this study finds the regulations effective, relevant, coherent and adds value at EU level, although some issues remain including the lack of harmonised inspection regimes, diverging classifications of waste, and difficulties to adapt to circular economy. Conclusions on the efficiency of the WSR were mixed, with concerns over inefficiencies (including the review process of the Regulation (EC) No 1418/2007) and significant costs caused by the regulation, although little data came to justify the claims.

Ce rapport présente les résultats de l'évaluation du règlement (CE) n° 1013/2006 du Parlement Européen et du Conseil du 14 juin 2006 concernant les transferts de déchets ainsi que le règlement (CE) n° 1418/2007 de la Commission concernant l'exportation de certains déchets destinés à être valorisés, énumérés à l'annexe III ou IIIA du règlement (CE) no 1013/2006 du Parlement européen et du Conseil vers certains pays auxquels la décision de l'OCDE sur le contrôle des mouvements transfrontières de déchets ne s'applique pas. Une combinaison de méthodes de recherche et d'outils d'analyse a été utilisée, notamment une revue de la littérature et des consultations via des questionnaires et entretiens ciblés, ainsi qu'une consultation publique. Dans l'ensemble, cette étude trouve les réglementations efficaces, pertinentes, cohérentes, apportant une valeur ajoutée au niveau de l'UE, bien que des problèmes subsistent, notamment l'absence de régimes d'inspection harmonisés, des classifications de déchets divergentes et les difficultés d'adaptation à l'économie circulaire. Les conclusions sur l'efficience de ces règlements sont mitigées, avec des préoccupations quant à l'inefficacité (y compris le processus de révision du règlement (CE) n ° 1418/2007) et aux coûts importants engendrés par le règlement, bien que peu de données n'aient été fournies pour justifier ces affirmations.

Executive Summary

Aims of the study and methodology

This report presents the findings of an evaluation study contracted by the European Commission concerning 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 aim of this study was to carry out an evaluation of the Regulation to assess its effectiveness, efficiency, coherence, relevance and EU added value. The study is intended to support the Commission in collecting and assessing evidence in relation to the performance of the Regulation compared to its intended purpose.

In order to carry out the evaluation, an intervention logic and analytical framework was developed, including a set of specific evaluation questions. A combination of research methods and analytical tools have been used, including literature review and consultation via both open public questionnaires as well as targeted questionnaires and interviews.

Finding and conclusions of the study

The findings of the study are presented against each of the five evaluation criteria.

Effectiveness

The WSR has led to changes that have contributed to its objectives:

- The system for waste shipments required under WSR generally provides an effective approach to minimise the negative impact of hazardous waste shipments on the environment and human health in relation to shipments of waste as well as to implement the Basel Convention and OECD Decision;
- Trends in waste data indicate that the Regulation has promoted respect of the proximity principle for recovery and self-sufficiency at EU and national levels. The extent to which the Regulation has been a primary driver for such efforts in comparison to other EU legislation is unclear;
- The Regulation has allowed the EU and its Member States to ensure that the provisions of the Basel Convention and the OECD Decision are transposed and applied across the EU and, therefore, to facilitate Member States ratification of those instruments where applicable[1];
- Whilst all stakeholders indicate that the Regulation provides the correct basic framework for dealing with waste shipments for the EU, there are several challenges that exist in its current guise that hamper its effectiveness;
- The greatest challenge to the effectiveness of the WSR relates to enabling a uniform application across Member States as this is currently considered as not being achieved. This is closely linked with the development of inspection plans that vary in their content and level of resourcing to combat illegal shipments and harmonisation of waste reporting and classification

[1] Noting that Bulgaria, Croatia, Cyprus, Malta and Romania are not OECD Member Countries.

– all of which were widely recognised throughout the data collected as presently hampering the effectiveness of the Regulation;

- The ability of the WSR to effectively evolve in line with the changing nature of waste markets was also challenged, particularly in the context of its application to secondary materials and the circular economy;
- Enforcement activity within Member States is generally considered by stakeholders to be effective, albeit illegal shipments of waste remain. Enforcement activities requiring cooperation by Member States are considered less effective and may lead to illegal waste activities targeting those areas where cooperation is considered weakest.

Efficiency

- In relation to the efficiency of the Regulation, the evaluation has identified mixed conclusions. In a number of cases opinions were voiced by stakeholders, and in particular by industry, of inefficiencies and significant costs caused by the Regulation, particularly for those elements that go beyond the requirements of the Basel Convention;
- However, these opinions were often not supported by data to justify them. There is a lack of substantial quantitative data from the different economic operators to establish patterns across the different levels and types of stakeholders, more specifically in terms of monetary costs. The costs highlighted by these economic operators mainly arise from the targeted survey but remain scarce. The lack of definitive data has made it impossible to conclude on the efficiency;
- The nature of the WSR, whereby most controls are procedural and administrative in nature, means that the direct costs of implementing the Regulation are generally related to administration. In some cases, the fees charged for notifications in certain Member States were highlighted as high. Additional human resources are often needed to respond to the administrative needs of the Regulation;
- A significant cost identified by operators relates to delays in shipments that can lead to additional storage costs for waste whilst decisions are awaiting, as well as potentially leading to shipment decisions that are less environmentally friendly e.g. shipped within a Member State for incineration rather than shipped to another Member State for recovery or recycling;
- One of the main costs identified was related to taking back illegal waste shipments. These illegal shipments entailed considerable costs for Member States. However, evidence suggest that in some cases shipments classed as illegal because of the mishandling of administrative procedures rather than intentional illegal activity;
- Financial guarantees required under the Regulation are considered overly burdensome by some Member States and operators;
- The lack of common interpretation of the regulation was also associated with non-monetary costs, particularly where this led to delays in shipments taking place;
- Generally, businesses do not consider that the costs of the WSR are proportionate to the benefits that the Regulation has brought. There is clear disagreement between businesses as to whether the long-term benefits will outweigh the costs, with some considering that they will and others that they will not. Costs (monetary and non-monetary) are considered as larger obstacles for SMEs than for larger firms with micro and small firms experiencing higher administrative costs stemming from the WSR compared to larger firms;
- The waste shipments sector is experiencing an increasing turnover, alongside a growing number of employees. This is coincidental to, rather than as a result of, the WSR.

Relevance

- The WSR remains relevant to protecting the environment and human health during the shipment of waste both within the EU as well as neighbouring states and third countries, particularly regarding waste shipments for disposal and hazardous waste shipments;
- The WSR remains relevant for the implementation of the Basel Convention and the OECD Decision, as well as in encouraging Parties to handle waste shipments in an environmentally responsible manner;
- Despite its clear links with the circular economy, the WSR appears less relevant in relation to establishing waste markets and enabling the circular economy. This was a universal finding across all stakeholder consultation platforms used in this study. However, it should be pointed out that these objectives were not part of the original rationale for the WSR.

Coherence

- There are synergies between the WSR and other waste legislation, especially those Directives covering specific waste streams such as end of life vehicles, batteries, packaging and packaging waste and waste electrical and electronic equipment. The WSR works coherently with those Directives in dealing with the exports of the materials in question, however the illegal shipments of waste, including the specific waste streams identified above, still occur;
- The definitions of hazardous and non-hazardous waste and their interpretation in different Member States make the shipments of certain waste streams such as batteries difficult;
- The different interpretation of the definition of waste and end-of-waste criteria stemming from the relationship between the WSR and Directive 2008/98/EC on waste (the WFD) is not coherent. Some Member States may consider certain materials as non-waste whereas other Member States may consider them as waste. Consequently, certain shipments may be deemed illegal by a Member State of reception, while they are not considered to fall under the scope of the WFD and the WSR by the Member State of dispatch;
- The different interpretations of the classification codes of the EU customs legislation and the WSR lead to shipments in some countries having customs fees applied for exporting waste due to it being considered a “product” in the destination country;
- Whilst the WSR has ensured a more level playing field in relation to the environmental controls placed on waste shipments, most stakeholders consider the WSR interaction with the EU internal market as negative, particularly its link to the EU transition to circular economy. The WSR is considered to hinder the creation and promotion of a market for secondary materials with differences in interpretation of the Regulation meaning that the single market is not well integrated;
- The Regulation is generally internally coherent;
- The WSR is generally coherent with the Basel Convention and OECD Decision. Differences in the waste classification systems (Basel Convention and OECD decision) and financial guarantees were considered to indicate a lack of consistency.

EU added value

- The situation with Member State level action alone would be national rules for internal waste movements, plus Basel and OECD for transboundary movements. The WSR provides much more detail and enables a more consistent approach than Basel, based on reported experience in

non-EU countries that use Basel versus the reported experience of Member States and waste companies using the WSR;

- There has been an increase in the movement of waste between Member States. This movement has been made easier as a result of the WSR and, although it is not perfect, the alternative of Basel plus agreements between Member States would have several major drawbacks;
- All Member States have evolved their national waste transport policies in line with the WSR, without the WSR it is likely that this evolution would have been more divergent, which would have had negative consequences;
- There is agreement that the WSR needs to continue to evolve, particularly regarding playing its role in helping to enable the Circular Economy. It is recognised that there are mechanisms in place to do this (e.g. meeting of correspondents) but some feel these mechanisms are somewhat slow, underused and/or lack power to act;
- There is a predictable split of opinion between some Competent Authorities and the waste industry on the main reasons for having the WSR. Some Competent Authorities think it is primarily to control waste movements and protecting / promoting the market in waste is either irrelevant or much less important. The waste industry thinks that the WSR has an important role in waste markets and cite the benefits it brings to enabling the waste hierarchy (i.e. making it easier to move waste to the best recycling facility) as being a benefit of this. In effect the WSR plays an important role in both;
- **Regulation 1418/2007** adds clarity, and the principle is generally supported. The review process is felt to be too slow to keep up with international developments. The Regulation provides more (useful) data on the nature of the waste exported than would be the case if Basel alone was used;
- Removal of the WSR would have very negative consequences as the likely result would be that cross-border waste shipments would be controlled by the Basel agreement and agreements between individual Member States. The negative consequences would stem from the lack of consistency and detail resulting from such arrangements.

Résumé

Objectifs de l'étude et méthodologie

Ce rapport, contracté par la Commission Européenne, présente les résultats de l'évaluation du règlement (CE) n° 1013/2006 du Parlement Européen et du Conseil du 14 juin 2006 concernant les transferts de déchets ainsi que le règlement (CE) n° 1418/2007 de la Commission concernant l'exportation de certains déchets destinés à être valorisés, énumérés à l'annexe III ou IIIA du règlement (CE) no 1013/2006 du Parlement européen et du Conseil vers certains pays auxquels la décision de l'OCDE sur le contrôle des mouvements transfrontières de déchets ne s'applique pas.

Le but de cette étude était d'évaluer leur efficacité, efficience, cohérence, pertinence et la valeur ajoutée de l'UE. L'étude est destinée à aider la Commission à rassembler et à évaluer des informations et données concernant l'application de ces règlements, par rapport à leurs objectifs.

Afin de mener à bien l'évaluation, une logique d'intervention et un cadre analytique ont été développés, comprenant un ensemble de questions d'évaluation spécifiques aux règlements. Une combinaison de méthodes de recherche et d'outils d'analyse a été utilisée, notamment une revue de la littérature et des consultations via des questionnaires et entretiens ciblés, ainsi qu'une consultation publique.

Résultats et conclusions de l'étude

Les résultats de l'étude sont présentés par critère d'évaluation.

Efficacité

Le règlement a conduit à des changements qui ont contribué à ses objectifs:

- Le système de transfert de déchets requis en vertu du règlement sur les transferts de déchets constitue généralement une approche efficace pour, d'une part, minimiser l'impact négatif des transferts de déchets dangereux sur l'environnement et la santé humaine, et d'autre part, pour la mise en œuvre de la Convention de Bâle et de la décision de l'OCDE;
- Les tendances dans les données sur les déchets indiquent que le règlement a encouragé le respect du principe de proximité pour la récupération et l'autosuffisance aux niveaux européen et national. On ignore dans quelle mesure ce règlement a été le principal moteur de ces efforts, par rapport à d'autres législations de l'UE.
- Le règlement a permis à l'UE et à ses États membres de veiller à la transposition et à l'application des dispositions de la convention de Bâle et de la décision de l'OCDE dans l'ensemble de l'UE et de faciliter la ratification de ces instruments par les États membres, le cas échéant[2];
- Toutes les parties prenantes indiquent que le règlement fournit le cadre de base adéquat pour traiter les transferts de déchets pour l'UE, cependant, il existe plusieurs défis sous sa forme actuelle qui entravent son efficacité;
- Le plus grand défi pour l'efficacité du règlement concerne la possibilité d'une application uniforme dans tous les États membres, actuellement non réalisée. Cela est étroitement lié à l'élaboration de plans d'inspection dont le contenu et le niveau de ressources varient pour

[2] La Bulgarie, la Croatie, Chypre, Malte et la Roumanie ne sont pas des membres de l'OCDE.

lutter contre les transferts illicites et l'harmonisation de la déclaration et de la classification des déchets - ces éléments ayant été largement reconnus dans les données collectées comme nuisant actuellement à l'efficacité du règlement;

- La capacité du règlement à évoluer en fonction de la nature changeante des marchés des déchets a également été remise en question, en particulier dans le contexte de son application et adaptation aux matières secondaires et à l'économie circulaire;
- Les parties prenantes considèrent généralement que les activités de contrôle dans les États membres sont efficaces, bien que des transferts illicites de déchets subsistent. Les activités de contrôle nécessitant la coopération des États membres sont considérées comme moins efficaces et peuvent conduire à des activités de déchets illégaux visant les zones où la coopération est considérée comme la plus faible.

Efficience

- En ce qui concerne l'efficience du règlement, l'évaluation aboutit à des conclusions mitigées. Dans un certain nombre de cas, les parties prenantes, en particulier celles issues de l'industrie, ont exprimé leur opinion sur les inefficiences et les coûts importants engendrés par le règlement, en particulier pour les éléments allant au-delà des exigences de la convention de Bâle.
- Cependant, ces opinions n'étaient souvent pas étayées par des données permettant de les justifier, et ce manque de données quantitatives rend les conclusions difficiles quant aux couts monétaires pour les différents opérateurs économiques ainsi que pour établir des modèles entre les différents niveaux et types de parties prenantes. Les coûts mis en évidence par ces opérateurs économiques proviennent principalement de l'enquête ciblée mais restent rares. Le manque de données définitives a rendu impossible la conclusion sur l'efficience.
- Par sa nature, ce règlement dont la plupart des contrôles sont de nature procédurale et administrative, implique que les coûts directs de la mise en œuvre du règlement sont généralement liés à l'administration. Dans certains cas, les frais facturés pour les notifications dans certains États membres ont été jugés élevés. Des ressources humaines supplémentaires sont souvent nécessaires pour répondre aux besoins administratifs du règlement.
- Un coût significatif identifié par les opérateurs est lié aux retards dans les transferts, pouvant entraîner des coûts de stockage supplémentaires en attendant que les décisions soient prises, ainsi que, dans certains cas, des décisions d'envoi moins respectueuses de l'environnement, par exemple, des déchets expédiés dans un État membre pour y être incinérés plutôt que dans un autre État membre pour y être valorisés ou recyclés.
- L'un des principaux coûts identifiés était lié à la reprise des transferts illicites de déchets. Des envois illégaux peuvent entraîner des coûts considérables pour les États membres. Toutefois, des éléments de preuve suggèrent que, dans certains cas, des envois sont classés comme illégaux en raison de la mauvaise gestion de procédures administratives plutôt que d'activités illégales intentionnelles;
- Certains États membres et certains opérateurs considèrent que les garanties financières requises par le règlement sont excessivement lourdes.
- L'absence d'interprétation commune de la réglementation est également associée à des coûts non monétaires, en particulier lorsque cela créé des retards dans les envois;
- En règle générale, les entreprises ne considèrent pas que les coûts sont proportionnels aux avantages issus du règlement. Les entreprises sont clairement en désaccord sur le point de savoir si les avantages à long terme l'emporteront sur les coûts, certaines considérant qu'elles

le feront et d'autres pas. Les coûts (monétaires et non monétaires) sont considérés comme des obstacles plus importants pour les PME dont les coûts administratifs sont plus élevés du fait de la résolution des litiges, comparativement aux grandes entreprises;

- Le secteur des transferts de déchets connaît un chiffre d'affaires croissant, aux côtés d'un nombre croissant d'employés, cependant, ceci ne semble pas résulter de l'implémentation du règlement.

Pertinence

- Le règlement reste pertinent pour la protection de l'environnement et de la santé humaine lors du transfert de déchets à la fois dans l'Union européenne, dans les États voisins et dans des pays tiers, en particulier en ce qui concerne les transferts de déchets destinés à l'élimination et les transferts de déchets dangereux;
- Le règlement reste pertinent pour la mise en œuvre de la Convention de Bâle et de la Décision de l'OCDE, ainsi que pour encourager les parties à gérer les transferts de déchets d'une manière respectueuse de l'environnement;
- Malgré ses liens clairs avec l'économie circulaire, le règlement semble moins pertinent pour établir des marchés des déchets et permettre l'économie circulaire. Ces résultats émergent de toutes les plateformes de consultation des parties prenantes utilisées dans cette étude. Cependant, il convient de souligner que ces objectifs ne faisaient pas partie de la justification initiale du règlement.

Cohérence

- Il existe des synergies entre le règlement et d'autres législations sur les déchets, en particulier les directives concernant des flux de déchets spécifiques tels que les véhicules en fin de vie, les batteries, les emballages et les déchets d'emballage, ainsi que les déchets d'équipements électriques et électroniques. Le règlement est cohérent avec ces directives en ce qui concerne les exportations de ces matériaux en question;
- Des transferts illicites de déchets, y compris les flux de déchets spécifiques identifiés ci-dessus, ont toujours lieu;
- Les définitions des déchets dangereux et non dangereux et leur interprétation dans différents États membres rendent difficiles les transferts de certains flux de déchets, tels que les batteries;
- L'interprétation différente de la définition des critères relatifs aux déchets et à la fin de vie des déchets, qui découle de la relation entre le règlement et la directive 2008/98 / CE relative aux déchets, n'est pas cohérente. Certains États membres considèrent certaines matières comme des déchets, alors que d'autres non. En conséquence, certains envois peuvent être considérés comme illégaux par un État membre d'accueil, alors qu'ils ne sont pas considérés comme relevant du champ d'application du règlement et de la directive relative aux déchets, par l'État membre d'expédition;
- Les différentes interprétations des codes de classification de la législation douanière de l'UE et du règlement conduisent à des envois dans lesquels certains droits de douane sont perçus pour l'exportation de déchets, ce dernier étant considéré comme un 'produit' dans le pays de destination;
- Tandis que le règlement a créé des conditions plus équitables en ce qui concerne les contrôles environnementaux imposés aux transferts de déchets, la plupart des parties prenantes considèrent que le règlement a un effet négatif sur le marché intérieur de l'UE. Le règlement

semble entraver la création et la promotion d'un marché des matières secondaires, avec des différences d'interprétation du règlement, ce qui signifie que le marché unique n'est pas bien intégré;
- Les articles du règlement sont cohérents;
- Le règlement est cohérent avec la Convention de Bâle et la décision de l'OCDE. Les différences entre les systèmes de classification des déchets (Convention de Bâle et décision de l'OCDE) et les garanties financières reflètent cependant un manque de cohérence.

Valeur ajoutée de l'UE

- Sans ce règlement, la seule action possible au niveau des États membres serait celle de lois nationales applicables aux mouvements internes de déchets, ainsi que celles de Bâle et de l'OCDE pour les mouvements transfrontaliers. Ce règlement fournit beaucoup plus de détails et permet une approche plus cohérente que celle de Bâle, sur la base de l'expérience rapportée dans les pays non membres de l'UE utilisant Bâle versus l'expérience rapportée des États membres et des entreprises de gestion de déchets utilisant ce règlement;
- Les mouvements de déchets entre États membres ont augmenté. Ce mouvement a été facilité par le règlement et, bien qu'il ne soit pas parfait, l'alternative des accords de Bâle ainsi que des accords entre les États membres présenteraient plusieurs inconvénients majeurs;
- Tous les États membres ont élaboré leurs politiques nationales en matière de transport des déchets conformément au règlement. Sans celui-ci, il est probable que ces politiques eussent été plus divergentes, ce qui aurait eu des conséquences négatives;
- Le règlement doit continuer d'évoluer, notamment en ce qui concerne son rôle d'aide à la mise en place de l'économie circulaire. Il est reconnu que des mécanismes sont en place pour ce faire (par exemple, une réunion de correspondants), mais certains estiment que ces mécanismes sont quelque peu lents, sous-utilisés et / ou n'ont pas le pouvoir d'action nécessaire;
- Il existe un désaccord prévisible entre certaines autorités compétentes et l'industrie sur les principales raisons d'implémenter un règlement tel que celui-ci. Certaines autorités compétentes pensent qu'il est principalement nécessaire de contrôler les mouvements de déchets et qu'il est indifférent ou beaucoup moins important de protéger / promouvoir le marché des déchets. L'industrie pense que le règlement joue un rôle important sur les marchés des déchets et cite les avantages qu'il apporte à la mise en place de la hiérarchie des déchets (c'est-à-dire qu'il est plus facile de transférer les déchets dans les meilleures installations de recyclage). En effet, le règlement joue un rôle important dans les deux cas;
- Le règlement 1418/2007 ajoute de la clarté et son maintien est généralement soutenu. Son processus de révision a été jugé trop lent pour suivre les développements internationaux. Le règlement fournit davantage de données (utiles) sur la nature des déchets exportés que si Bâle seul était utilisé;
- La suppression du règlement aurait des conséquences très négatives, car il en résulterait probablement que les transferts transfrontaliers de déchets soient contrôlés par l'accord de Bâle et les accords entre différents États membres. Les conséquences négatives découleraient du manque de cohérence et de détail résultant de tels arrangements.

1 Introduction

1.1 This report

This report presents the findings of the evaluation study commissioned by the European Commission on the Regulation (EC) No 1013/2006 on shipments of waste and its amendments - the Waste Shipment Regulation (hereinafter, the WSR). The work was undertaken by a consortium led by Wood (formerly Amec Foster Wheeler) and including, Trinomics, Technopolis Group and Bipro (Part of Ramboll Environ).

This is the Final Report for this study that further develops the findings presented in a draft final report dated 10 August 2018 and following a validation workshop on 12 September 2018.

1.2 Overview of the project and its objectives

The overall aim of this evaluation study is to present key findings and conclusions and to serve as evidence to the European Commission on the process of implementation of the Regulation and for further planning. The outputs will be used by the Commission in their evaluation report to the European Parliament and the Council.

As outlined in the terms of reference, the study has the specific objective of carrying out an evaluation of the performance of WSR compared to initial expectations. The study pays attention to assessing the following evaluation criteria:

- **Effectiveness:** To what extent did the WSR cause the observed changes/effects? To what extent can these changes/effects be credited to the WSR? To what extent do the observed effects correspond to the objectives?
- **Efficiency:** Were the costs involved justified, given the changes/effects which have been achieved? What factors influenced the achievements observed?
- **Coherence:** To what extent is the WSR coherent with other interventions which have similar objectives? To what extent is the WSR coherent internally?
- **Relevance:** To what extent do the (original) objectives (still) correspond to the needs within the EU?
- **EU added value:** What is the additional value resulting from the WSR, compared to what could be achieved by Member States at national and/or regional levels?

The evaluation follows the European Commission's Better Regulation guidelines and toolbox[3].

1.3 Structure of this report

The report is structured as follows:

- Chapter 1 introduces the report, the study's objectives, scope and structure;
- Chapter 2 provides background to the project, including background on the WSR;
- Chapter 3 presents the evaluation questions to be answered by this report;
- Chapter 4 describes the method applied to undertake the study;
- Chapter 5 presents the key challenges in implementing and enforcing the WSR;

[3] European Commission, 2017, Better Regulation Toolbox, http://ec.europa.eu/smart-regulation/guidelines/docs/br_toolbox_en.pdf

- Chapter 6 presents the evaluation results and analysis of the Regulation based on criteria of effectiveness, efficiency, coherence, relevance and EU added value;
- Chapter 7 presents the conclusions.

2 Background to the initiative

This chapter explains the development of environmental controls for shipments and the basis of the Waste Shipment Regulation alongside data on trends in waste shipments both prior to and since the introduction of the Regulation. The intervention logic, based on this data, is then introduced and set in the context of the evaluation itself.

2.1 Background to the development of environmental controls for shipments of waste

2.1.1 Identification of the need to protect the environment in shipping waste

Shipments of waste have been undertaken for decades for commercial reasons and reasons of necessity. However, attention was brought to the potential harm that might stem from such shipments as a result of several high-profile events, particularly in the 1970s and 1980s. This included the likes of:

- Mismarked barrels of hazardous waste from Singapore labelled for a false destination sitting unclaimed on a Bangkok, Thailand dock for years releasing their toxic contents to the environment; and
- The Jelly Wax Company, an Italian waste broker, that exported waste to Lebanon and Venezuela without first getting permission whereby the vessel transporting those wastes then attempted to dump its contents in Djibouti and Syria before being forced to return to Italy and numerous other notable waste shipment environmental stories.

The need for international action to mitigate such activities was added as one of the three priority areas in the United Nations Environment Programme's (UNEP) first Montevideo Programme on Environmental Law in 1981 that prompted the first attempts to mitigate the potential harm stemming from shipments of waste.

2.1.2 A global legal response - The Basel Convention

The negotiations for the elaboration of a global convention on the control of transboundary movements of hazardous wastes commenced, concluded in March 1989 with the adoption of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal - often referred to as the Basel Convention. The Convention entered into force on 5 May 1992.

The scope of application of the Basel Convention covers a wide range of wastes defined as "hazardous wastes" based on their origin and/or composition and their characteristics, as well as two types of wastes defined as "other wastes" - household waste and incinerator ash.

The provisions of the Convention centre around the following three principal aims:

1. Reducing hazardous waste generation and the promotion of environmentally sound management of hazardous wastes, wherever the place of disposal. This is addressed through several general provisions requiring States to observe the fundamental principles of environmentally sound waste management (Article 4).;

2. Restriction of transboundary movements of wastes except where it is perceived to be in accordance with the principles of environmentally sound management. Several prohibitions are included with this aim in mind;
    a. Hazardous wastes may not be exported to Antarctica, to a State not party to the Basel Convention, or to a party having banned the import of hazardous wastes (article 4);
    b. Parties may, however, enter into bilateral or multilateral agreements on hazardous waste management with other parties or with non-parties, provided that such agreements are "no less environmentally sound" than the Basel Convention (article 11);
    c. In all cases where transboundary movement is not, in principle, prohibited, it may take place only if it represents an environmentally sound solution, if the principles of environmentally sound management and non-discrimination are observed and if it is carried out in accordance with the Convention's regulatory system.
3. A regulatory system applicable where transboundary movements are allowed. The regulatory system is based on the concept of prior informed consent. It requires that, before export may take place, the authorities of the State of export notify the authorities of the prospective States of import and transit, providing them with detailed information on the intended movement. The movement may only proceed if all States concerned have given their written consent (articles 6 and 7). The Basel Convention also provides for cooperation between parties, ranging from exchange of information on issues relevant to the implementation of the Convention to technical assistance, particularly to developing countries (articles 10 and 13). The Secretariat is required to facilitate and support this cooperation, acting as a clearing-house (article 16). In the event of a transboundary movement of hazardous wastes having been carried out illegally, i.e. in contravention of the provisions of articles 6 and 7, or cannot be completed as foreseen, the Convention attributes responsibility to one or more of the States involved, and imposes the duty to ensure safe disposal, either by re-import into the State of generation or otherwise (articles 8 and 9).

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 supervised and controlled according to OECD Decision C (92)39/FINAL on the Control of Transfrontier Movements of Wastes Destined for Recovery Operations.

The 1992 OECD Decision provided a framework for the OECD member countries to control transboundary movements of recoverable wastes within the OECD area in an environmentally sound and economically efficient manner. Compared to the Basel Convention, it gave a simplified and more explicit means of controlling such movements of wastes. It also facilitated transboundary movements of recoverable wastes between OECD member countries in the case where an OECD member country is not a Party to the Basel Convention – particularly important for the US, as that is not a Party to the Basel Convention.

The OECD Control System is based on two types of control procedures:

1. **Green Control Procedure**: for wastes presenting low risk for human health and the environment and, therefore, not subject to any other controls than those normally applied in commercial transactions
2. **Amber Control Procedure**: for wastes presenting sufficient risk to justify their control.

Wastes subject to these control procedures are listed in Appendices 3 and 4 to the OECD Council Decision: the Green and Amber lists of wastes.[4] The controls of waste shipments are carried out by national competent authorities and Customs Offices as appropriate, using notification and movement documents.

Developments under the Basel Convention, in particular the adoption of two detailed lists of wastes as new Annexes VIII and IX to the Convention in November 1998, led, in part, to revision of the OECD Decision in order to harmonise procedures and requirements and to avoid duplicating activities with the Basel Convention. This revision resulted in the adoption of Council Decision C(2001)107/FINAL in May 2002. Provisions of the revised OECD Decision have been harmonised with those of the Basel Convention in particular regarding the classification of wastes subject to control. However, certain procedural elements of the original 1992 Decision, which do not exist in the Basel Convention, such as time limits for approval process, tacit consent and pre-consent procedures have been retained.

Discussion with the OECD as part of this evaluative study indicated that the main reason that the OECD Decision remains in existence is as a result of the US not being a Party to the Basel Convention.

2.1.4 The EU response - The EU Waste Shipments Regulation

The European Community (as it was at the time) introduced measures on the supervision and control of shipments of waste in 1984 under Council Directive 84/631/EEC of 6 December 1984. The Directive took effect from 1 October 1985 and covered shipments of hazardous waste; it required prior notification to 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 out of the Community. Subsequently, the Commission adopted several technical amendments to these Directives.

In 1990, following international developments in the context of the Basel Convention and the OECD, the Commission put forward a proposal for a Waste Shipment Regulation with the Basel Convention and, latterly, the 1992 OECD Decision forming the main pillars of the resulting 1993 Regulation. The 1993 Regulation entered into force on 9 February 1993 and was applicable as of 6 May 1994.

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. Transposition and implementation of the 1984 and 1986 Directives were thus considerably delayed or not carried out at all in some Member States.

[4] Available at https://legalinstruments.oecd.org/en/instruments?mode=advanced&reference=C(2001)107/FINAL

In much the same way that developments in the Basel Convention in 1998 led to changes in the OECD Decision, the changes in the OECD Decision made the revision of the EU Waste Shipment Regulation legally necessary. However, additional problems with the Regulation had also been identified and subject to discussions with Member States and stakeholders starting in 1999. It was decided, therefore, that as well as addressing the legal obligation to amend the Regulation to meet the needs of the revised OECD Decision, the revision also provided the opportunity to address these problem areas. Finally, the opportunity was also taken to improve consistency between the Regulation and the Basel Convention. The Commission, therefore, proposed a Regulation on Shipments of Waste in 2003 that ultimately, following co-decision, resulted in Regulation (EC) No 1013/2006 on shipments of waste – the main subject of this evaluative study.

Regulation (EC) No 1013/2006 on shipments of waste applies to shipments of waste, including shipment of end of life vehicles[5]:

- Between EU countries within the EU or transiting via non-EU countries;
- Imported into the EU from non-EU countries;
- Exported from the EU to non-EU countries;
- In transit through the EU, on the way from or to non-EU countries.

It covers almost all types of waste, with the exception of radioactive waste, waste generated on board ships, shipments subject to the approval requirements of the animal by-product regulation, 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, etc. A list of amendments of the Regulation can be found in Appendix A.

Control procedures

There are two control procedures for the shipment of waste, namely:

- the **general information requirements** of Article 18, which is normally applicable to shipments for **recovery** of wastes, listed in Annex III ('green' listed wastes - non-hazardous, such as paper or plastics) or IIIA; and
- the procedure of **prior written notification and consent** for other types of shipments of wastes, including:
  - shipments of wastes listed in Annex IV ('amber' listed wastes containing both hazardous and non-hazardous parts) or in Part 2 of Annex V (European list of wastes, e.g. wastes from mining, quarrying and physical and chemical treatment of minerals); and
  - shipments for **disposal** of wastes listed in Annex III ('green' listed wastes).

The law was amended in 2014 to strengthen EU countries' 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). EU countries were required to prepare inspection plans by 2017.

[5] It should be noted that EU flagged ships are excluded from the WSR – see http://ec.europa.eu/environment/waste/ships/index.htm "To ensure legal clarity and avoid administrative burden, EU-flagged ships covered by the Ship Recycling Regulation are excluded from the scope of the Waste Shipment Regulation (EC) 1013/2006."

Other provisions

- All parties involved 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;
- The notification procedure requires the prior written consent of the competent authorities of the countries concerned by the shipment (country of dispatch, country of transit and country of destination) to be given within the 30 day notice period.
- The notifier has a duty to take back waste shipments that are found to be illegal or cannot be provided as intended (including the recovery or disposal of waste).

Trade restrictions

Exports to non-EU countries of waste for **disposal** are prohibited, except to EFTA countries that are party to the Basel Convention.

Exports for recovery of **hazardous waste** (i.e. that pose a risk to human health and the environment) and waste under Annex II of the Basel Convention are prohibited, except those directed to countries to which the OECD decision applies.

Imports from non-EU countries of waste for **disposal or recovery** are prohibited, except for imports:

- From countries to which the OECD decision applies;
- From non-EU countries that are party to the Basel Convention;
- From countries that have concluded a bilateral agreement with the EU or EU countries; or
- Other areas during situations of crisis.

2.1.5 The societal relevance – Resource scarcity and environmental pressures

Regulation (EC) No 1013/2006 on shipments of waste[6] as amended sets environmental criteria for waste shipments within, imported into, exported out of and transiting through the European Union. It covers shipments of practically all types of waste[7] by all means, including vehicles, trains, ships and planes and forms the bedrock for the implementation of both OECD Council Decision C(2001) 107 establishing the control system for waste destined for recovery and the Basel Convention on the Transboundary Movements of Hazardous Wastes and Their Disposal within the European Union (EU). Since its original publication in 2006 the Regulation has been subject to 13 amendments, 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.

In the twelve years since the Regulation was first published and fifteen years since the original Commission proposal was made significant progress has been made in the design and implementation of a comprehensive waste shipment system that addresses waste shipments within the EU. The Commission is not only concerned with ensuring that the EU acquis is implemented in full but that it remains fit for purpose.

The aim of this project was to undertake a study to support a thorough evaluation of the application of the Waste Shipment Regulation in all Member States from the date of its application including all amendments that have taken place to date.

[6] OJ L 190 12.7.2006, p.1
[7] Waste in this context is waste as defined by Aritcle 3 of Directive 2008/98/EC on waste

Article 37(1) of the WSR is the legal base of Regulation (EC) No 1418/2007. Under this Regulation, for each country to which the OECD Council Decision C(2001) does not apply, the Commission requests the following information:

i) a list of waste that could be exported to that country for recovery; and
ii) an indication of the control procedure applicable to such waste.

Responses were received from 44 countries. Where written responses were not received, and in accordance with Article 37.2 of the WSR, such countries were deemed to apply a procedure of prior written notification and consent. This Regulation plays an important part in regulating shipments of non-hazardous waste from the EU to other countries and has implications regarding the notification and consent procedures applicable for certain countries.

Commission Implementing Regulation (EU) 2016/1245, lays down a preliminary table showing the correlation between the codes of the Combined Nomenclature ('CN codes') provided for in Regulation (EEC) No 2658/87[8] and the entries of waste listed in Annexes III, IV and V to the Waste Shipments Regulation. Whilst not an amending act to the WSR, Implementing Regulation (EU) 2016/1245 has implications for the implementation of the WSR, in particular regarding assisting in the identification of waste codes to be used for the shipments of waste.

2.1.6 Trends in waste shipments

General trends, globally and in the European Union

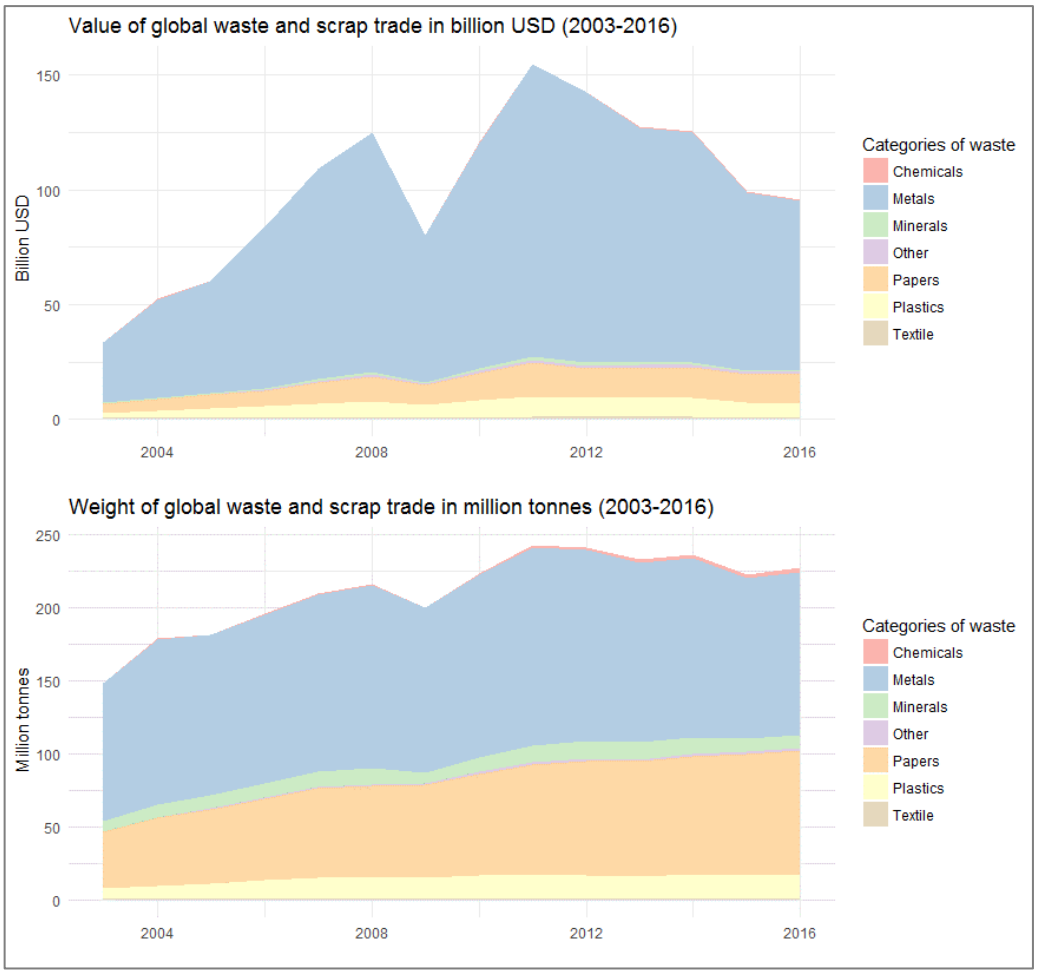
In order to identify trends in waste shipments and their possible relationship with the operation of the Basel Convention, OECD Decision and Waste Shipment Regulation the study has compiled information on trends in waste shipments.

Regarding **global trends**, and in accordance with the rising amount of generated waste, the international trade in hazardous and non-hazardous waste and scrap products has been growing strongly over the past two decades [Kellenberg 2015][9]. In 2012, more than 200 million tons of waste and scrap products were traded across international borders, four times more than the amount traded in 1992 [Kellenberg 2015. See also Figure 2-4].

In both in quantitative (tonnage) and financial (value USD) terms, international trade of waste and scrap over more than a decade has consisted mainly of metals, papers, plastics and minerals [OECD 2018[10], see Figure 1]

[8] This Regulation concerns the tariff and statistical nomenclature and the Common Customs Tariff
[9] The Economics of the International Trade of Waste, Derek Kellenberg, 2015
https://www.annualreviews.org/doi/abs/10.1146/annurev-resource-100913-012639
[10] http://www.oecd.org/environment/waste/policy-highlights-international-trade-and-the-transition-to-a-circular-economy.pdf

Figure 2-1 Annual volume of global waste and scrap traded internationally, by value and weight (from [OECD 2018])



Regarding **European Union trends**, Figure 2, based on Eurostat data, highlights a fluctuating quantity of hazardous waste shipments originating from EU countries. Eurostat`s explanation document [Eurostat 2018][11] lists as a main statistical finding: "The period from 2001 to 2007 is characterised by growing shipments of hazardous waste both for disposal and recovery. From 2007 to 2015 there has been a 25 % decrease due to the financial and economic crisis in 2008. The total development from 2001 to 2015 is a sign that the EU is increasingly acting as a single market".

According to the Eurostat data, the Netherlands and Italy are the two EU Member States who export the most hazardous waste shipments.

[11] https://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_shipment_statistics

Figure 2-2 Shipment of hazardous waste from EU Member States and EFTA countries, 2001-2015 (Website Eurostat accessed November 2018]

Shipment of hazardous waste from EU Member States and EFTA countries (1 000 tonnes), 2001-2015

	2001	2003	2005	2007	2009	2010	2011	2012	2013	2014	2015
EU-28	3 986	4 446	6 786	8 106	7 427	6 256	6 125	5 351	6 603	6 015	6 098
Belgium	721	792	829	1 007	673	689	836	631	680	637	686
Bulgaria	:	:	:	.3	.4	9	5	6	3	5	11
Czech Republic	4	2	2	4	7	15	11	18	31	34	37
Denmark	177	136	86	117	176	102	64	274	222	150	300
Germany	270	186	229	249	164	309	317	334	496	620	546
Estonia	3	1	.3	3	5	1	2	3	10	13	13
Ireland	282	389	257	323	191	199	211	193	246	232	256
Greece	1	3	3	9	23	39	44	22	49	180	44
Spain	61	49	44	60	54	52	104	59	74	43	78
France	149	710	552	942	971	1 400	1 223	985	1 526	1 147	926
Croatia	:	:	:	:	:	:	:	21	19	22	20
Italy	183	243	818	1 243	1 405	1 459	1 354	977	852	825	824
Cyprus	2	2	3	4	2	5	8	5	4	4	5
Latvia	17	16	1	7	11	17	14	12	14	18	21
Lithuania	:	84	2	4	17	18	24	21	24	21	29
Luxembourg	89	86	46	73	114	89	81	89	92	85	268
Hungary	18	31	76	72	69	49	29	19	26	29	30
Malta	5	:	1	2	2	18	17	14	10	19	17
Netherlands	1 627	1 177	3 221	3 121	2 743	738	813	788	777	778	875
Austria	106	150	191	285	173	279	285	270	320	264	262
Poland	18	37	10	66	26	20	14	14	13	24	36
Portugal	63	92	108	8	61	54	63	17	70	55	53
Romania	:	:	:	37	23	4	2	7	14	25	27
Slovenia	8	15	22	70	58	35	45	47	47	57	61
Slovakia	.3	2	3	2	3	4	4	5	7	12	11
Finland	39	60	68	74	107	120	92	95	106	117	123
Sweden	105	119	95	176	184	310	270	249	164	323	307
United Kingdom	36	60	120	149	164	222	192	174	707	276	231
Liechtenstein	:	:	:	:	:	:	:	1	4	4	4
Norway	:	:	:	:	:	:	:	507	1 039	1 042	:

":" not available

Source: Eurostat (online data code: env_wasship)

Specific statistics on the shipment of non-hazardous waste from the EU are hard to find. Many categories of such waste are shipped under the Article 18 (Green list) procedure of the WSR and therefore do not require prior notification and consent. Consequently, such shipments are also not registered for statistical purposes. Eurostat does provide statistical data of all notified waste shipments, including some categories of non-hazardous waste (see Figure 3).[12] Eurostat`s explanatory document states that: "Export of all notified waste (hazardous and non-hazardous), has tripled in the EU, from 6.3 million tonnes in 2001 to 19.3 million tonnes in 2015".

Furthermore, Eurostat states: "the amount of notified waste has grown quite steadily since 2005 apart from the crisis years 2009 and 2010. Moreover, it dropped in 2012 because Finland re-classified iron-oxide flows to China from waste to product, and therefore no longer notifies these shipments. The largest exporters are the United Kingdom followed by Germany, the Netherlands, Belgium, France, Ireland, Italy and Austria. Austria had a very large increase in 2009 mainly due to the inclusion of excavated soil from an infrastructure project in the province of Vorarlberg."

[12] This includes mixed household waste and residues from the incineration of household waste.

Figure 2-3 Export of all notified waste from EU Member States (1 000 tonnes), 2001-2015 2015 (Website Eurostat accessed November 2018]

Export of all notified waste from EU Member States (1 000 tonnes), 2001-2015

Country reporting	2001	2003	2005	2007	2009	2010	2011	2012	2013	2014	2015
EU 28	6307	8626	8912	10804	11850	12219	14547	14009	15441	18646	19260
Belgium	806	869	955	1141	858	904	1555	1766	1618	2019	1825
Bulgaria	:	:	:	0	0	10	5	6	3	17	11
Czech Republic	4	2	2	4	12	15	19	20	32	34	37
Denmark	344	385	386	293	255	227	151	484	516	523	529
Germany	1540	907	1103	1827	1201	1514	1950	1809	1990	2613	3046
Estonia	3	1	0	3	5	1	2	3	10	13	13
Ireland	287	421	534	331	242	282	364	361	666	924	899
Greece	1	3	3	9	72	76	64	22	62	192	60
Spain	61	49	44	60	70	70	116	67	83	54	83
France	207	740	582	1101	1178	1586	1502	1517	1649	2103	1793
Croatia	:	:	:	:	:	:	:	21	19	24	44
Italy	364	430	1035	1471	1713	1783	1715	1416	1213	1185	1231
Cyprus	2	2	3	4	30	41	182	181	4	4	5
Latvia	17	16	1	7	11	17	14	12	14	18	21
Lithuania	:	84	2	4	17	18	53	73	39	27	29
Luxembourg	89	86	46	84	172	141	123	123	129	118	305
Hungary	18	31	76	72	69	49	29	19	31	44	49
Malta	5	:	1	2	2	18	19	16	11	21	18
Netherlands	2135	3848	3221	3172	2920	3074	2879	2699	2477	2740	2787
Austria	136	209	394	476	2162	978	836	734	811	795	821
Poland	18	155	13	66	26	20	14	14	14	24	93
Portugal	63	92	108	8	61	54	63	17	71	57	56
Romania	:	:	:	37	23	4	2	7	14	25	27
Slovenia	8	15	22	70	77	104	115	178	192	228	238
Slovakia	0	2	5	5	5	12	219	157	52	73	33
Finland	43	63	72	78	111	131	930	120	150	193	231
Sweden	120	153	107	312	289	472	408	330	311	382	358
United Kingdom	36	61	197	167	267	617	1218	1835	3260	4195	4617
Liechtenstein	:	:	:	:	:	:	:	1	4	4	4
Norway	:	:	:	:	:	:	:	996	1585	1617	:

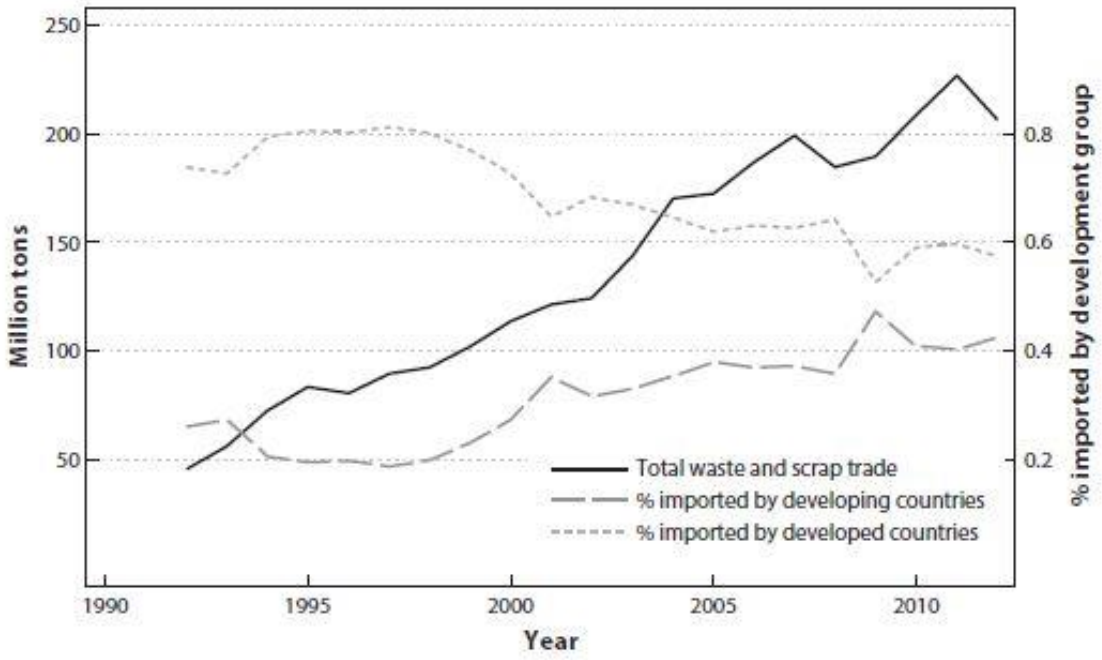
":" not available
Source: Eurostat (online data code: env_wasship)

Development trade patterns: geographically

Globally, besides the rising amounts, the destination countries of waste and scrap material have changed over the past two decades. In the 1990s, a large proportion, more than 80%, of internationally traded waste was imported by developed countries (EU and/or OECD Member States). As depicted in Figure 2.4 (taken from Kellenberg 2015), since then, the trend of exporting waste from developed countries to developing countries started. By 2012, more than 40% of the internationally traded waste has a developing country as its destination.[13]

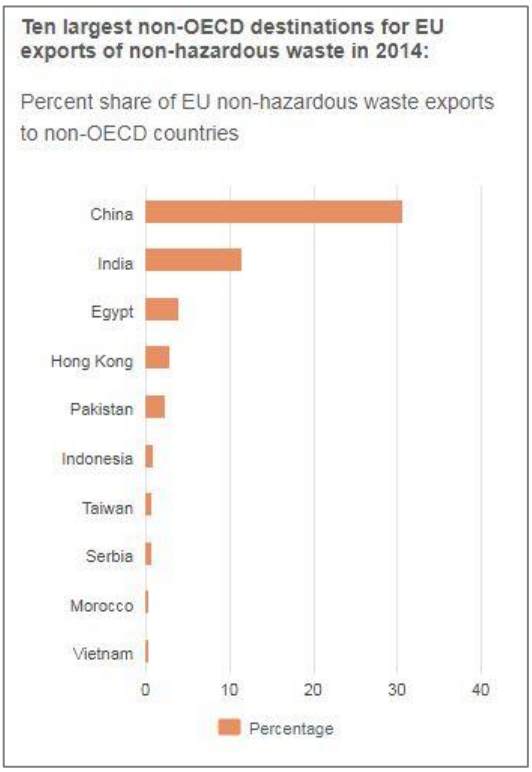
[13] For example: global import of plastic waste began in the 1990s and grew rapidly since then, in accordance to the total trade volume of waste. Historically, China has been the world's largest importer of recyclable scrap. China's imports are responsible for 45% of the world's total waste plastic trade, accounting for 106 million tons in the years 1992 to 2016. Together with Hong Kong, China imported 72.4% of all plastic waste [Brooks et al. 2018]. China has currently banned imports of waste from other countries.

Figure 2-4 Annual tons of global waste and scrap traded internationally (1992-2012), (from [Kellenberg 2015]).



With regard to export of non-hazardous waste from the EU, statistics from 2014 indicate that the top-five importing countries are all non-OECD countries (China, India, Egypt, Hong Kong and Pakistan), see Figure 2-5.

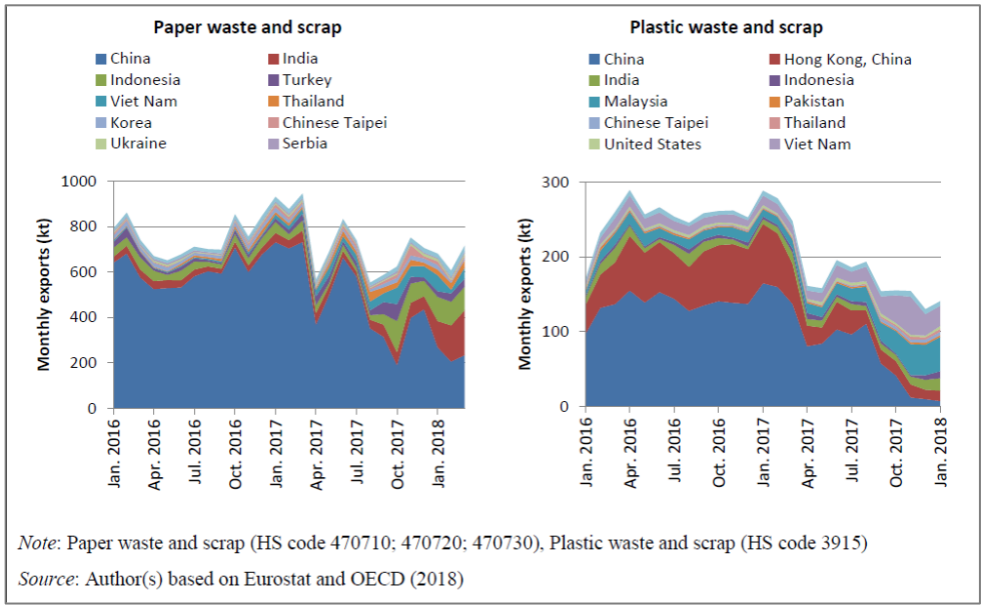
Figure 2-5 Ten largest non-OECD destinations for EU exports of non-hazardous waste in 2014 (from [EC 2014])



China has historically been the world's largest importer of waste. In 2004, China imported 29 Million tons of waste [Kellenberg 2012[14]]. Since 2017 China has implemented policies which restrict the import of various categories of recyclable materials which were previously allowed into the Chinese market for processing. The import restriction on specific types of plastic is a highly relevant example in this regard. According to a prediction by [Brooks et al. 2018[15]] China's policy change will cause about 120 million tons of plastic waste to be displaced worldwide by 2030.

As can be seen in **Figure 2-6**, the amount of plastic waste and scrap exported from the EU significantly decreased in April 2017. The EU's main trade partners for waste plastic have since then become Malaysia, Vietnam, Hong Kong and India. The main importer of paper waste and scrap from the EU is still China, followed by India, Indonesia and Vietnam. Furthermore, China's Ban on waste imports is clearly visible from the OECD data below (see Figure 2-6).

Figure 2-6 Annual volume of global waste and scrap traded internationally, by value and weight (from [OECD 2018])



Note: Paper waste and scrap (HS code 470710; 470720; 470730), Plastic waste and scrap (HS code 3915)

Source: Author(s) based on Eurostat and OECD (2018)

With regard to EU's hazardous waste, it is primarily shipped within the EU. Practically no shipments of hazardous waste to non-OECD countries were registered since 2010. Before that only a small amount of hazardous waste was exported [Eurostat 2018][16]. Eurostat states: "In 2015 approximately 91 % of the hazardous waste exports in the EU-28 were shipped to other EU Member States and 86 % were sent from EU-15 Member States to other EU-15 Member States" .

Figure 2-7 provides an overview of the origin and destination of hazardous waste transboundary shipments from EU Member States.

[14] Trading Wastes, Derek Kellenberg 2012 from *Journal of Environmental Economics and Management*, 2012, vol. 64, issue 1, 68-87
[15] The Chinese import ban and its impact on global plastic waste, Amy L. Brooks et al, Science Advances 2018 Vol.4 no.6
[16] https://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_shipment_statistics

Figure 2-7 origin and destination of hazardous waste transboundary shipments from EU Member States (Website Eurostat accessed November 2018]

Origin and destination of hazardous waste transboundary shipped from EU Member States (1 000 tonnes), 2001-2015

		To					
From	Year	EU-28	EU-15	EFTA	OECD (non-EFTA)	Non-OECD	Total
EU-28	2001	3785	3768	171	12	1	3970
	2003	4223	4167	93	45	61	4422
	2005	6629	6599	59	6	91	6785
	2007	7874	7759	129	6	97	8106
	2009	7177	6959	189	8	53	7427
	2010	5908	5696	343	5	:	6256
	2011	5833	5697	248	45	:	6125
	2012	5066	4892	255	29	0	5350
	2013	6385	6205	130	88	0	6603
	2014	5556	5324	251	207	:	6014
	2015	5608	5362	383	107	0	6098
EU-15	2001	3729	3724	171	6	1	3907
	2003	4099	4094	93	41	7	4239
	2005	6529	6508	59	3	75	6665
	2007	7606	7549	129	3	97	7835
	2009	6954	6827	189	8	53	7204
	2010	5713	5557	343	4	:	6060
	2011	5657	5580	248	45	:	5949
	2012	4874	4764	255	28	:	5158
	2013	6171	6066	124	86	:	6382
	2014	5277	5140	251	203	:	5731
	2015	5303	5153	375	101	:	5779

":" not available
Source: Eurostat (online data code: env_wasship)

2.1.7 Experience to date in the implementation of the WSR

The WSR has dual roles- ensuring protection of the environment in relation to shipments of waste and, ensuring that the EU meets its commitments under multilateral environmental agreements and, thereby, encouraging other countries to also ensure protection of the environment when undertaking shipments of waste. However, the WSR has a clear relationship with the rest of the EU acquis on waste that means that it deals with certain, potentially conflicting, common themes in relation to waste management overall including key waste management principles such as:

- The proximity principle whereby the general aim should be to treat and/or dispose of wastes in reasonable proximity to their point of generation, consequently minimising the environmental impact and cost of waste transport;
- Self-sufficiency at both the EU and Member State level in order to minimise reliance on others to manage the waste produced within the EU itself; and
- Ensuring environmentally sound waste management at the final point of discharge as well as through the waste treatment process.

In particular, the capacity of individual Member States to address these three principles means that the WSR has different implications for different countries. In assessing the implementation of the WSR to date the Commission has undertaken several studies focussing on aspects related to the WSR and its relationship or interaction with other EU waste policy. These studies include:

- Feasibility studies for the establishment of electronic data interchanges for Waste Shipments[17];
- Studies on criteria and requirements for waste shipments inspections[18];
- A report on analysis of the implementation/enforcement of Annex VII and Articles 18 and 49-50 of the WSR19 in all Member States, including a summary report of national provisions[20];
- A study on Annex VII, Articles 18 and 49-50 and a subsequent report on identified problems and solutions for implementation and enforcement of these provisions[21];
- A study on the implementation of financial guarantees and equivalent insurance in all Member States[22];
- A Study on Annex IIIA of the EU Waste Shipment Regulation[23];
- A FAQ document summarising questions from a Helpdesk on the WSR[24].

The Commission has also issued two 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. The Commission also recently issued a report on "The efficient functioning of waste markets in the European Union - legislative and policy options[25]". This study had several conclusions of relevance to this evaluation. The eight key recommendations and the issues they address are as follows:

- Develop Schengen area for waste recycling and recovery – the administrative burden and extra costs for recycling businesses from the WSR's notification requirements;
- Harmonise and strengthen the system of pre-consented facilities to address the time delays which prevent companies from sending waste to appropriate recovery/recycling facilities in the EU;
- Ensure more harmonised classification system for waste shipments – waste shipments for recovery/recycling are blocked by national authorities because they disagree about what is 'waste', 'hazardous waste' or 'recovery/disposal';
- Facilitate waste shipments through an electronic system for notification (and information) requirements. – The heavy administrative burden and time delays caused by the current paper-based notification system;
- Address delays in shipping waste via transit countries - National authorities apply the provisions concerning waste shipments through transit countries differently, creating obstacles due to delays and specific conditions/objections;
- Address problems of cooperation between authorities at different levels - Information flows between competent authorities in countries of dispatch, transit and destination, or different authorities in the same country, can be slow and delay shipments;
- Upgrade waste management systems in the EU - Divergence between Member State waste management systems create market distortions (not really a WSR issue);

[17] TRASYS (2014) "*Feasibility study for the establishiment of an Electronic Data Interchange for Waste Shipments*"http://ec.europa.eu/environment/waste/shipments/pdf/3a_ArchitectureOverview_EDI_for_WSR.pdf
[18] European Commissions (2007) Review on Recommended Minimum Criteria for Environmental Inspections (RMCEI)
[19] Addressing certain information requirements, environmentally sound management and enforcement in Member States
[20] 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 MS, including a summary report of national provisions http://ec.europa.eu/environment/waste/shipments/pdf/Annex%20VII.pdf
[21] European Commission (2009) Assessment and guidance for the implementation of EU waste legislation in MS. Report on analysis of the implementation/enforcement of annex vii and article 18 and 49-50 of the waste shipment regulation in all member states, including a summary report of national provisions. http://ec.europa.eu/environment/waste/shipments/pdf/Annex%20VII.pdf
[22] Method of calculation in the MS 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
[23] Addressing mixtures for two or more wastes listed in Annex III to the WSR and not classified under one single entry
[24] 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
[25] http://ec.europa.eu/environment/waste/studies/pdf/waste_market_study.pdf

- Improve enforcement in Member States - Differences between Member State level of enforcement of waste legislation (WSR already amended to try and address this, but it may need more amendments).

Several common issues have been identified in previous studies:

- **Data quality** – Discrepancies have been identified in relation to quantities of waste reported by countries of dispatch and countries of destination. For example, in its report of 2012 to the Council and the Parliament the Commission noted that in 2009 the difference between reported exports of hazardous wastes and imports of the same waste was about 27%. In relation to other notifiable wastes the opposite was the case with the reports of imported other notified wastes being 36% higher than exports of the same wastes;
- **Classification of wastes** – Despite the sharing of experiences between Parties to the Basel Convention on the use of Basel codes for the classification of waste and similar experience sharing between EU Member States on the use of European Waste List Codes the classification of waste remains inconsistent across the EU;
- **Illegal shipments** – Despite improvements in inspection practices across Member States, including those expected from 2016 as a result of Regulation (EU) No 660/2014, the level of shipments of waste in violation of the WSR appears to remain relatively high. In its latest report on the 'Enforcement of the European Waste Shipment Regulation' the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) found that as part of nearly 5000 inspections undertaken on roads or at ports over 2014-2015 related to waste shipments over 16.6% were in violation of the WSR - it should be noted that this represents an improvement in relation to the IMPEL report of 2012 that identified a violation rate of about 25%. Furthermore, of 486 company inspections undertaken over the period 2014-2015, 14.9% resulted in the identification of violations;
- **Volumes of waste shipped outside the EU** – the volumes of waste shipments have continued to demonstrate an upward trend from the introduction of the WSR in 2006. The latest implementation report by the Commission published in 2015 indicated that volumes of notified waste subject to transboundary movements have increased – for exports from 6 million in 2001 to 14 million tonnes in 2012 and for imports from 7 million tonnes in 2001 to 17 million tonnes in 2012;
- **Reporting by Member States** – Compliance with reporting deadlines continues to demonstrate differing performance by Member States. Given that the reporting has consequences in relation to submissions to the Basel Convention Secretariat the implications fall beyond the European Union's borders, potentially affecting the EU's reputation with international partners. However, such reporting also carries with it important administrative burdens for operators, competent authorities, national administrations and the Commission in terms of the collection of documentation.

In examining the implementation of the WSR, the drivers, including the costs and benefits, for some of the issues identified during its implementation it was important that these common themes remained central in the evaluation.

2.1.8 The REFIT programme and Fitness Checks

Evaluations are an essential part of the Commission's policy cycle and decision-making process as highlighted in the Commission's 2015 Communication on "Better regulation for better results - An EU

agenda"[26]. The Better Regulation strategy emphasises the importance of assessing and evaluating after a policy or measure has been implemented to ensure it stays fit for purpose and delivers, at minimum cost, the desired changes and objectives.

The evaluation of policies and measures and comparison against ex-ante estimates and evaluations (e.g. Impact Assessments) is key to making future interventions more realistic and accurate, while understanding the factors that have made policies effective and cost-efficient. The review of legislation can provide indications to policy makers of the types of instrument that proved to be most successful and most cost-effective in delivering the intended benefits e.g. command and control versus market-based tools.

The Commission has strengthened the role of the Regulatory Fitness and Performance (REFIT) programme which was set up at the end of 2012 to ensure that the body of EU legislation remains effective and efficient without compromising policy objectives. This programme identifies evaluations as a key element for eliminating unnecessary regulatory costs and ensuring that EU legislation remains fit for purpose. The REFIT State of Play and Outlook published in May 2015[27] describes progress made with several initiatives that have been identified for simplification and regulatory burden reduction in the different policy areas, including waste legislation other than WSR.

Initiatives are to be evaluated against standard criteria and following a well-defined methodology, which needs to respect the principles outlined in the latest Better Regulation Guidelines[28]. These guidelines aim to provide a common framework for conducting all retrospective evaluations. They state that all evaluations must assess at least the evaluation criteria of: effectiveness, efficiency, coherence, and relevance and EU added value of the intervention. The guidelines require that the evaluation must assess all significant impacts of the EU intervention under consideration, and in cases where impact assessments exist, to analyse the same broad categories of impacts. The evidence for the evaluations needs to be gathered from a wide range of qualitative and quantitative sources, including stakeholder consultations, which must comply with the Commission's standards for consultation. The toolbox accompanying the new guidelines provides complementary guidance on specific elements.

None of the existing studies have either been comprehensive in their nature nor undertaken in accordance with the Commission’s Better Regulation toolkit. This evaluation, therefore, builds on some of the findings of the studies listed but should be seen as a separate exercise in terms of its aims and objectives.

2.2 Defining the baseline for the evaluation

An important aspect of performing an evaluation relates to defining a baseline from which the impacts of the Regulation can be ascertained. In the case of the WSR this is somewhat complicated by the nature of the predecessor legislation that the Regulation replaced, as well as the existence of

[26] European Commission (2015) Better regulation for better results - An EU agenda. http://ec.europa.eu/smart-regulation/better_regulation/documents/com_2015_215_en.pdf
[27] European Commission (2015) Regulatory Fitness and Performance Programme (REFIT) State of Play and Outlook "REFIT Scoreboard" Available at: http://ec.europa.eu/smart-regulation/better_regulation/documents/swd_2015_110_en.pdf
[28] European Commission – Better Regulation Toolbox Available at: https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how/better-regulation-guidelines-and-toolbox_en

international obligations under the OECD Decision and Basel Convention to which the EU and its Member States are Parties.

As noted in section 2.1.4 the 2006 Regulation effectively carried forward a significant proportion of the provisions of Regulation (EEC) No 259/93 on the supervision and control of shipments of waste within, into and out of the European Community. The main changes introduced in the 2006 Regulation have been explained in this report. However, it was considered that disentangling the provisions that existed under the 1993 Regulation that could reasonably have been assumed to continue to apply in the absence of the 2006 Regulation would prove exceedingly difficult.
In relation to the OECD Decision, recognising that Bulgaria, Croatia, Cyprus, Malta and Romania are not members of the OECD means that differences of application in relation to the OECD Decision would likely exist. Furthermore, as the date of membership of the OECD varies for those Member States that are Parties the point at which the OECD Decision would apply varies.

Table 2-1 Date pf entry in the OECD

Member State	Date of entry	Member State	Date of entry	Member State	Date of entry
AUSTRIA	29-Sep-61	GREECE	27-Sep-61	POLAND	22-Nov-96
BELGIUM	13-Sep-61	HUNGARY	07-May-96	PORTUGAL	04-Aug-61
CZECH REPUBLIC	21-Dec-95	IRELAND	17-Aug-61	SLOVAK REPUBLIC	14-Dec-00
DENMARK	30-May-61	ITALY	29-Mar-62	SLOVENIA	21-Jul-10
ESTONIA	09-Dec-10	LATVIA	01-Jul-16	SPAIN	03-Aug-61
FINLAND	28-Jan-69	LITHUANIA	05-Jul-18	SWEDEN	28-Sep-61
FRANCE	07-Aug-61	LUXEMBOURG	07-Dec-61	UNITED KINGDOM	02-May-61
GERMANY	27-Sep-61	NETHERLANDS	13-Nov-61		

Source: http://www.oecd.org/about/membersandpartners/list-oecd-member-countries.htm

Consequently, defining a baseline considering the impacts of the OECD Decision was determined as being unreasonable.

All EU Member States had ratified the Basel Convention in advance of the entry into force of the 2006 Regulation. However, not all Member States had done so in relation to the 1993 Regulation that, it is believed, in a number of cases allowed Member States to ratify the Basel Convention. Whilst it could, therefore, be considered that the Basel Convention could be taken to be the baseline for the evaluation, the relationship between the text of the 1993 Directive that originally allowed ratification of the Basel Convention by the EU and the 2006 Regulation that, amongst other things included changes to continue to apply the revised Basel Convention, means that disentangling each provision to determine its origin and likely applicability in the absence of the 2006 Regulation would bring little added value to the evaluation process.

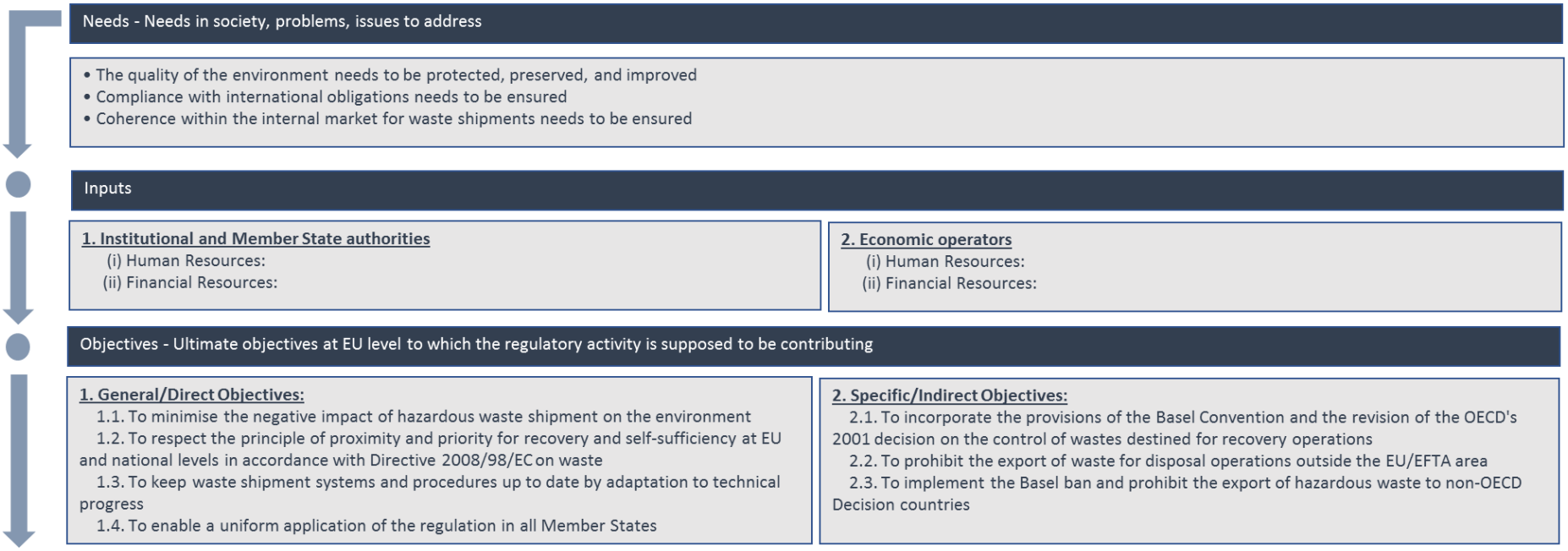
As a consequence of the above considerations, the baseline for this evaluation has been considered to be the absence of Waste Shipment Regulation across the EU and its Member States. Whilst this approach takes a more conservative approach to determining the costs and benefits of the Waste Shipments Regulation, it ensures that all costs and benefits are within the scope of the evaluation. In regard to the relationship between the 2006 Regulation, the OECD Decision and Basel Convention, consideration as to the likely impacts of applying the OECD Decision and Basel Convention only are included across

the evaluation questions where deemed appropriate, most importantly against the EU added value criteria.

2.3 Intervention logic

Figure 2-8 provides the intervention logic which has been developed as part of the current study to define the processes and activities under the WSR laying out the needs expected to be addressed, the inputs necessary, the ultimate EU objectives of the WSR, the actions included in the WSR, and the expected effects including possible external factors that may impact on those effects. These are described in the background section at the start of this report but are summarised for the purpose of the intervention logic below.

Figure 2-8 Intervention logic



Actions - Actions undertaken (linked to operational objectives) to produce the expected results			
Control procedures	Trade bans	Inspection systems	Other provisions
Competent authorities/Member States: • Competent authorities may lay down specific conditions attached to their consent of shipment (Art. 10) • Competent authorities may refuse consent for shipments (Art. 11 and 12) • Pre-consent can be granted to facilitate shipments between recovery facilities (Art. 14)	**Competent authorities/Member States:** • Export of waste for disposal outside the EU/EFA area is banned (Art. 34) • Export of hazardous waste to non-OECD Decision countries is banned (Art. 36) and the export for recovery of non-hazardous waste to these countries is regulated (Art. 37) • Imports of some waste shipments can be prohibited (Art. 41)	**Competent authorities/Member States:** • Ensure that Member States carry out effective inspections of establishments, undertakings, brokers and dealers in order to verify the provisions of the Regulation are applied. Member States are to adopt inspection plans based on risk assessment covering specific waste streams and sources of illegal shipments (Art. 50) • Authorities may require the notifier, the person who arranges the shipment, the holder, the carrier, to submit 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 50(4b)) • Authorities may require the notifier, the person who arranges the shipment, the holder, 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)) • Member States to cooperate in preventing and detecting illegal shipments (Art. 50)	**Competent authorities/Member States:** • Member States to adopt a system of penalties applicable in case of infringements of the provisions of the Regulation. Penalties are to be effective, proportionate and dissuasive (Art. 50) • Member States are to report annually to the Commission the report submitted to the Secretariat of the Basel Convention and a report on the questionnaire in Annex IX (Art. 51(1) and 51(2)) • The Commission shall establish every three years a report, based on these reports, on the implementation of this Regulation by the Community and its Member States (Art. 51(4)) • Notifications of waste shipments may be made publicly available (Art. 21) • Protect the environment in waste shipment activities, i.e. ensure that any waste shipped into the area of jurisdiction is managed without endangering human health and without using processes or methods which could harm the environment (Art. 49)
Notifiers: • Shipments of waste subject to procedure of prior written notification and consent or a regime of general information requirements depending on the type of waste (Art. 3) • Shipments of waste for which a notification is required are to be covered by a financial guarantee (Art. 6) **Other:** • Person in charge of the shipment in the country of dispatch: certain shipments of waste are to be accompanied by specific information (Art. 18)			**Notifiers:** • Protect the environment in waste shipment activities, in particular ensure that the waste treatment facilities for exported waste are operated in accordance with human health and environmental protection standards broadly equivalent to those in the EU (Art. 49)

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

Results against general/direct objectives	Results against specific/indirect objectives
Results against objective 1.1 • Uncontrolled waste dumping across borders is prevented •Waste for recovery is only destined to facilities managed in an environmentally sound manner **Results against objective 1.2** • Where planned shipments of waste for disposal are organized by the competent authorities, sufficient measures are taken to implement the principles of proximity, priority for recovery and self-sufficiency at Community/national levels. **Results against objective 1.3** • The Regulation is kept up to date by adaptation to technical progress • Paper-based reporting and data collection is abandoned for all member states **Results against objective 1.4** • Member State cooperation, information sharing and stakeholder awareness are improved • The Regulation is applied in a harmonised way • A hybrid electronic database system is coordinated at a national and member state level	**Results against objective 2.1** • Hazardous waste is not sent for recovery to countries with unsuitable treatment facilities, including those countries within the EU which have not implemented the OECD Decision The environmentally sound management of hazardous and other waste is strengthened, as per the objectives of Basel convention. **Results against objective 2.2** • Waste produced within the EU is disposed of within the EU/ETA zone **Results against objective 2.3** • No hazardous waste is sent to non-OECD countries for recovery operations • The negative environmental and health effects of illegal waste shipments from the EU to less developed countries are mitigated

Expected results - Direct effect of Commission action, short- and mid-term deliverables attributable to the regulatory activity	External factors - Factors independent of the regulatory activity's intervention which could partly or entirely be the cause of changes (results or impacts)
• The potential impacts on the environment from shipments of waste is minimised as far as possible **(Objective 1.1)** • Waste disposal or recovery does not endanger human health and the environment **(Objective 1.2)** • The quality of the environment is protected, preserved and improved **(Objectives 1.1 and 1.3)** • The Regulation and its related international obligations are applied in a harmonised way **(Objectives 2.1 and 2.3)** • The frequency of illegal waste shipments are reduced **(Objectives 1.2 and 2.2)**	• Other waste legislation including MS national legislation, and circular economy concept **• MS policy efficiency and effectiveness - cooperation between national, regional and local authorities and other actors, in particular for effective inspections and penalties** **• Other international agreements** • Disagreements on classifiction issues among Member States • Stakeholders interests and wider public concerns • Technological progress, including use of electronic systems to improve monitoring • Political will to reduce undue regulatory burden • Wider economic context, in particular circular economy and commodity / raw material prices and demand

Broader effects

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

3 Evaluation questions

This section provides an overview of the evaluation questions addressed in this study. Appendix B presents the detailed set of evaluation questions for this project, as agreed following the submission of September and October Progress Reports and including related judgment criteria, indicators and sources for each evaluation question. It is based on the questions originally included in the Commission's Service Request, a revised set of questions presented by the Commission to the project team (26 June 2017) and further feedback from the Commission and the Steering Group members. The Appendix B also includes the way in which we proposed to answer each of the evaluation questions. I.e. the evaluation matrix.

Effectiveness

1. To what extent have the objectives been achieved?
2. What factors influenced the achievements observed?

Efficiency

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

Relevance

5. How well do the original objectives correspond to the policy objectives of the EU (and its global partners)?
6. How well adapted is the WSR to (subsequent) technical and scientific progress and EU and global market developments?
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?
8. Is there any provision irrelevant or outdated/obsolete in the WSR?

Coherence

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 strengths, efficiencies, synergies, weaknesses, inconsistencies, overlaps, contradictions, etc
10. To what extent is the WSR coherent internally, including with Regulation (EC) No 1418/2007.
11. To what extent are strategies/ legislation at Member State level coherent with the WSR, in particular Article 33?
12. To which extent is the WSR coherent with international commitments on waste?

EU added value

13. What has been the EU added value (of the WSR together with Regulation (EC) No 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)?
14. To what extent do the issues addressed by the WSR continue to require action at EU level?

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

4 Methodology

To be successful, an evaluation must be able to rely on an evidence base, including facts and opinions (and the underlying arguments for these opinions) collected from a range of stakeholders.

4.1 Methods used

The objective of the analysis is to provide answers to the evaluation questions laid down in Chapter 5 and 6 – to provide an overview of issues, both positive and negative, in the area of waste shipments related to the WSR. It also needs to point to the need for improvements, simplifications and beneficial adjustments. This chapter presents the evidence gathered from the range of sources considered. The analysis resulting from the application of this methodology is presented in Chapter 5 and 6 against each of the evaluation criteria.

The main sources of information used for this evaluation are:

- A review of existing literature (including stakeholders' feedback on the REFIT platform and on the Evaluation Roadmap);
- 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 website[29];
- 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.

A summary of the approach in working with these sources and overview of the data received is addressed in the following sections. In relation to those aspects concerning consultation with third parties, the evaluation followed the consultation strategy for the evaluation[30]. The consultation strategy can be found in Appendix C and a synopsis report in Appendix D.

4.1.1 Literature review

A desk-based review was used to collect information on existing developments and practices in the area of waste shipments as well as on the context in which the Regulations operate (e.g. policy developments, shipment trends). This involved reviewing a wide range of documents, a bibliography of which is provided in Appendix E. The documentation reviewed included:

- EU legislation and reports on implementation and evaluation including the impact assessments accompanying the adoption of the WSR and its amendments;
- Recent studies from DG Environment on the WSR and related pieces of waste legislation;
- Published statistics (e.g. Eurostat);

[29] https://ec.europa.eu/info/consultations_en
[30] https://ec.europa.eu/info/sites/info/files/wsr_evaluation_consultation_strategy.pdf

- Guidance and summary documents concerning the implementation of the WSR, produced by, inter alia:
  - The Commission;
  - The OECD;
  - The European Environmental Agency;
  - National authorities;
  - Industry associations.
- Feedback from stakeholders on the Public Consultation Roadmap and from the REFIT platform; and
- Relevant legislation and technical developments in other countries, regions and other related multilateral environmental agreements (e.g. the Basel Convention).

While the above sources of information provided relevant inputs to the evaluation, in general most of the literature focuses more on describing the background and applicable requirements in the field of waste shipments rather than on discussing quantitatively their benefits and costs or the level of compliance with WSR provisions. Moreover, in the case of the latter amendments to the Regulation, including those related to inspection plans and programmes, available literature and data often predates the adoption of these measures, thereby hindering a comprehensive assessment of their results in existing materials. In some cases, it is noted that available literature is quite dated since implementation of the Regulation has now been required for over a decade.

4.1.2 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 the literature review. Representatives from the waste industry, 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.

4.1.3 Public consultation

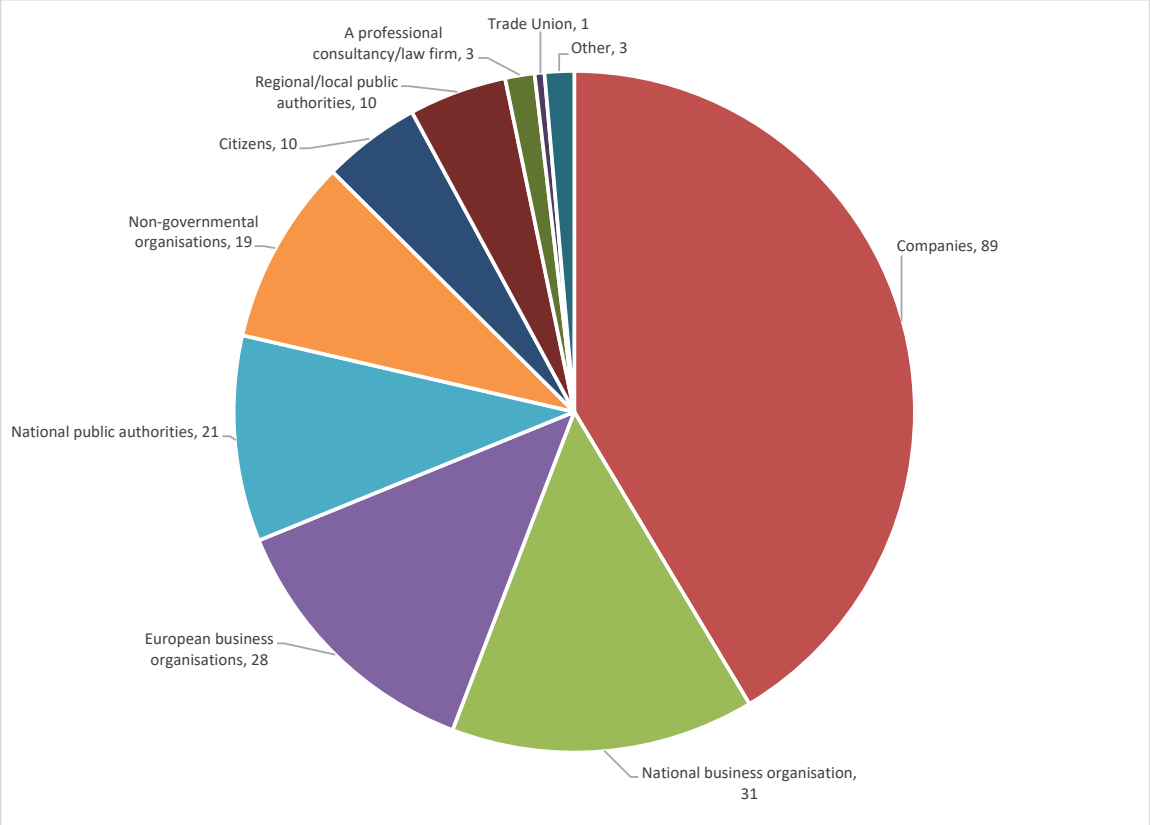
The Public Consultation aimed to gather the opinion of any interested citizen or organisation, targeting stakeholders that would be unlikely to be involved in the other more specialist targeted strands of the consultation activities.

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 to the EU Survey tool[31]. 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 placed on the Consultations page within the EUROPA Website,[32] and several 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 4-1 below provides a breakdown of respondents by type.

[31] https://ec.europa.eu/eusurvey/home/welcome
[32] https://ec.europa.eu/info/consultations/public-consultation-evaluation-waste-shipment-regulation_en

Figure 4-1 WSR Evaluation Public Consultation stakeholders type breakdown



A full report on the public consultation is provided in Appendix F of this report.

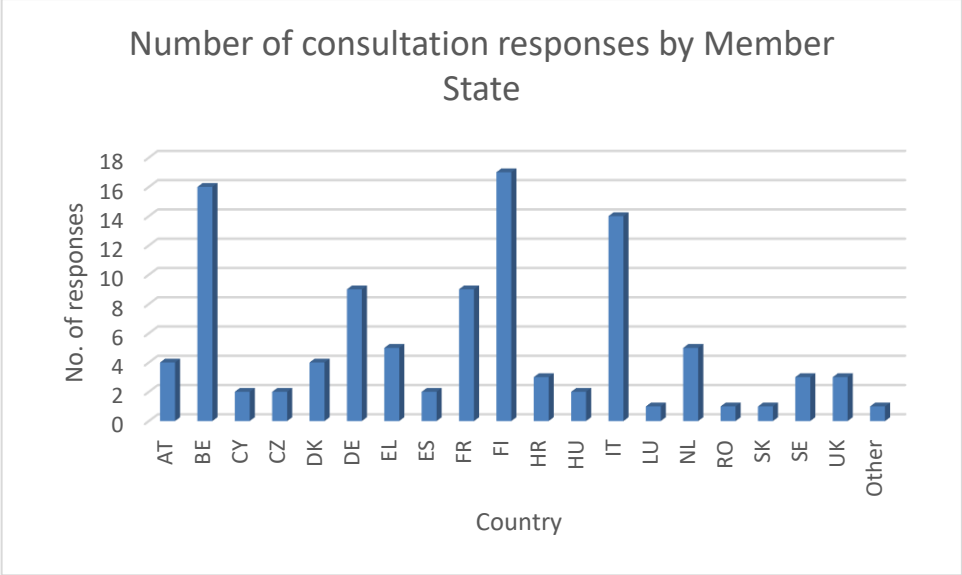
4.1.4 Targeted surveys

A targeted survey was developed 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 encountered 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 focus on the inspection and enforcement provisions of the WSR.

Prior to the targeted survey being released, it 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.

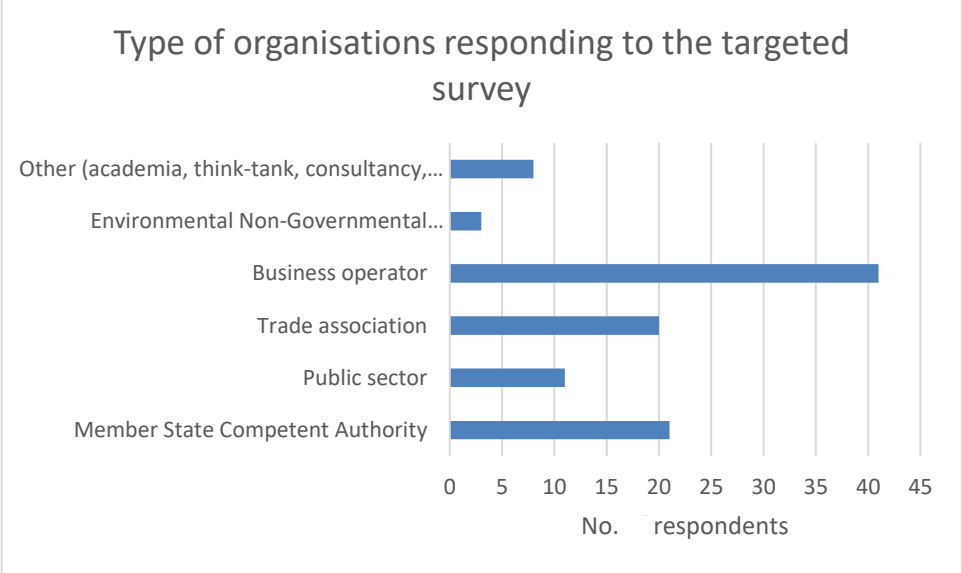
A total of 104 responses to the targeted survey were received across 19 Member States. The survey was designed to allow stakeholders to be selective in the questions that they answered, albeit 59 percent of responses provided answers to all questions.

Figure 4-2 Number of consultation responses by Member State



Examining the types of organisations that responded to the survey indicates most 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 4-3 Type of organisations responded to the targeted survey



4.1.5 Member State Competent Authority and other stakeholder targeted interviews

In order to follow-up to the targeted online survey, and 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 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.

4.1.6 Workshops

Two workshops were held in undertaking the evaluation, the first took place in January 2018 and the second in September 2018. The full reports from the workshops are included in Appendix G of this report.

4.2 Comment on limitations and robustness of findings

The research team has faced several challenges in undertaking the evaluation. The most important challenges have been:

- ***Timeframe*:** The WSR has been subject to several amendments, the most recent of which came into force at the end of July 2016. Considering that the latest data from several key datasets is from 2016 or earlier, it is not feasible to estimate the full benefit of the WSR for all provisions;
- ***Difficulty in establishing the link between the Regulation and trends in waste shipments*:** During the period 2001-2007 there was a growth in shipments of hazardous waste for disposal and recovery. However, since 2007 there has been a 25 percent decrease in such shipments. Whilst this coincides with the introduction of the WSR, Eurostat states that the decrease is largely as a result of the financial and economic crisis in 2008. Decoupling such external impacts on waste shipments from the quantification of changes resulting from the WSR is subject to a large degree of uncertainty. It was not feasible, therefore, to determine accurately what would have happened in each Member State if the Regulation was not in place, especially given the requirements stemming from the Basel Convention and OECD Decision at the wider international level;
- ***Data constraints*:**
    - The data on waste shipments reported by Member States has 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 that are categorised as waste in one Member State being categorised as end of waste and, therefore, not reported in another;
    - Actual data on costs is limited and not readily available in public literature. Primary data collection was attempted to provide an insight into the costs incurred by all actors, but it is difficult to determine in all cases how representative such cost data is across the EU as a whole;

- Consistency of datasets: 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, the data provided by the stakeholders consulted was voluntary, which has influenced the level of detail provided across each Member State;
- Constraints in the consultation: There has been a varied response rate to the surveys undertaken for the study. This has hindered the aggregation of the answers to several questions. Also, some stakeholders based their answers on their subjective opinion without providing further explanations or data to support their statements, which increases the uncertainty and the risk of misleading/biased answers;
- Triangulation was not possible for all questions. In some cases, we have had to rely to a large extent on consultation responses rather than on available literature and vice versa.

Where difficulties were encountered in relation to the robustness of the evidence upon which conclusions have been drawn these are reflected against the relevant evaluation questions.

5 Main challenges

The literature research in combination with the open and targeted stakeholder consultation has revealed a number of issues that come up repeatedly under multiple evaluation questions. These repeating issues are discussed in more detail under the specific evaluation questions. However, in order to provide a general overview of these matters, the following section briefly describes and summarises them. As part of this summary we have included the legal background for each of the key issues within the WSR or connected legislation and also described relevant administrative or policy developments. The main issues as raised in the literature or by stakeholders are also summarised.

5.1.1 Procedural requirements of the WSR

The main procedure within the context of the WSR relates to notification of specified types of waste as determined in Article 3(1) of the Regulation. It has been indicated in the survey, interviews, open public consultation, literature and during the workshops that the procedures through which competent national authorities apply the notification requirement are too lengthy and burdensome. The issues connected to the notification procedure are mainly of relevance to the effectiveness, efficiency and relevance of the Regulation. The following section provides an overview of the main aspects of the notification procedure and connected issues.

Lengthy and burdensome notification procedures

Article 4 of the WSR states that shipments of waste which fall under the categories referred to in Article 3(1)(a) or (b) require submission of a prior written notification to and through the competent authority of dispatch.[33] The notification is to be carried out by means of a notification document and, where relevant, a movement document for which standard forms are annexed to the Regulation. These documents must be completed by the notifier. To this end, the notifier must supply with, or annex to, the notification or movement document information and documentation as listed in Annex II of the WSR. The notification is then sent to the competent authority of dispatch.

After receipt of the notification, the competent authority of dispatch retains a copy of the notification and transmits the notification to the competent authority of destination with copies to any competent authority or authorities of transit. If requested by any of the competent authorities concerned, the notifier must supply additional information and documentation.[34]

In accordance with Article 9(1) WSR, the competent authorities of destination, dispatch and transit have 30 days[35]following the date of transmission of the acknowledgement of receipt by the competent authority of destination in which to take one of a determined number of decisions, which it should provide with reasoning, namely:

- To consent without conditions;
- To consent with conditions in accordance with Article 10 of the WSR; or
- To object in accordance with Articles 11 and 12 of the WSR.

The procedures described above can entail a lengthy communication involving the preparation and submission of required documentation by the notifier. Furthermore, as described above, the notifier

[33] The notification procedure as laid down in the WSR implements the notification procedure as laid down in Article 6 of the Basel Convention. In this regard, it should be noted that certain provisions of the WSR concerning the notification procedure go beyond what is required by the Basel Convention.
[34] Only documentation listed in Annex II, Part 3 may be required by the competent Member State authority.
[35] Tacit consent by the competent authority of transit may be assumed if no objection is lodged within the said 30-day time limit.

might have to prepare and submit additional documentation if required by any of the national competent authorities involved. Therefore, the notification procedure could take longer than the determined 3 days for confirmation of receipt plus 30 days for the taking of a reasoned decision.

In relation to the administrative burden posed by the notification procedure, about 80% of respondents raised the fact that they feel the WSR involves a lot of paperwork for each notification or annex that needs to be filled in. Administrative burdens were highlighted by most respondents and interviewees as incurring monetary and non-monetary costs. Regarding the effect of the time taken for the notification procedure on implementation, the survey results were evenly mixed. 26% of respondents indicated this had a very negative impact on implementation, and a further 26% indicated it had a "somewhat negative" impact on implementation. However, in contrast, 20% of respondents indicated that timing for notification had a "positive impact" on implementation – with 18% indicating it had a "neutral" effect. Another disparity was identified between environmental NGOs and public-sector bodies with 100% of NGOs responding negatively, indicating that timing for notification had a "very negative impact" and 67% of public sector indicating "positive". Trade associations and others (i.e. academia, consultancy) also indicated the timing for notification had a very negative impact on implementation at 50% and 41%, respectively.

Member State attempts to address the burdens posed by the notification - electronic notification systems

Some Member States (for example, Germany and the Netherlands) have attempted to reduce the administrative burden of the notification procedure by adopting electronic notification systems.[36] In addition, some Member States have linked their electronic systems in a way which allows more efficient electronic exchange of information on notifications. However, a considerable number of Member States still maintain a paper-based notification system. Within this context it was reported by stakeholders that the WSR reporting was not adapted to technical progress. Cross-border procedures still require extensive paper use and the posting of material – leading to missed opportunities to save time as well as documents not arriving or being slow to reach their destination. For an electronic system to work effectively some interviewees also expressed the view that the data should only be held by the regulator, in order to avoid any commercial sensitivity concerns.

Administrative burden pre-consented facilities

Based on Article 14 of the WSR, the competent authorities of destination which have jurisdiction over specific recovery facilities may decide to issue pre-consents to such facilities. However, the specific procedures for the issuing of pre-consent are not laid down in Article 14 WSR.[37] The advantage of being a pre-consented facility is that, in the case of a general notification as laid down in Article 13 WSR, the period of validity of the shipment consent may be extended to a maximum of three years[38] by the competent authority of destination in agreement with the other competent authorities concerned. Furthermore, in the case of pre-consented facilities, consent, conditions or objections by the involved competent authorities have to be raised within a period of seven working days following the date of

[35] TRASYS Feasibility study (2014)
http://ec.europa.eu/environment/waste/shipments/pdf/3a_ArchitectureOverview_EDI_for_WSR.pdf
[36] Article 14(3) determines that competent authorities which decide to issue a pre-consent to a facility shall inform the Commission and, where appropriate, the OECD Secretariat of a specific set of information. It can therefore be assumed that submission of this information is at least required for the application for pre-consent.
[38] The normal period for general consent as laid down in Article 13 WFD is one year.

transmission of the acknowledgement of the competent authority of destination.[39] The decision by a competent authority of destination to issue pre-consents is limited to a specific period and may be revoked at any time.

It has been found that the administrative burden of the lengthy application procedure, and the associated costs for facilities to become a pre-consented treatment facility may discourage facilities from engaging in the registration process. In addition, during the workshops, the provisions in Article 14 regarding pre-consented facilities were described as problematic by some waste industry associations, due to a lack of criteria or consistent interpretation, which allows divergence between Member States. The 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. It has been found that the administrative burden of the lengthy application procedure, and the associated costs for facilities to become a pre-consented treatment facility may discourage facilities from engaging in the registration process. In addition, during the workshops, the provisions in Article 14 regarding pre-consented facilities were described as problematic by some waste industry associations, due to a lack of criteria or consistent interpretation, which allows divergence between Member States. The industry associations also highlighted the prolonged period of validity of three years and administrative requirements as potential barriers to registration.

5.1.2 Circular economy

Although not a formal objective of the WSR, it was consistently highlighted in the targeted survey and interviews that the WSR had been ineffective in supporting the transition to circular economy. Results from the survey, interviews and public consultation indicate that so far, the WSR has not been effective at enhancing this, despite its relevance to the circular economy agenda.[40]

In terms of enhancing resource efficiency and establishing waste markets and the circular economy, the results from the survey highlighted that 18% of respondents indicated that the WSR has been "somewhat ineffective" at increasing competitiveness of EU industry, with a further 23% indicating is was "very ineffective".

The issues connected to the circular economy are mainly considered to affect the effectiveness and relevance of the Regulation, as well as its coherence, particularly with the EU´s circular economy action plan.

The following section provides an overview of the main issues connected to the circular economy in the context of the WSR. It should be noted that most issues concerning circular economy and its connection with the WSR do not pertain to provisions in the Regulation itself. The issues derive from provisions laid down in the Waste Framework Directive 2008/98/EC (WFD). As the WFD provides the general legal framework for waste management, its provisions must be considered when applying related legislation. Consequently, many definitions, principles and legal requirements under the WFD are also relevant for the application of the WSR. For this reason, the following sections explain the main issues raised by analysing them within the context of the WFD, while also highlighting the relevant connection to the WSR.

[39] Regardless of the seven-days period, the competent authority of dispatch will be able to require additional information. This could extend the period beyond the seven days but is limited to 30 days following the date of transmission of the acknowledgement of the competent authority of destination.
[39] Results from the stakeholder consultation conducted as part of this study.

Lengthy and burdensome notification procedures – hampering the internal market for secondary raw materials

With regard to the circular economy, the perceived issue of lengthy and burdensome notification procedures has been found relevant by stakeholders. The time and costs involved to notify waste shipments are considered to make secondary raw materials less competitive and hamper the establishment of an internal market for secondary raw materials.

Varying application of 'by-product' and 'end-of-waste' criteria

Article 1(2) of the WSR states that the Regulation shall apply to shipments of waste. Article 2(1) determines that "waste" under the WSR is defined in accordance with the definition of "waste" under the WFD. Article 3(1) of the WFD defines 'waste' as any substance or object which the holder discards or intends or is required to discard. As such, any substance or object which meets this definition will be subject to the relevant provisions in the WSR taking into account the provisions of Art. 1(3) of the WSR (exclusions from scope).

In addition, Article 6 of the WFD determines that Member States shall take appropriate measures to ensure that waste which has undergone recycling or another recovery operation is considered to have ceased to be waste if it complies with conditions specified in the same Article. In addition, the Article determines that where criteria for specific types of waste have not been set at Union level, Member States may establish detailed criteria on the application of the general conditions laid down in Article 6 WFD. It should be noted that, in the absence of specific EU-level or national criteria, the competent Member State authorities are to assess whether a specific waste is to be considered end-of-waste by applying the general criteria established in Article 6 WFD.

Points were raised during expert interviews and the workshops concerning the varying interpretations regarding definition of waste and end-of-waste. The fact that a country of dispatch can consider a specific substance or object to be end-of-waste and therefore a product while the countries of transit and reception might not share this interpretation, create considerable legal uncertainty. Furthermore, shipments could be considered illegal upon transit or arrival, as non-waste shipments do not require notification.[41] The varying interpretations regarding definition of waste and end-of-waste can also lead to discussions in the context of take-back requirements. An industrial representative provided the example of exports from Czech Republic, where they classified a material (mixture of acid tar from petroleum refining, coal dust and calcium oxide) as a product which hence did not require prior written notification. However, the material was classified as waste in Poland which therefore deemed the shipment illegal and refused to accept it. The Czech Republic's refusal to accept the return of the shipment led to the referral by the Commission of that Member State to the CJEU.[42]

[41] The same issue could arise concerning the question whether a shipped substance or object is a by-product or waste as defined by the WFD. Article 5 WFD determines that Member States shall take appropriate measures to ensure that a substance or object resulting from a production process the primary aim of which is not the production of that substance or object is considered not to be waste, but to be a by-product if a specified number of conditions are met. It is also relevant to note that some Member States might consider certain material to be non-waste while other Member States consider it to be waste according to the definition of waste under article 3 of the WFD. This difference in interpretation can have the same consequences as the ones described regarding end-of-waste.

[42] For more information see: http://webcache.googleusercontent.com/search?q=cache:H2r7275gbLwJ:europa.eu/rapid/press-release_IP-16-2492_en.pdf+&cd=2&hl=de&ct=clnk&gl=de

The principle of proximity and self-sufficiency

Article 16(1) of the WFD lays down the principle of proximity and self-sufficiency which determines that Member States shall take appropriate measures, in cooperation with other Member States where this is necessary or advisable, to establish an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from private households, including where such collection also covers such waste from other producers, taking into account best available techniques.

The second paragraph of the Article determines that by way of derogation from the WSR, Member States may, in order to protect their network, limit incoming shipments of waste destined to incinerators that are classified as recovery, where it has been established that such shipments would result in national waste having to be disposed of or waste having to be treated in a way that is not consistent with their waste management plans. Member States shall notify the Commission of any such decision. Member States may also limit outgoing shipments of waste on environmental grounds as set out in the WSR.

Regarding the principle of proximity and self-sufficiency, the expert interviews highlighted a perceived clash between this principle and circular economy policies. The principle was described by some interviewed experts as limiting the free movement of waste between Member States. Regarding the WSR provisions on notification of waste shipments, the expert interviews also highlighted variation in interpretation and application among Member States. Example comments include differing interpretation of the distinction between recovery and disposal within the context of the proximity and self-sufficiency principles.

5.1.3 Problems with financial guarantees under different MS legal systems

The requirement of acquiring a financial guarantee was raised by Member State Competent Authorities, respondents to the open public consultation and in interviews and is considered an issue which mainly affects the efficiency of the Regulation.

Article 6(1) of the WSR states that all shipments of waste for which notification is required shall be subject to the requirement of a financial guarantee or equivalent insurance covering:

- costs of transport;
- costs of recovery or disposal, including any necessary interim operation; and
- costs of storage for 90 days.
- Paragraph 2 of the same Article determines that the financial guarantee or equivalent insurance is intended to cover costs arising in the context of:
    - cases where a shipment or the recovery or disposal cannot be completed as intended, as referred to in Article 22 WSR; and
    - cases where a shipment or the recovery or disposal is illegal as referred to in Article 24 WSR.

According to paragraph 4 of Article 6, the competent authority of dispatch shall approve the financial guarantee or equivalent insurance, including the form, wording and amount of the cover. However, in cases of import into the Community, the competent authority of destination in the Community shall review the amount of cover and, if necessary, approve an additional financial guarantee or equivalent insurance.

The issue raised by stakeholders is that the effort associated with acquiring such a guarantee is financially and administratively burdensome. Both Member State and industry stakeholders have indicated that financial guarantees might not be necessary for every shipment requiring notification. In addition, industry stakeholders have indicated that there is a variation in the way in which Member State authorities apply the requirement. Variations could for example pertain to the level of guarantee. A survey stakeholder indicated that some Member States of destination (e.g. Italy) insist on having guarantees that comply with their own levels, rather than the levels set by the country of origin. Another example given by the same stakeholder concerned the moment at which the guarantee is released by the relevant competent authorities. In Italy, the guarantee is only released after final treatment, rather than intermediate treatment, keeping the money for a longer period.

5.1.4 Lack of harmonised inspection regimes

The lack of harmonised inspection regimes among Member States was mainly raised via the survey and in the literature. This issue is considered to influence the effectiveness of the Regulation.

Article 50(1) of the WSR states that Member States shall lay down the rules on penalties applicable for infringement of the provisions of this Regulation and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive. Member States shall notify the Commission of their national legislation relating to prevention and detection of illegal shipments and penalties for such shipments.

Paragraph 2 of the same Article states that Member States shall, by way of measures for the enforcement of this Regulation, provide, inter alia, for inspections of establishments, undertakings, brokers and dealers in accordance with Article 34 of the WFD, and for inspections of shipments of waste and of the related recovery or disposal.

In addition to this, paragraphs 3 and 4 provide provisions on respectively the location and focus of the inspections. However, it must be noted that Article 50 of the WSR leaves considerable discretion to the Member States as to how inspections are to be organised. In this regard, it is also relevant to note that IMPEL has published Guidance on effective waste shipment inspection planning.[43] Furthermore, Member State competent authorities regularly exchange information on inspection efforts through the IMPEL network.[44]

Despite the above, one issue related to the effective application of the regulation across Member States, which was consistently identified in the literature, is the lack of uniform waste shipment inspections. More specifically, the literature highlights the lack of criteria for the frequency and quality of inspections.

This indication is in line with the survey results. When asked about the general application of the WSR across Member States, the clear majority -61%- of survey respondents indicated that general application of the WSR is not consistent across Member States.[45] Lack of harmonisation among Member States was generally identified as a factor which impacts implementation. The survey results show that 36% of

[43] IMPEL Guidance on waste shipment inspection planning
[44] For more information, see: https://www.impel.eu/topics/waste-and-tfs/
[45] When these results are reviewed based on type of organisation, 22% of public sector bodies, 56% of business operators, 76% of trade associations, 83% of other (academia, consultancies) and 100% of environmental NGOs reported that the WSR was not consistently applied across Member States.

respondents indicate that the WSR has been "somewhat ineffective" at achieving harmonisation of waste shipment rules across the EU, with a further 20% selecting "very ineffective".

Additional comments from the survey highlighted that the inconsistencies between Member States which were identified included classification of the waste, disparate procedures, different levels of application and general differences in interpretation of the regulation.
Evidence from the survey highlights that there are certain elements which have been harmonised by the WSR. For example, respondents indicated that the WSR has contributed "to some extent" to harmonisation of inspection criteria (51%) and systems of inspection/controls (46%) among Member States. Furthermore, 48% of respondents indicated that the WSR has contributed to "some extent" to cooperation between Member States authorities. Data collection was another element – 26% of respondents highlighted that the WSR has harmonised this to "some extent" with a further 15% indicating this has been harmonised by the WSR to a "high extent".

5.1.5 Exemptions for waste used for experimental / trial recycling

The limit of 25 kg of waste for notification-free shipments was raised by some stakeholders under the targeted consultation and is considered to affect the coherence of the Regulation with goals of industrial innovation.

Article 3(4) of the WSR determines that shipments of waste explicitly destined for laboratory analysis to assess either its physical or chemical characteristics or to determine its suitability for recovery or disposal operations shall not be subject to the procedure of prior written notification and consent as described in paragraph 1 of the same Article.

Instead, the procedural requirements of Article 18 shall apply (i.e. procedure for green-listed waste). The amount of such waste exempted when explicitly destined for laboratory analysis shall be determined by the minimum quantity reasonably needed to adequately perform the analysis in each case and shall not exceed 25 kg.

Within the context of the Regulation`s effect on innovation, some stakeholders under the targeted consultation indicated that it is hard to implement innovative approaches as these need to be tested before a large financial investment is made. However, companies that are developing or testing new processes are often not permitted to receive enough waste to properly test their approaches, which has a financial impact on them and hinders the potential for investing in innovative processes. Some stakeholders claimed that it would be positive to raise the limit of 25 kg established by Article 3(4). This was stated to affect recycling technology innovation specifically.

5.1.6 Classification issues

Classification issues were raised by Member State Competent Authorities, respondents to the open public consultation and in interviews. They are considered as an influence on the effectiveness and the efficiency of the Regulation and were also mentioned in the context of coherence.

Decisions on classification occur on various occasions in the context of the application of the WSR: Whether the WSR is applicable at all (Article 1(1) WSR) depends on whether the item to be shipped is waste or not. Which is the correct procedures under the procedural framework of the WSR (Article 3, in particular Article 3(1) and (2) WSR) depends on:

- The correct allocation of that waste in the Basel Annexes (plus, in the case of Article 36, also according to the EU LOW),
- Whether the intended treatment is to be considered as recovery or disposal, and
- The countries involved.

All these elements, except countries, are subject to classification. In the first place, this is a task for which "the person arranging a shipment" is responsible (plus the waste producer and the current waste under general waste law). Note that any classification made may be subject to review by competent authorities, particularly in the case of decisions on notifications, and inspections.

For all relevant elements, issues have been reported with respect to different understanding and interpretations:

- First, only substances/objects that fulfil the definition of waste are subject to the requirements of the WSR. Thus, should a material meet the criteria for a by-product, or be intended for further processing having reached an end-of-waste-status, the WSR does not apply. Different legal approaches and different understandings exist in the Member States (and sometimes even at regional level) with a view on classification of substances/objects as waste or not;
- Classification of waste according to the Annexes to the WSR is a complex task. For a range of Basel codes, the description is very limited. A particular aspect where no common understanding is in place is the "level of contamination" which leads to a green-listed waste being subject to notification. In addition to differences between Member States, application of the classification system of the Annexes to the WSR can be different within one Member State;
- A similar conflict with similar effects exists regarding the question of whether a waste treatment is considered recovery or disposal. The Annexes of the Basel Convention and those of the EU WFD are not fully harmonised. However, it should be noted that Annex IV of the Basel Convention is currently under review, but the outcome of this is not yet available.

Divergent classification is widely claimed by industry stakeholders to lead to legal uncertainty for industry resulting in administrative burden, delays, and unpredictability of shipments. Literature research also suggests that differing waste classification between Member States may affect data quality and reporting.

6 Evaluation results

The following chapter provides a response to each evaluation sub-question. Following the approach detailed within the better regulation toolbox, evaluation (sub-)questions were developed for each of the five evaluation criteria (effectiveness, efficiency, coherence, relevance and EU added value). These questions are intended to cover the entire evaluation of the Waste Shipment Regulation. Where the literature and consultation has not been able to provide findings to answer an evaluation question, this is also indicated. Further insights to validate / complement this section from the second stakeholder workshop, on September 11th are also included.

Results presented in this section draw from the material from the literature as well as from stakeholder interviews, Competent Authorities and other stakeholders targeted survey, and from the open public consultation. Sources are identified and made clear for each of the findings. Each question and sub question has its own sub heading with a conclusion based on the available evidence and our own expertise presented as the end of each question.

6.1 Effectiveness

This section considers how successful the regulation has been in achieving its objectives or progressing towards them since its implementation. In cases where objectives have not been achieved, the project team examined the extent to which progress may have fallen short of the target, as well as what factors may have influenced this and the reasons why objectives have not been fully met.[46]

6.1.1 Evaluation question 1: To what extent have the objectives been achieved?

The objectives of the WSR have been derived from the intervention logic (See 2.3). The direct objectives of the Waste Shipment Regulation are:

- Objective 1.1: To minimise the negative impact of hazardous waste shipment on the environment;
- Objective 1.2: To respect the principle of proximity and priority for recovery and self-sufficiency at EU and national levels in accordance with Directive 2008/98/EC on waste;
- Objective 1.3: To keep waste shipment systems and procedures up to date by adaptation to technical progress;
- Objective 1.4: To enable a uniform application of the regulation in all Member States.

In this section, the effectiveness of each direct objective is discussed in detail together with their relation to the relevant indirect objectives of the WSR (see intervention logic).

SQ 1.1 What progress has been made over time towards achieving the objectives set out in the WSR?

Objective 1.1 To minimise the negative impact of hazardous waste shipment on the environment

While the regulation seeks to prevent, and control environmental and health hazards related to shipments of waste in the EU, as well as between the EU and third countries, illegal shipments still take

[46] Better Regulation Guidelines: Evaluation and Fitness Checks. https://ec.europa.eu/info/sites/info/files/better-regulation-guidelines-evaluation-fitness-checks.pdf

place contravening the WSR. This is due to exports of hazardous waste for recovery and disposal to developing countries and between Member States, particularly the export of waste electrical and electronic equipment (WEEEs) and end-of life vehicles (ELVs)[47]. For example, according to the guidance study[48] on waste shipment inspection planning, the non-compliance rates, as established by targeted joint inspections of IMPEL[49]-TFS[5051] are within the range of 20% (2008-2011) to 32% (2012-2013)[52]. While this figure relates to all types of violation – including those related to what could be called mistakes in administration – they indicate that potentially thousands of illegal waste shipments occur every year, suggesting that Objective 1.1 is not being fully achieved. The case of Probo Koala is a widely known example which illustrates the potential harm caused by mismanaged toxic waste. In September 2006, the shipment left Europe and released toxic waste on the shores of the Ivory Coast, causing severe negative effects to human health and the environment.[53] Since the introduction of the WSR in 2007, there has been no such well-documented nor severe incident of hazardous waste mismanagement with a negative impact on the environment.

Stakeholders taking part in the targeted survey were in general positive with respect to the contribution of the WSR to protecting the environment: out of all respondents, 75% and 8% responded that the WSR was respectively somewhat effective and very effective in protecting the EU environment, with only 2% responding that it was somewhat ineffective, and no one responded that it was very ineffective. 7% said it was neither effective nor ineffective and 8% did not know. In a similar vein, 70% and 5% of respondents thought the WSR was respectively somewhat effective or very effective in protecting the global environment, with only 3% saying it was somewhat ineffective. Interestingly, business operators which indicated it was (somewhat) ineffective were all micro companies. Competent Authorities who responded to the survey highlighted that the WSR had either been somewhat effective (63%) or very effective (25%) in protecting the environment; only 13% said it was neither effective nor ineffective and none thought it was (very) ineffective.

Objective: 1.2 To respect the principle of proximity and priority for recovery and self-sufficiency at EU and national levels in accordance with Directive 2008/98/EC on waste

Objective 1.2 of the WSR aims to effectively plan shipments for disposal in accordance with measures taken to implement the principles of proximity, priority for recovery and self-sufficiency at EU and national levels (See the Intervention Logic in Section 2.3) Achieving these results is closely related to prohibiting the export of waste for disposal operations outside the EU/EFTA area [Specific Objective 2.2]. According to the European Environment Agency (2009), almost all waste produced in the EU that

[47] These issues are further investigated in reports like 'The Global E-waste Monitor 2014' and in the context of the 'Countering WEEE Illegal Trade' respectively published in 2014 and 2015. This research found 'that in Europe, only 35% (3.3 million tonnes) of all the e-waste discarded in 2012 ended up in the officially reported amounts of collection and recycling systems and that about 16 % or 1.5 million tonnes were exported. Considering that the major part of such e-waste was destined for reuse and repair and estimating the fraction of recycled or dumped waste at approximately 30 %, the CWIT project report calculated the volume of illegal e-waste export from the EU as between 250,000 and 700,000 tonnes per year'.
[48] IEEP (2009) *Study on Inspection Requirements for Waste Shipments*. Available at http://ec.europa.eu/environment/waste/shipments/pdf/report_august09.pdf
[49] European Union Network for the Implementation and Enforcement of Environmental Law
[50] Transfrontier Shipment of Waste
[51] IMPEL TFS is the European Union Network for the Implementation and Enforcement of Environmental Law's team on tranfrontier shipments of waste
[52] IMPEL (2016) *Guidance on waste shipment inspection planning*. Available at https://www.impel.eu/tools/guidance-on-effective-waste-shipment-inspection-planning/
[53] BIOIS (2010) Environmental, Social and Economic Impact Assessment of Possible Requirements and Criteria for Waste Shipment, Inspections, Controls and On-The-Spot Checks. Available at: http://ec.europa.eu/environment/waste/shipments/pdf/FinalReport_ENV(10)370155.pdf

required disposal was disposed of within the EU and hazardous/problematic waste[54] was increasingly being shipped for recovery internally, due to the establishment of a network of EU disposal installations[55]. According to the latest Eurostat data extracted from 2018, practically no shipments of hazardous waste have been registered to non-OECD countries since 2010.[56]

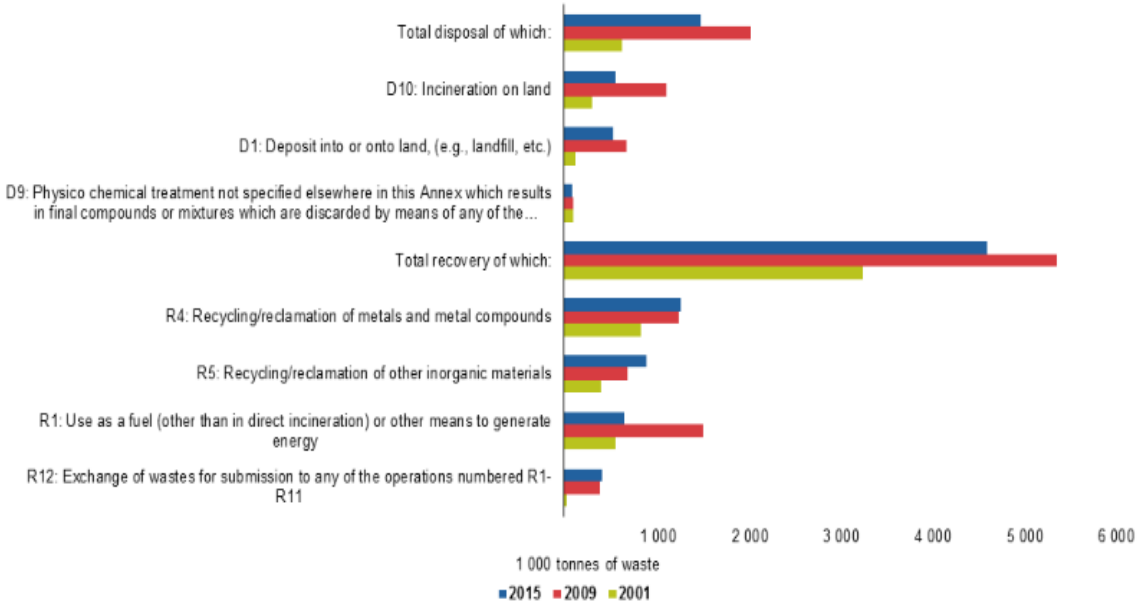
Hence, while the data shows that waste shipments outside the EU/EFTA area have stabilised, shipments between EU Member States of notified waste (both hazardous and non-hazardous) has tripled within the EU from 2001 to 19.3 million tonnes in 2015.[57] [58] For example, in 2015 91% of the hazardous waste exports in the EU-28 were shipped to other EU Member States and 86% was sent within EU15.

The internal shipment of waste within the EU has contributed towards achieving objectives 1.2 and 2.2 by ensuring that waste dispatched from an EU Member State, destined for disposal, is shipped only within the EU/EFTA. This suggests progress is being made towards respecting the principle of proximity and self-sufficiency. Incineration both with and without energy recovery dominates treatment - accounting for 20% of hazardous waste exports for the year 2015 and the large difference in the amount of waste for incineration between 2009-2015 can been explained by changing the classification of waste from the Netherlands. There have also been large increases in recycling/reclamation of metals and inorganic materials. Regarding disposal – while landfilling increased from 2001-2009, it decreased to 530,000 tonnes in 2015 – and has stabilised since.[59] (See Figure 6-1).

Increased treatment of waste within the EU is a step towards progressing with the regulation's objective of managing waste in an environmentally sound manner during its treatment and throughout shipment [Specific objective 2.4], as is the fact that landfilling of certain waste types has stabilised showing a reduction from 2009. Currently, combustion wastes, household wastes and sorting wastes account for over 80% of landfill.[60] In addition, from 2018, the Commission has aimed to promote industry-led voluntary certification of treatment facilities as a means of further strengthening environmentally sound waste treatment.[61] However, the EU is still a net exporter of waste and net exports account for 25.8 million tonnes, which is mostly composed of metal wastes, paper and cardboard wastes and plastic wastes, i.e. waste that is intended to be recycled internally within the EU.[62] Hence the progress already made must be maintained in order to further enhance the principle of proximity and priority for recovery and self-sufficiency at EU level.

[54] The European Environment Agency defined problematic waste in 2009 in its report 'Waste without borders in the EU?' as those that have the potential to cause environmental damage but are not defined as hazardous by current regulations, for example mixtures of non-hazardous household waste and residues arising from its incineration.
[55] European Environment Agency (2009) "Waste Without Borders in the EU"
[56] Eurostat (2018) *Waste statistics explained.* Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_shipment_statistics
[57]Eurostats (2018) Waste statistics explained. Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_shipment_statistics
[58] 2015 waste export data viewer: http://ec.europa.eu/eurostat/web/waste/transboundary-waste-shipments
[59] Eurostat (2018) Waste statistics explained. Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_shipment_statistics
[60] Eurostat (2017) *Waste management indicators*. https://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_management_indicators#Landfilling
[61]Annex to the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Closing the loop- An EU action plan for the Circular Economy (2015)
[62] Eurostat (2017) *Waste management indicators*. https://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_management_indicators#Landfilling

Figure 6-1 Treatment of hazardous waste exported by EU MS (1000 tonnes) from 2001-2015



Source: *Eurostat (2018) Waste statistics explained. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Top_treatment_of_hazardous_waste_exported_by_EU_Member_States_(1000_tonnes),_2001-2015.png*

In the targeted survey, 53% of respondents reported that the WSR had been effective (46%) or very effective (7%) in respecting the principles of proximity and priority for recovery and self-sufficiency at EU and national levels, 30% of respondents highlighted that it was neither effective nor ineffective, and 13% of respondents highlighted that it was somewhat ineffective (10%) or very ineffective (3%). Finally, 6% of respondents did not know. Interestingly, all environmental non-governmental organisations highlighted that the WSR was somewhat effective in achieving this specific objective while stakeholders stating that the WSR had been unsuccessful (very ineffective) in achieving this objective were all business operators.

Objective 1.3: To keep waste shipment systems and procedures up to date by adaptation to technical progress

Objective 1.3 of the WSR aims to keep the systems and procedures relevant and up to date by adapting to technical progress. The relevance of the WSR and its objectives are explicitly discussed in relation to the EU and its global partners in section 4.3. The regulation itself has undergone updates to ensure scientific and technical progress are considered. Article 58.1 which was replaced in the 2014 amendment by Regulation No 660/2014 which states that the Annexes may be amended by the Commission to take account of scientific and technical progress. Hence, measures have been put in place to achieve this objective.

Ensuring that waste is managed in an environmentally sound manner during treatment is also relevant for the achievement of this objective [Specific Objective 2.4]: Article 49 of the WSR aims to ensure that shipments of waste are managed in a way that does not endanger human health and the environment, across all Member States during treatment and disposal and throughout the period of shipment.

Only 33% of respondents to the targeted survey reported that the WSR had been very effective (5%) or somewhat effective (28%) in keeping waste shipment systems and procedures adapted to technical

progress, while 16% reported that it was neither effective or ineffective and up to 46% see the WSR as ineffective (21%) or very ineffective (26%) in this respect. 3% of respondents did not know. Unlike for objective 1.2 above, all non-governmental organisations reported that the WSR had been ineffective (50% of them) or very ineffective (50% of them); similarly, trade associations share the view that the WSR has been ineffective (24% of them) of very ineffective (47% of them). On the other hand, public sector bodies were more positive with 11% of them stating it had been very effective and 67% somewhat effective on this objective. Similarly, to the public sector, Competent Authorities reported more positive feedback with 50% of respondents finding the WSR somewhat effective (44%) or very effective (6%) in keeping waste shipment systems and procedures adapted to technical progress, 6% neither effective or ineffective and respectively 13% and 19% somewhat ineffective or very ineffective. As an illustration of the reasons behind these opinions, the Danish Environment Protection Agency (EPA) highlighted in an interview that procedures do not always foresee the level of technical progress required for specific waste treatments: in particular, increasing amounts of mixed waste now go to sorting facilities before recycling and this is not facilitated by the WSR, hence hampering the transition to a circular economy, which is a wider EC overarching objective relating to protecting the environment and human health (though the circular economy is arguably not an objective of the WSR).

Respondents to the open public consultation strongly disagree with the idea that the WSR is well adapted to technical and scientific progress. Stakeholder interviews also validated results from the targeted survey and consistently reported that the WSR has not been successful in adapting to technical progress. This was mainly felt to be hindered by the objective of the regulation, i.e. to prevent and discourage international shipment of waste and only allow it when necessary. Rules have been designed with this objective in mind, making the WSR fall short regarding technical progress for the circular economy. The overall understanding of what waste can be used for has changed substantially and we have moved a long way, from sanitising and disposing waste to using it as raw material. It will be difficult to move forward with technical adaptation, unless there are new developments in the WSR and this transition needs to be facilitated by the legislation. To establish an industry which uses secondary raw materials, those secondary raw materials should benefit from faster administrative protocols.

It was also reported by a Competent Authority when interviewed that the green/amber lists do not reflect our level of knowledge. While the green list contains non-hazardous waste, there are a lot of non-hazardous waste on the amber list, which are now difficult to change. For instance, ca. 600,000 tonnes of wood waste are being transported throughout Europe, within Belgium and the Netherlands and Germany: the green list procedure can be used for untreated waste wood, however, when shipping treated waste wood, this fits the amber lists, as the wood has been 'treated' with glue or paint. Another example relates to the Basel code 4030 for single use cameras that are under the green list: those cameras have been very seldom / not used in the past two decades, however codes still exist for them. On the other hand, we increasingly use cartridges for printers, and these are not on the green list. A couple of interviewees stated that the concept of 'hazardous waste' is a moving one, as the definition of what is hazardous has evolved substantially, and there are now many more products and materials that are perceived as hazardous waste. For instance, most electrical waste is now considered hazardous as there are components (or parts of components) that are difficult to exclude from the scope of the definition for 'hazardous' in a risk-based approach. The current approach is now much more based on hard science, which can be derived from chemicals legislation, e.g. Regulation (EC) No 1907/2006 (REACH)– making the link between chemical legislation and waste legislation much more critical.

Finally, it was systematically reported by all stakeholder categories involved in the consultation that the WSR reporting was not adapted to technical progress: electronic systems (e.g. for waste movement documents) are used at Member State level, but not at EU level. Cross-border procedures still require extensive paper use and posting material – leading to missed opportunities to save time as well as documents not arriving or being slow to reach their destination. For an electronic system to work effectively some interviewees also expressed the view that the data should only be held by the regulator, in order to avoid any commercial sensitivity concerns. Member State correspondents have been able to partly solve issues related to electronic systems, but more can be done to adapt the WSR in order to keep up with technological progress.

Objective 1.4 To enable a uniform application of the regulation in all Member States

In order to enable uniform interpretation of the provisions of the Regulation, Waste Shipment Correspondents' Guidelines have been jointly drafted by the European Commission and Member State representatives[63], which represent the common understanding of all Member States on how the WSR should be interpreted. The guidelines have been developed as a step towards progressing with uniform implementation of the WSR. These guidelines provide guidance for Member States on how to distinguish between waste and non-waste, for example on the interpretation of what is to be considered electrical and electronic waste.[64] A full list of Correspondent Guidelines that exist for waste shipments is shown below. The detail included within the guidelines and the breadth of topics covered highlight that resources are available to Member States that are struggling to apply the regulation on a national level. However, Member States have still struggled with its implementation and application in certain areas and the guidelines are only available in German and English.

- **Correspondents' Guidelines No 1** on Shipments of Waste Electrical and Electronic Equipment (WEEE) and of used Electrical and Electronic Equipment (EEE) suspected to be WEEE;
- **Correspondents' Guidelines No 2** concerning information on imports into the Community of waste generated by armed forces or relief organisations according to Article 1(3)(g) of Regulation (EC) No 1013/2006 on shipments of waste;
- **Correspondents' Guidelines No 3** on a certificate for subsequent non-interim recovery or disposal according to Article 15(e) of Regulation (EC) No 1013/2006 on shipments of waste;
- **Correspondents' Guidelines No 4** on classification of waste electrical and electronic equipment and fly ash from coal-fired power plants according to Annex IV, part I, note (c) of Regulation (EC) No 1013/2006 on shipments of waste;
- **Correspondents' Guidelines No 5** on classification of wood waste under entries B3050 or AC170;
- **Correspondents' Guidelines No 6** on classification of slags from processing of copper alloys under entries GB040 and B1100;
- **Correspondents' Guidelines No 7** on classification of glass waste originating from cathode ray tubes (CRT) under entries B2020 or A2010;
- **Correspondents' Guidelines No 8** on classification of waste cartridges containing toner or ink, according to Regulation (EC) No 1013/2006 on shipments of waste;
- **Correspondents' Guidelines No 9** on shipment of waste vehicles;
- **Correspondents' Guidelines No 10** on shipments of waste pursuant to Article 18 of Regulation (EC) No 1013/2006 on shipments of waste.

[63] The complete list of correspondents can be found on the following link: http://ec.europa.eu/environment/waste/shipments/links.htm
[64] Correspondents' Guidelines and other guidance documents. Available at: http://ec.europa.eu/environment/waste/shipments/guidance.htm

One obstacle related to the effective application of the regulation across Member States, which was consistently identified from the literature, is the lack of uniform waste shipment inspections (See Lack of harmonised inspection regimes - Main Challenges). Analysis shows enforcement is patchy and there is a lack of criteria for the frequency and quality of inspection[5]. For example, The Commission's review of the Recommended Minimum Criteria for Environmental Inspections (RMCEI) (2007) highlighted that further development of inspection criteria was needed, and that the effectiveness of the criteria could be improved by the introduction of legally binding requirements across certain sectors (i.e. WEEE) for all Member States.[65]

To effectively achieve results against Objective 1.4, i.e. to enable Member States cooperation, information sharing and stakeholder awareness in a harmonised way, it was identified in the literature that provisions must be made to establish inspection plans to detect illegal shipments [Specific Objective 2.5]. The Commission's review of the RCMEI also concluded that specific legally binding requirements for inspection of certain waste shipments would ensure higher political priority is given to inspections and compliance with environmental legislation. Experience with the e-waste inspections during the period 2012-14 showed that a high frequency of inspections increased compliance and reduced violation rates. Thus, in May 2014, Regulation 660/2014 amending the WSR was published, 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. Since 2014, no additional data was identified from the literature review to provide further evidence to suggest that enforcement of inspection has improved.

Article 18 of the WSR was designed to address the provision of general information requirements by ensuring that waste is accompanied by the document contained in Annex VII of the regulation, which requires 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.[66] However, enabling its uniform application requires knowledge of shipment information including waste type, treatment type, and country of origin. According to the consultation of competent authorities in the EU 27 reported by BiPRO on analysis of the implementation/enforcement of Annex VII and Article 18 of the WSR in all MS, challenges have been identified related to the enforcement of Article 18 throughout the EU and the involvement of the authorities (and their ability to act) being restricted. In particular, the report states that 'in case of green listed waste shipments subject to Article 18 procedures (Annex VII), most competent authorities, due to the legal framework in place, in general do not have any information about treatment standards applied in third countries, and do not consider this their duty and responsibility'. Hence, while Article 18 aims to address information provision by requiring that Annex VII is filled out – it is not uniformly applied as the Annex requires a level of detail that is not provided by all Member States. Therefore, Article 18 is not uniformly applied.

The feedback on the WSR evaluation roadmap provided by The European Federation of Waste Management and Environmental Services (FEAD), reiterates the need for guidance to be developed on the harmonisation of the WSR between Member States regarding the reporting of waste types.

[65] European Commissions (2007) Review on Recommended Minimum Criteria for Environmental Inspections (RMCEI)
[66] 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 MS, including a summary report of national provisions http://ec.europa.eu/environment/waste/shipments/pdf/Annex%20VII.pdf

Reporting of such data is of low quality and is interpreted differently between MS. The FEAD highlight the need for harmonisation of simple criteria for waste classification[67].

It has been indicated in the literature that the uncertainty and inconsistency with which data is reported from Member States may hinder the effectiveness of Objective 1.4.[68] Given the breadth of coding systems available, there is a large amount of data recorded, but the information is inconsistently classified, which negatively impacts effective comparison between Member States. The variety of choices on how Member States report to the European Commission makes it difficult to pinpoint trends in waste shipments. In general, the level of reporting on the WSR has been highly variable between Member States which does not enable uniform application of the regulation or facilitate analysis of issues or challenges faced by certain Member States. For example, regarding the administrative burden reduction Action Programme (ABRplus4-WASTE), which concerns simplifying and streamlining the notification system for shipments of waste, Member States did not provide qualitative information regarding the difficulties faced during implementation of the measure in the response to questionnaires for ABRplus4-WASTE. Only three cited no difficulties, while eight Member States who did provide information indicated problems regarding administrative burden associated with lack of compatibility between electronic systems in different Member States.[69]

As discussed under Main Challenges - Circular economy regarding the WSR provisions on notification of waste shipments, the expert interviews highlighted variations in interpretation and application among Member States. Example comments include differing Member State interpretation of the distinction between recovery and disposal within the context of the proximity and self-sufficiency principles. There were also reports of differing interpretations concerning the requirement for a financial guarantee, which is not applied in a harmonised way and differing fees levied for notification of waste shipments.

The opinions from the targeted survey indicate that the WSR has been effective or very effective in harmonising the waste shipment rules across the EU for respectively 28% and 7% of respondents. On the other hand, up to 56% think the WSR was ineffective (36%) or very ineffective (20%). 16% find it neither effective nor ineffective and 3% do not know. Results show that all non-governmental organisations stated that the WSR had been ineffective in achieving this objective, while the public sector respondents give a more positive opinion with 33% stating that the WSR was very effective and 44% effective. The picture is mixed for the business sector, where 41% think the WSR has been effective on this objective, but 33% think it was ineffective and 11% very ineffective. Among the business sectors, it seems that this was felt more by micro to medium companies, while large companies reported mixed answers (44% effective and 31% ineffective, 6% very ineffective). Stakeholders consistently confirmed findings from the literature relating to variations in costs and enforcement of the WSR in Europe as well as variations in costs for treatment facilities or differences in application of end-of-waste criteria across Member States could lead, in some cases, to waste being sent to the cheapest facilities, rather than to the most appropriate one, resulting in inconsistent control of movements of waste.

[67] Feed back on the evaluation roadmap - Consultation Inputs from: BDE, EERA, EuRIC, EURITS, ERP, FEAD, RISG, Subdireccion General De Residuos, Finnish Environmental Industries YTP, Anonymous 1, Anonymous 2, Fabrice Sancho (citizen), Arsi Saukkola (organisations other than business/companies/NGOs)
[68] Feedback on the evaluation roadmap - Consultation Inputs from: BDE, EERA, EuRIC, EURITS, ERP, FEAD, RISG, Subdireccion General De Residuos, Finnish Environmental Industries YTP, Anonymous 1, Anonymous 2, Fabrice Sancho (citizen), Arsi Saukkola (organisations other than business/companies/NGOs)
[69] ICF International (2015) ABRplus study: Final Report to the Commission

Other objectives

From all respondents to the targeted survey, 38% of Competent Authorities and 57% of other stakeholders reported that they were aware of (a) major problem(s)/issue(s) related to waste shipments, including their impact on the environment and human health that the WSR does not adequately address. More specifically, stakeholders from all categories reported that waste shipment regulation should help in building a functioning market for secondary raw materials: reference was made to the increasingly common scenario where a shipment leaves one country as a by-product and is delivered to another country and classified as waste or as hazardous waste in some more extreme cases (e.g. due to changing status within a transit country). In practice, this results in additional bureaucracy, for both responsible public authorities and industries. Stakeholders highlighted that the WSR may cause some obstacles to recycling, with no added value for environmental protection. In rare cases, shipments have been made impossible, although there were no negative environmental or health impacts. Another example relates to the WSR obstructing shipments of waste to recycling facilities where they can be more effectively recycled than in the nearby facilities. For mixed non-hazardous waste, the opportunity for optimal recycling is missed. By definition, a more circular economy implies that increasing amounts of low value materials will have to be recycled in highly 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 more efficient. Overall, seeking to achieve a level playing field for high quality recyclers implies that if waste is transported outside the EU, there is no guarantee that it will be treated with the same level / standard as in the EU, and this could lead to minimum Environmental Health Safety (EHS) and quality levels. In addition, it is worth considering that different treatment options would require different measures: 1) for recycling and material recovery, fluid flows of recyclates are needed for efficient recycling markets, assuming avoiding unnecessary red tape and speeding up the procedure so that industries have easy access to secondary raw materials and 2) for energy recovery and disposal, treatment options must be addressed carefully as different Member States have different views on what recovery and disposal are, and the risk is that hazardous and/or non-hazardous waste will be sent to cheaper but unsuitable treatment options, which would, in return, deter Member States from investing in much-needed capacities of their own.

Table 6-1 Summary of findings

SQ 1.1 What progress has been made over time towards achieving the objectives set out in the WSR?	
Conclusion	Generally, the WSR has made progress towards achieving its objectives, ,but illegal shipments of waste remain a problem as a result of implementation rather than legislative difficulties. Accrued guidance and/or more harmonised implementation seem to be considered as better options for addressing these issues.
What works well	• The WSR provides a legal framework to implement the Basel Convention and OECD Decision C(2001) 107, hence supporting the protection of the environment and human health and upholding international obligations • Most waste is exported to other European countries rather than countries outside the EU, which indicates that the objective to respect the principle of proximity and priority for recovery and self-sufficiency at EU level is respected. • Correspondents' guidelines are deemed useful and help the uniform implementation of the WSR, to provide guidance to Member States.

SQ 1.1 What progress has been made over time towards achieving the objectives set out in the WSR?	

What works less well	• The most challenging objective to achieve is enabling a consistent and legally compliant application of the WSR across Member States. Disparate reporting across Member States does not enable a uniform application of the regulation nor does it facilitate analysis of issues or challenges faced by certain Member States. For example:
	  ○ Provisions should be made to establish inspection plans to detect illegal shipments, i.e. on the quality and frequency of inspections.
	  ○ Article 18 is not uniformly applied as it requires a level of detail that is not provided by all Member States due to administrative constraints.
	• Illegal shipments still take place due to exports of hazardous waste for recovery and disposal to developing countries but also between Member States, particularly for waste of electrical and electronic equipment (WEEEs) and end-of life vehicles (ELVs).
	• Despite Article 58.1 (followed by Regulation No 660/2014 stating that the Annexes may be amended by the Commission to take account of scientific and technical progress) and Article 49 (on the environmental sound management of waste), the WSR has not been successful in adapting to technical progress. For example, green/amber lists do not reflect our level of knowledge and the concept of hazardous waste is a moving one, as our knowledge of what is hazardous is evolving. Moreover, reporting under the WSR is not adapted to technical progress as cross-border procedures still require extensive paper use and the posting of material.

Strength of evidence and potential bias	Good level of evidence. No apparent bias.

SQ 1.2 What progress has been made in implementing the Basel Convention?

Objective 1.1 of the WSR is closely related to incorporating the provisions of the Basel Convention and the 2001 OECD Decision on the control of wastes destined for recovery operations, as well as the implementation of the Basel ban to prohibit the export of hazardous waste to non-OECD countries [Specifically objective 2.1 and 2.3]: the contribution to the WSR in implementing the Basel convention is thus analysed in further detail in the sub-question 1.1 above.

In interviews, almost all stakeholders, both from Competent Authorities and other categories, agreed that the WSR has been largely beneficial in pursuing multilateral agreements, i.e. the Basel Convention. Various stakeholders reiterated that, when compared with other countries, the WSR brought a robust way of transposing requirements. The WSR describes the various rules from the Basel Convention in more detail. Stakeholders reported that if waste transport was only regulated by the Basel Convention, there would be more cases and areas where procedures are not 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 felt to provide enough control; without the level of detail of the WSR, stakeholders think there would be more risk of waste flowing to the cheapest options, which would contradict the environmental protection targets of the EU.

In addition to this, it is worth noting that compliance with international obligations such as the Basel Convention and the relevant OECD Decision was considered as the main benefit from the WSR by Competent Authorities taking part in the survey, with 56% and 44% of Competent Authority respondents reporting that the WSR was respectively very effective or somewhat effective in contributing to this

objective. Other respondents to the targeted survey also think that the WSR was overall very effective (11%) or somewhat effective (61%) in complying with international obligations, however, 10% and 3% thought it was either somewhat ineffective or very ineffective, respectively.

Table 6-2 Summary of findings

SQ 1.2 What progress has been made in implementing the Basel Convention?	
Conclusion	The WSR has been largely beneficial in pursuing multilateral agreements, i.e. the Basel Convention and OECD Decision, as both have largely been transposed directly within the regulation's requirements, which has provided a solid legal framework for their consideration within the EU.
What works well	The WSR brought a robust way of transposing requirements, through detailed rules stemming from the Basel Convention. Clarifications provided in the WSR facilitates cooperation with third countries each with their own interpretation.
What works less well	N.A.
Strength of evidence and potential bias	Good level of evidence. No apparent bias.

SQ 1.3 How has the WSR helped / hindered this progress?

The following sections provide an overview of elements where the WSR helped or hindered progress.

On consent issues (Article 9)

Tacit consent by the competent authority of transit may be assumed if no objection is lodged within the 30-day time limit for explicit consent. At the workshop, some of the stakeholders discussed issues concerning the 30-day deadline for tacit consent. The fixed time limit was described as shortening the period for shipments and causing issues for industry, by a Member State and industrial representative, respectively. A Member State commented that the provision regarding tacit consent should be reworded to better suit both the authorities and the companies concerned. Another Member State noted that the validity period of one year for a tacit consent would always start after the end of the 30-day period, whereas the validity period of one year for a written consent could also start later, with the consequence that the period in which shipment can take place could be shorter than one year. A Member State representative pointed out that the 30-day limit to tacit consent for transit countries was set in the Basel convention, so it would not be simple for the EU to change it. An industry representative stated that some Competent Authorities regard 30-days as the set period, so they never do it quicker.

Issues regarding the consent period were also raised by a **survey** respondent who felt that the one-year validity period of a tacit approval to a planned shipment, as foreseen in Article 9.5 is too short. The stakeholder highlighted that this one-year validity may also differ from the period requested in the notification form. On top of being cumbersome for both the notifier and receiver, this can lead to misunderstandings as the end of the one-year period is not clearly documented, rather it must be calculated. While for the notification form it is possible to adapt the validity of the requested period (as per box 6), this is not the case for tacit consent in Art. 9.

On pre-consented facilities (Article 14)

During the workshop, waste industry associations highlighted that the provisions in Article 14 which related to pre-consented facilities were problematic due to lack of criteria or consistent interpretation. Lack of standardised criteria for what defines a pre-consented facilities and the inconsistent interpretation of "pre-consented" between Member States causes divergence between Member States. The high administrative and financial burden of becoming a pre-consented facility compared to the period of validity (three years) which stems from a provision in the OECD Decision were also raised. See Procedural requirements of the WSR. An industrial representative suggested increasing the number of years for which a facility is pre-consented (i.e. from the current 3, to 5- 7 years), while another industrial representative favoured a fast-track system for pre-consenting. Concerns regarding length of time taken in the procedure to become a pre-consented facility were reiterated by inputs from BDE, a German association of waste management industries, and FEAD in the published feedback on the evaluation roadmap on shipments of waste.[70] One Member State representative mentioned that the concept of pre-consented facilities seems to work in their own country, but that there are a lack of guidelines and divergence between Member States, which could be improved.

It was also reported that the provisions for pre-consented facilities are not very well defined, which can also lead to diverging applications between Member States. Given the lack of defined timescales for Competent Authorities to respond to applications and the limited number of authorities accepting pre-consent, such delays cause problems with stopping and / or delaying disposal contracts. Two stakeholders indicated that there is some reluctance by Competent Authorities to grant the status, as they would have to give consent to facilities within seven days and for three years – which does not align with the 'one-year' for which transit consents last. This issue would benefit from a central system of pre-consenting facilities. Each Member State should be able to assess facilities in another Member State. There is currently very limited 'mutual recognition' and there appears to be some reluctance to believe that legislation is enacted and enforced in other Member States. A system of control and checks that is trusted by all Member State, would be beneficial.

On interim recovery and disposal operations (Article 15)

Two Member States disagreed at the workshop over the necessity of Article 15 on the additional provisions regarding interim recovery and disposal operations. One stated that it was an unnecessary bureaucratic procedure from the OECD decision. The other stated it favoured the bureaucracy which protected the state from illegal waste imports.

On sham Recovery

A Member State attending the first workshop noted that sham recovery can be countered through national laws and queried whether other provisions are in place to address this. It was discussed that Article 11 and its reasons for objection and the proximity principle were the main provisions already in place.

[70] BDE Bundesverband der Deutschen and FEAD inputs (2018) Your Voice In Europe: ROADMAP feedback for Evaluation of Regulation (EC) No 1013/2006 on shipments of waste (Waste Shipment Regulation - WSR)
Entsorgungshttp://ec.europa.eu/environment/consultations/feedbacks/shipment%20of%20waste/BDE.pdf

Table 6-3 Summary of findings

SQ 1.3 How has the WSR helped / hindered this progress?	
Conclusion	The conclusion to this question is largely the same as above - while there are certain elements of the WSR which have encouraged progress made in implementing the Basel Convention, the above analysis highlights that there are specific aspects of the regulation itself which are currently hampering more uniform application (i.e. lack of standardised definition for pre-consented facilities).
What works well	N.A.
What works less well	• Issues related to tacit consent include the short-fixed time limit, the one-year validity period for written consent, the short validity of tacit approval and unclear notification form. • Lack of criteria and of defined timescale under Article 14 on pre-consented facilities have led to inconsistent interpretation and non-uniform application across Member States. • There is little mutual recognition between Member States and a system of control and checks trusted by all Member States is lacking.
Strength of evidence and potential bias	Good strength of evidence which was consistently received from stakeholders that are directly exposed to the practical application of the regulation. Evidence from the consultation was needed due to lack of information and clarified practical experiences of stakeholders. No potential bias.

SQ 1.4 What are the main obstacles to the effective functioning of WSR?

Overall, 38% of Competent Authorities reported in the survey that they were aware of major problems / issues related to waste shipments (including their impact on the environment and human health that the WSR does not adequately address), 44% of Competent Authorities were not aware of any and 19% did not know. Comparatively, 57% of other stakeholders indicated they were aware of major problems / issues (mainly driven by business operators and trade associations), versus 30% who were not, and 13% did not know.

As highlighted in 5.1.1 Procedural requirements of the WSR in the Main Challenges section, stakeholders taking the survey claimed that barriers to intra-EU waste shipment and imports include a burdensome notification procedure for transporting hazardous waste, which creates delays. Reasons for this include, the need to carry out pre-notification for each shipment, out-of-date paper forms, low recognition of pre-consented recovery facilities, the necessity of obtaining multiple transit country approval, as well as the fact that authorities often do not comply with the notification schedules. Stakeholders consistently reported that notification procedures had become complex and time-consuming. In practice these long procedures can lead to long storage times for the waste, and involve health, safety and environmental risks.

On pre-consented treatment facilities

One of the obstacles closely related to achieving Article 49 (waste is managed in an environmentally sound manner) is related to pre-consented treatment facilities, regarding OECD Decision C (2001) 107/final. The use of pre-consented waste treatment facilities does not pose an obstacle. The administrative burden of the lengthy application procedure, and the associated hassle costs for facilities to become a pre-consented treatment facility may discourage facilities from engaging in the

registration process. The bureaucratic burden associated with the application procedure for becoming a pre-consented waste treatment facility (which is discussed in more detail under SQ 1.3 How has the WSR helped / hindered this progress?) was identified as an underlying factor which hinders achieving this objective. Experts interviewed confirmed this view and this is discussed in more detail in the section on Efficiency. Thus, the administrative burden associated with this application procedure does not encourage the WSR to achieve the results of Specific Objective 2.4, which is to ensure environmentally sound waste management.

On the amount of paperwork

While legislative steps have been put in place to facilitate adaptation to technical and scientific progress, there is still no operational Electronic Data Interchange for the transmission of documents and information relating to shipments of waste (see Article 26.4), and information and data relevant for the administration of the regulation is largely paper-based and thus far, no progress has been made towards achieving this. Concern over the lack of a pan-European electronic data exchange, and how this impacts traceability of hazardous shipments was raised by FEAD in their feedback on the roadmap for the evaluation.[71]

The OECD provides a very basic interactive database on its website, in the form of an Excel file, whereby OECD members can provide data and see information on the details of pre-consented waste facilities, but no such database exists for exchanging data on actual shipments of waste. The OECD database only includes information such as; the necessary information to fully complete forms for notification, documents required by competent authorities for each country, contact information and addresses of the competent authorities. It is therefore not related to the requirements of the Electronic data interchange outlined in Article 26.4 of the Regulation.[72]

According to IMPEL, there is still a large amount of paperwork that currently travels with the waste, which could be mitigated 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 secure[73]. The paper-based reporting and information/data recording system still in place in most countries regarding the WSR indicates that, despite legislative support, it has not been adapted, and could be further improved.

A related obstacle reported by both a Member State and two other stakeholders during interviews refers to the burdensome registration in multiple countries. It was reported that there is not a unique register for carriers across the EU. In order to become a waste transporter, registration must take place with various competent authorities including fees to register and maintain this registration. In some cases, permitting requires getting consents from the country of origin, destination and where relevant, of transit, come at different time, and this, despite the one-year duration of registration: from this perspective, the time window in which the registration is valid is often much less than a year. According to REFIT Platform Opinion (2018), a submission by a member of the stakeholder group highlighted that Article 26 of the WFD, which states that Member States must register all waste carriers, is an administrative challenge as companies must be registered in all Member States which

[71] FEAD (2018) "Your Voice In Europe: ROADMAP feedback for Evaluation of Regulation (EC) No 1013/2006 on shipments of waste (Waste Shipment Regulation - WSR)"
http://ec.europa.eu/environment/consultations/feedbacks/shipment%20of%20waste/auvray.pdf
[72] Study on Inspection Requirements for Waste shipments
[73] IMPEL (2011) Practicability and enforceability of the Waste Shipment Regulation

they travel through and due to the fact that countries do not recognise one another's registrations, the administrative burden is placed on the waste carrier.[74]

Stakeholders from the consultation for this study indicated that there was no web page or document listing contacts for registration of carriers for all competent authorities across the EU. Some report that the process of operators becoming a waste transport company is a burdensome process, requiring navigation of a high number of web pages in different languages.

On differing or missing waste classification

Divergent waste classifications (hazardous versus non-hazardous and waste versus by-product) between Member States disrupt shipments to high quality recyclers and results in delays and unpredictability of shipments. Stakeholders also report that for a range of Basel codes, the description is very limited, although it is obligatory to allocate such a code under the WSR. In addition to differences between Member States, application of Basel codes can be different within Member States. Despite that fact that on the 9th of April 2018, the Commission published technical guidance on the classification of waste (2018/C 124/01), as announced in the Commission's January 2018 Communication on options to address the interface between chemical, product and waste legislation – there is still problems which exists with waste classification. A stakeholder in the survey highlighted the example of painted metals: depending on the type of paint, which is considered as hazardous in certain, but not all, Member States. Similarly, insulation materials are considered hazardous in some cases but there is no centralised database to access this information for carrier approval. This issue is further elaborated under evaluation question 2.

An interviewed stakeholder also reported differing interpretations of green waste, which was illustrated by the fact that a shipment of plastic coat hangers could be treated as mixed waste due to the metal part (i.e. hook) and the plastic part. According to a couple of respondents in the targeted survey, there is also a lack of green-list codes under Annex IIIB, including for aluminium (e.g. needed for windows, doors, curtain walls, and other framing profiles – also, if coated, consisting of mainly aluminium and plastic) and for tin (as most tin waste is seen as unassigned, and thus falls automatically under Article 4, while certain tin materials / waste are not hazardous such as some of their residues). Although differences in interpretation are discussed at the Member States correspondents meeting, there has been no formal guidance produced to address this issue. A stakeholder taking the survey highlighted that conclusions on classification and interpretation would not be taken at such meetings, given the lack of willingness among the Member States to risk setting what would become minimum threshold standards, e.g. on impurities.

On other obstacles

A key obstacle reported several times in the targeted survey, open public consultation and confirmed through interviews relates to the lack of harmonisation of WSR rules among Member States, mainly due to the different waste classification as mentioned above. Regional variations within a Member States have also been reported as an issue in some countries, e.g. Germany – on the other hand, one stakeholder highlighted that variations in France had decreased since its system was centralised,

[74] REFIT Platfrom Opinion on the regulation on shipment of waste by the DBF, the Finnish Government stakeholder survey on EU legislation and a MS of the Stakeholder Group (Mr Christensen) (2018) https://ec.europa.eu/info/sites/info/files/recommendation-ix-3a-c_regulation-on-shipment-of-waste_en.pdf

making it quicker and more consistent through electronic means. This issue is further elaborated under evaluation question 2.

Competent Authorities reported that a lack of resources (both financial and human) are an obstacle to improving the implementation and enforcement, and that the better involvement of all key players (i.e. customs, police, prosecution, etc.) would also improve this.

A Competent Authority also mentioned that there was a lack of substitutes for financial guarantees, i.e. the WSR should offer a substitute for expensive financial guarantees – differentiated according to the financial credibility of companies.

Table 6-4 Summary of findings

SQ 1.4 What are the main obstacles to the effective functioning of WSR?	
Conclusion	• The main obstacles to the effective implementation of the WSR are complex and time-consuming notification procedures as well as different interpretations of waste classifications.
What works well	N.A.
What works less well	• Barriers to intra-EU waste shipment and imports include a burdensome notification procedure for transporting hazardous waste, which creates delays. Reasons for this include, the need to carry out pre-notification for each shipment, an out-of-date system of paper-based forms, low recognition of pre-consented recovery facilities, the necessity of obtaining multiple transit country approval, as well as the fact that authorities often do not meet schedules of notification process. Such long procedures in practice can lead to long storage time, and involve health, safety and environmental risks. • Divergence in waste classification, i.e. hazardous versus non-hazardous, waste versus non-waste, across and within Member States, lead to delays and unpredictability of shipments, as well as missing descriptions for certain codes or obsolete scope.
Strength of evidence and potential bias	Good level of evidence. No apparent bias.

SQ 1.5 How has the WSR contributed to the combating of illicit trafficking of waste across borders?

The extent to which the WSR contributed to the combating of illicit trafficking of waste across borders falls under the objective 1.1 and is further elaborated in sub-question 1.1.

One Member State highlighted at the workshop that having take-back as the first solution for illegal shipment (Art 24) might not be the best solution as it might be better to treat the illegal shipment in the destination country. The same Member State noted that under Art 25(2) the costs should be paid by the country of destination, but that sometimes it is not possible to know the country of destination, as sometimes the shipment is still in transit and has not yet reached the country of final destination. There was also confusion over which country takes the costs for take-back, whether it is the final destination country or where the shipment has stopped.

Two industry association representatives as well as workshop participants mentioned cases where the take-back provision applied to shipments that were considered illegal due to (relatively minor) accidental errors, e.g. oversized parts. In such cases, the take-back provision was considered time consuming, in particular when more than one country is involved in the notification, to organise the exchange of documents. The industry association representatives also noted, as a positive point, that financial guarantees were not applied in such cases of 'errors'. These views were confirmed through interviews, mostly with Competent Authorities.

Table 6-5 Summary of findings

SQ 1.5 How has the WSR contributed to the combating of illicit trafficking of waste across borders?	
Conclusion	It is difficult to provide a definite answer to this evaluation sub-question: although the non-compliance rates have increased from 20% in 2008-2011 to 32% (2012-2013), this may be due to an increased rate of inspections and better reporting. On balance the WSR has definitely contributed to a reduction of illicit waste trafficking, but some illegal traffic still occurs and there are some areas where it could be improved.
What works well	• In cases of accidental errors leading to illegal shipments, it was reported that the financial guarantee did not apply, which was considered positive.
What works less well	• Illegal shipments still take place due to exports of hazardous waste for recovery and disposal to developing countries but also between Member States, particularly for waste of electrical and electronic equipment (WEEEs) and end-of life vehicles (ELVs). • The take-back provision does not clearly define which country should incur the costs, i.e. the destination country or the country where the shipment has stopped. In some cases, the country of destination is unknown. • The take-back provision should consider cases where shipments were deemed illegal due to accidental errors.
Strength of evidence and potential bias	Moderate level of data. No apparent bias.

SQ 1.6 How has Regulation (EC) No 1418/2007 contributed to the achievement of the WSR objectives?

As described in the introduction, the WSR and Basel Convention prevent shipments of hazardous waste from the EU; Regulation (EC) No 1418/2007 supplements this regime by regulating exports of non-hazardous waste to non-OECD countries. In this context, the EU does not have any legal obligation under the Basel Convention or the OECD Decision to restrict exports of non-hazardous waste. This piece of regulation was put in place, following the precautionary principle, to protect the environment in vulnerable countries which may not be equipped to receive such waste: the instrument was designed so that if a country does not react to the regulation questionnaire, operators would have to use a notification procedure.

Respondents to the survey were asked to assess how the Regulation (EC) No 1418/2007 contributed to the achievement of the WSR objectives. Overall, a high proportion of respondents did not know (between 33% and 50% on each investigated item) and for most items, opinions were mixed. Overall, the respondents negatively assessed the impacts of the Regulation EC No 1418/2007 regarding creating a level-playing field for operators, for recycling, for innovation and for energy recovery; on the other

hand, respondents were more positive regarding the impacts of this legislation on human health and emissions to the environment.

Table 6-6 Results of the survey

Objective	(Very) positive	Neutral	(Very) negative	Don't know
Human health (inside the EU)	35%	17%	4%	44%
Human health (outside the EU)	31%	17%	10%	42%
Emissions to the environment (inside the EU)	31%	19%	6%	44%
Emissions to the environment (outside the EU)	29%	16%	10%	45%
Climate change (inside the EU)	8%*	39%	6%	47%
Climate change (outside the EU)	8%*	37%	8%	47%
Clean-up costs (inside the EU)	10%*	41%	2%	46%
Clean-up costs (outside the EU)	12%	32%	6%	50%
Repatriation costs (inside the EU)	14%	36%	6%	44%
Repatriation costs (outside the EU)	12%*	35%	8%	45%
Recycling (inside the EU)	26%	22%	24%	33%
Recycling (inside the EU)	14%	18%	27%	41%
Energy recovery (inside the EU)	10%	25%	20%	45%
Energy recovery (inside the EU)	4%*	22%	24%	51%
Innovation (inside the EU)	8%	24%	24%	45%
Innovation (inside the EU)	4%*	24%	24%	49%
Creation of jobs (inside the EU)	24%	22%	18%	41%
Creation of jobs (inside the EU)	18%	20%	16%	46%
Level-playing field for operators (inside EU)	10%*	20%	28%	43%
Level-playing field for operators (inside EU)	6%*	20%	28%	47%

*[Note: Percentages with a * in the (very) positive feedback mean that no survey respondent thought the impact was 'very positive']*

Feedback from the interviews and open public consultation suggest that although useful and effective, there is room for improvement in the Regulation EC No 1418/2007, Stakeholders consistently pointed to the issue that the European Commission has not taken steps to update this regulation although many countries have changed their rules on acceptance or not of waste / secondary raw materials and on the level of strictness of the applicable procedures. The Regulation EC No 1418/2007 assumes that countries' position on whether to accept certain types of waste is well-informed and will remain unchanged in the future. However, it is worth noting that in some countries, there is a perception that waste is worthless: in its interview, the Bureau of International Recycling indicated that it spent time working with several countries to clarify that certain waste streams can be valuable resources and should be considered as secondary raw materials rather than waste that can only be landfilled. Although several third countries are now suitable receivers of waste for recycling, they are still not aware of the importance of responding to the EU when they were asked, and / or their industry has substantially evolved since the question was asked.

Examples were reported on requests from third countries to be able to receive non-hazardous waste, i.e. secondary raw materials (although still classified as waste according the legislation) from the EU, without the current need for a complex notification. European recycling companies are equally willing

to export these materials, as there is a tendency to have a higher supply than demand in the EU. However, some third countries have expressed the view that certain materials had to be subject to a notification procedure, and despite the fact that a country may wish to amend their position on whether or not to accept a certain type of waste, the European regulation does not allow this. Hence, – if a third country decides to accept a certain type of waste, regulation in the EU does not reflect this change which leads to other countries making use of this change first (i.e. the US). This is due to the length of notification procedure in Europe. The opposite is also true, as the list of waste accepted by some countries is not up to date anymore (i.e. the listing of this waste in Regulation EC No 1418/2007), with for instance China, India, Malaysia and Vietnam no longer accepting 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 as the destination does no longer accept that waste type.

One industry representative mentioned at the first workshop how the export of mixed plastic waste to Malaysia should not take place – if this waste cannot be recycled in the EU it should not be sent elsewhere. The problem was said to stem from waste collection systems (mixing plastics with food contamination). This point was expanded by another stakeholder who made the point that Article 34 and Article 49 call for protecting the environment so exporting of plastic scrap to a third country (when much of the scrap is not recyclable), should not be allowed. Another industry stakeholder highlighted that the DG Trade website has been good at showing the transparency of the system, in particular on third countries responses). For instance, Thailand accepting plastics from the US but not from the EU does not seem correct. Plastic waste is classified as non-hazardous, so is not covered by Basel. In this case, the EU is setting a stricter standard on itself, and this might be used by other countries to accept waste from (e.g.) the US but not the EU.

It was reported that some countries (although not specified which) have their own specific control procedure and it is very difficult to figure out what these are. In some cases, countries have changed their answers to the regulation questionnaire without notifying the Commission. The EC should play a role in updating the information in this regulation correctly so that it can also be relied upon at short notice.

The regulation should foresee regular updates, and keep stakeholders informed. For the moment, it was reported by a Competent Authority that information on the evolution of accepted waste is mainly provided by SMEs or other stakeholders, but never from the authorities. Making changes in Regulation EC No 1418/2007 is a substantially burdensome process for the European Commission, involving obtaining official up to date information on waste regimes of over 150 non-OECD countries, due to the unequal level of commitment from certain administrations. A more frequent update of the Regulation EC No 1418/2007 may also imply a diversion of resources of EU Member States customs officials from work on illegal hazardous shipments to the administration of low risk non-hazardous waste.

Stakeholders consistently reported that the Regulation EC No 1418/2007 should not be withdrawn, but its review should be made easier. An alternative option to simplify the regulation would be to only use Annex IX of the Basel Agreement as a means to gather more updated response from non-OECD countries: this was proposed in 2002, but it is unclear how this was followed up.

Additionally, a stakeholder reported that in the absence of exemptions in the Regulation EC No 1418/2007 for R&D cases, start-ups and new recycling technologies were penalised as non-established

players in the market. They do not have the resources to deal with the complexity of the regulation and the lack of harmonisation.: the length of procedures to receive very small volumes of waste delivered for trials disproportionately affects the ability to test and pilot recycling technologies. Recycling facilities can best operate at scale in a profitable way when they specialise in certain types of waste with a stable supply. However, it was highlighted by this same stakeholder that it is unnecessarily difficult to scale circular economy practices given the amount of administrative burden and long timelines of notifications.

Stakeholders attending the workshop reported a number of issues. One identified was that there could be translation issues. A Member State also stated that some types of waste for which the shipment for recovery is subject to the notification procedure could be moved to the 'green'-list. One industrial representative raised the point that the problems are not a regulatory issue but an enforcement issue. He gave the example of four grades of wood: A (green listed) to D (hazardous), problems of implementation (regarding inconsistent interpretation of the gradings in terms of their classification) means that there are illegal shipments of grade B and C, due to their interpretation of the grades which are not either green-listed or listed as hazardous.

Table 6-7 Summary of findings

SQ 1.6 How has Regulation (EC) No 1418/2007 contributed in the achievement of the WSR objectives?	
Conclusion	Although considered as useful, there is room for improvement for the Regulation (EC) No 1418/2007, regarding information on countries' position on whether or not to accept certain types of waste and stakeholders identified a need to simplify information and provide regular updates to make information it more accessible. .
What works well	• The Regulation (EC) No 1418/2007 complements the WSR/Basel regime by regulating exports of non-hazardous waste to non-OECD countries. The regulation was considered a useful instrument.
What works less well	• The Regulation has not been updated on a regular enough basis to reflect the evolution of countries' rules. However, making changes in Regulation EC No 1418/2007 is a burdensome process for the European Commission as it requires requesting information on waste import rules from over 150 non-OECD countries.
Strength of evidence and potential bias	Moderate level of evidence, as reflected by the high proportion of respondents to the survey who answered they 'didn't know' to questions on the regulation (EC) No 1418/2007 (between 33% and 50% depending on the sub-question). Furthermore, it was agreed during early stages of this project that countries outside of the EU were not included in the stakeholder consultation.

SQ 1.7 Has there been any unintended or unexpected positive/negative consequences as a result of the WSR?

Overall, 29% of Competent Authorities reported in the survey that they were aware of unintended or unexpected positive / negative consequences, 57% of Competent Authorities were not aware of any and 14% did not know. Comparatively, 39% of other stakeholders indicated they were aware of unintended or unexpected positive / negative consequences, versus 20% who were not, and 41% did not know.

While illegal shipments of waste to developing countries and the expansion of waste trafficking have been suggested as potential negative consequences of the WSR in the literature[75] it is more likely that, without the regulation such consequences would be significantly worse. While it is necessary to strengthen the WSR to further mitigate illegal shipments, they are not a new phenomenon and can thus not be considered as a negative consequence of the regulation itself. According to Wante (2015), there is no clear evidence to suggest the emergence of "waste havens" within the EU11[76] as a result of the regulation. Instead, this study supports the claim of effectiveness of the WSR as a means of mitigating illegal shipment yet emphasises the importance of countries' commitment to enforcing institutions in order to fully achieve its objectives[77]. For example, the use of legal business structures for illegal trafficking of waste is an issue which needs to be addressed by the regulation. Criminals have adopted complex business models of illicit waste management rather than illegal dumping and, as a result, are difficult to distinguish from legal business actors.[78] Some interviewed experts raised the concern that the current Article 18 green list procedure is sensitive to fraud, as certain waste streams which require notification are shipped as green listed waste without being detected if enforcement is lacking. However, information sharing between competent bodies and between nations, as well as the development of explicit sanctions for illicit waste shipment activity may contribute towards mitigating this issue. Nevertheless, while illegal waste shipments and waste trafficking are not a direct negative consequence of the WSR, they have negatively affected the achievement of the regulations objectives and should be considered in more detail in future amendments to the regulation. While illegal shipments do not point to a deficiency directly within the legislation, their occurrence highlights an aspect which needs to be addressed as they have the potential to pose a directly negative impact on the objectives. Hence, appropriate means of tackling illegal shipments should be considered.

Stakeholders have raised the issue that penalties and the risk of interception of illegal shipments of e-waste from Europe are currently relatively low, while those involved in illegal activities still make a substantial amount of profit. It was also reported that there are issues associated with investigations of illegal shipments of e-waste from the EU to China (the stakeholder also suggested that this could be the case with other developing countries).

In the survey, stakeholders highlighted that financial guarantees were very rarely utilised in order to meet the costs of returning waste shipments. The same stakeholder reported that when they have been used the amount was insufficient to cover the process. Bank guarantees were reported as expensive, and administratively time-consuming. In some Member States the guarantees can be a barrier to the shipment of waste. For example, in the UK, banks require companies to finance the guarantees from their available capital, which is not possible for new or very small companies. Another example mentioned by this stakeholder refers to applying multiple guarantees for the same waste, i.e. one for all waste stored and one for all waste imported. Each country has its own approach on financial guarantees (including the levels required): some destination countries (e.g. Italy), 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 Italy, it is only

[75] Kellenberg (2015) *The economics of the international trade of waste.* Available at https://www.annualreviews.org/doi/abs/10.1146/annurev-resource-100913-012639
76 Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic, Slovenia.
77 Wante J. (2015). Challenges from a policy perspective. Symposium on international trade of waste: economic research and policy implications, Brussels.
78 Europol (2017) Serious and Organised Crime Threat Assessment. Available at: https://www.europol.europa.eu/activities-services/main-reports/european-union-serious-and-organised-crime-threat-assessment-2017

released after final treatment, rather than intermediate, meaning that the money is retained for a longer period.

The WSR does not give the possibility of ensuring business confidentiality to dealers / brokers of waste as the waste generator is always disclosed. Currently, there are issues in matching up commercial confidentiality and transparency: it was suggested by several stakeholders taking the survey that there should be no full traceability particularly in increasingly concentrated markets, such as paper, wood and energy. The level of detail of information required by the Annex VII document involves a disclosure of companies' confidential information which can cause serious financial damage to these companies. Keeping commercial confidentiality could be improved through electronic systems, e.g. the French CITEO system where each stakeholder is registered (where from / where to) and the full overview is only accessible to CITEO for control purposes. Such a system could be replicated at EU level where full access to information would only be for customs and regulatory authorities. Alternatively, the WSR could give the possibility of using two annexes: one to show where the waste is generated, and another to show where the waste will be recovered.

According to a stakeholder interview, the limit of 25 kg of waste under the Article 3.4 exemption from prior written notification for waste explicitly destined for laboratory analysis 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 efficient and representative testing, hence quantities far above this limit of 25 kg are required which are more appropriate for lab testing. This is discussed as a main challenge under Exemptions for waste used for experimental / trial recycling.

Finally, regarding the WSR and WFD and the principle of proximity and self-sufficiency, the expert interviews highlighted a perceived clash between this principle and Circular Economy policies. The principle laid down in Article 16 of the WFD, states that Member States shall take appropriate measures, in cooperation with other Member States where this is necessary or advisable, to establish an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from private households. The WSR has been described by some interviewed experts as limiting the free movement of waste between Member States, however it is specified within Article 16 that a network of waste disposal installations should be established *between* Member States. One survey respondent reported that not every Member States (or for instance, every small island) could be expected to have each waste treatment / recycling facility, as well as it may not have every industry present in the country. For instance, multi-metallic recyclers are not present in every country, as their business model requires economies of scale. As a consequence, there is no suitable recycling installation in each country, hence making the export of waste between Member States necessary.

Table 6-8 Summary of findings

SQ 1.7 Has there been any unintended or unexpected positive/negative consequences as a result of the WSR?	
Conclusion	Stakeholders and the literature identify a series of positive and unintended consequences: no major negative unintended consequences were identified.
What works well	• There is no evidence that the WSR has led to an increased level of illegal shipments nor that suggests the emergence of "waste havens" as a result of the regulation.

SQ 1.7 Has there been any unintended or unexpected positive/negative consequences as a result of the WSR?	
What works less well	• Financial guarantees are seldom used or insufficient to meet the costs of returning a shipment. Bank guarantees can also be expensive and time-consuming. • The WSR does not give the possibility of ensuring business confidentiality to dealers / brokers of waste, given the level of detail of information required by the Annex VII document which requires a disclosure of companies' confidential information which can cause serious financial damage to these companies • The limit of waste allowed under the Article 3.4 exemption from prior written notification for waste explicitly destined for laboratory analysis is not in line with the quantities required to run efficient and representative lab testing.
Strength of evidence and potential bias	Good level of evidence. No apparent bias.

6.1.2 Evaluation question 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?

Answers to this sub-question can be found from a range of sources including the survey results, literature review, workshop and stakeholder interviews. Limiting factors were generally identified by stakeholders. One factor that was raised during the first set of expert interviews which was identified as having a positive influence on the effectiveness of the WSR is the cooperation between Competent Authorities on the enforcement of the WSR and the work of the EU Network for the Implementation and Enforcement of Environmental Law (IMPEL). This aspect is discussed further under Efficiency, while enforcement is discussed in detail under SQ 2.3.

An external factor that was identified from the literature review as influencing the WSR is the economic context. For example, evidence shows that waste shipments outside the EU may have been significantly influenced by economic forces. 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 has contributed to this, exacerbated by low transport costs for shipping goods from the EU to Asia. The varying trends of both waste production and management on an international level influence waste trade, as this drives the potential for efficient economic exchanges.[79]

As discussed under Section 5.1.4 Lack of harmonised inspection regimes, the variety in the methodology used to classify hazardous materials, inconsistent use of waste codes, disparate systems of inspections/controls and lack of standardised inspection criteria are some of the factors which influence the effectiveness of implementing the regulation harmoniously. The incorrect classification of end of life vehicles (ELVs) and electrical waste (WEEE) as second-hand goods has also been identified as a potential driver for illegal transboundary shipment, which could be mitigated by compulsory testing of such devices upon inspection[3]. Falsely claiming such waste is second-hand goods can exacerbate shipments not being sufficiently inspected by the Competent Authorities enforcing the WSR. Thus, such waste often gets shipped in large volumes to less-developed countries, often with sub-standard treatment facilities, presenting a difficult challenge to enforcement.[1]

[79] EEA (2012) Report No 7/2012 Movement of Waste Across the EU's Internal and External Borders. Available at: https://www.eea.europa.eu/publications/movements-of-waste-EU-2012

The survey asked stakeholders to what extent they felt that certain elements of the WSR affected its implementation. The results highlighted that 41% of respondents indicated that the administrative burden from procedures associated with the regulation had a "very negative" impact on implementation, with a further 31% stating it has a "negative impact". While there were differing results given based on company size, overall the results illustrated a negative impact. For example; 43% micro firms, 60% small firms, 50% medium firms and 38% of large firms indicated that the administrative burden from procedures had a very negative impact on implementation. A specific example of administrative burden relates to carrier registration.

Another factor that was identified by stakeholders from the survey as having a negative impact on implementation included the scope of the WSR for different legal interpretations of provisions – with 28% of respondents indicating this had a "very negative impact" and a further 33% indicating it had a "negative" impact. While the responses for each organisation type were generally mixed, 100% of environmental NGOs selected that the scope for different legal interpretations had a "very negative" effect on the implementation of the WSR, while in contrast, 33% of public sector bodies indicated the effect was "positive", with a further 33% indicating it was "very positive".

Varying interpretations and implementation of the regulatory provisions was also mentioned by several stakeholders during the workshop. This is related to waste classification (which is discussed further below) and differing interpretation of other provisions. For example, with reference to Art 3. and Art 12 where different interpretations give grounds for restricting waste flows (and the free market); port hopping; and the requested amount of documentation – as some Member States request a higher level of documentation than others. According to a stakeholder from the waste industry trade association, these articles need to be reviewed to reduce grounds for objection and reflect the desire to achieve a more circular economy. The relevance of the WSR to developing waste markets and the circular economy is discussed under Relevance (See Section 6.3.2). It was also mentioned by an industry stakeholder that variation exists between Member States regarding time of consent of shipment and it was highlighted that to address varying implementation, additional guidance notes would be helpful.

Wording and definitions in the text of the regulation were also identified from the survey results as a factor affecting implementation – 38% of respondents indicated it had a "negative impact", with a further 5% indicating "very negative". However, 30% of respondents indicated that the wording of the regulation had a "positive impact" – however examples were not provided. Rather, this refers to overall clarity of wording and definitions. When the results are analysed based on the respondent type of business, it was found that 65% of trade associations indicated that the wording of the regulation had a "negative impact" while in contrast, 67% of public sector bodies indicated this had a "positive impact". Business operators highlighted more mixed results with 30% indicating a "negative impact", 26% indicating "neutral impact" and 37% indicating "positive impact". When environmental NGOs were considered the results were evenly split: 50% indicated the wording had a "negative impact" while the other 50% indicated it had a "neutral impact."

This was also mentioned in the stakeholder interviews, with one Swiss waste transport company active across the EU and beyond (Kuehne-Nagel) noting that illegal waste exporters look for legal loopholes in the legislation and that the ability to find loopholes is a factor which impacts the effectiveness of the regulation.

Regarding the time taken for the notification procedure on implementation (which is discussed in detail under Section 5.1.1 Procedural requirements of the WSR) the survey results were evenly mixed but indicate that is some cases this has influenced the achievements of the WSR.

It was noted by one stakeholder from the waste company Veolia in the online consultation that due to the complexity of the notification procedures, companies run the risk of being fined for genuine unintentional mistakes and that there is a need to strike a balance between preventing illegal shipments, while still considering simple errors. This point was also reiterated in the stakeholder interviews. The development of an electronic data interchange was also identified by SUEZ in the consultation as a means of potentially simplifying the notification procedure and reducing the time taken to process notifications.

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 Member States? What are the consequences of such disparities between Member States?

This sub-question was largely informed by the results of the survey. Lack of harmonised enforcement was a key issue for variable implementation across Member States, which is discussed under Lack of harmonised inspection regimes – Main Challenges.

Another issue that was raised in the workshop related to data was language barriers with reference to an example regarding the calculation of energy recovery based on R1 codes which is included in a footnote under Annex II of the WFD 2008/98[80]. The R1 code is from Annex II of the WFD and describes waste which is "used principally as a fuel or other means to generate energy". One stakeholder stated that in some Member States the data that is published on R1 codes is contested, but that it is difficult to translate and prove calculations.

In the survey, one stakeholder noted that unequal interpretation of the WSR between Member States is a barrier to investments by the waste management industry, with another stakeholder emphasising that this leads to the lack of a level playing field for compliant recyclers that would benefit from standardised rules. When the survey results are reviewed based on type of organisation, 22% of public sector bodies, 56% of business operators, 76% of trade associations, 83% of other (academia, consultancies) and 100% of environmental NGOs reported that the WSR was not consistently applied across Member States.

Classification of waste was universally recognised as an element which may not have been harmonised by the regulation and this is also reflected in historical survey data from the literature (See Section 5.1.6 Classification issues). According to the results from the survey conducted for this study, 41% of respondents indicated that waste codes and classification were only harmonised "to a little extent" by the regulation, with a further 13% selecting it was "not at all" harmonised. While 67% of public sector representatives indicated this element was harmonised "to some extent". 41% of business operators, 17% of others (academic, consultancies) and 71% of trade associations selected it has been harmonised to "a little extent" and a further 15% of business operators, 17% of others and 12% of trade associations selected it has not been harmonised by the regulation at all. Environmental NGOs were split on this

[80] Annex II, Directive 2008/98/EC on waste https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008L0098&from=EN

issue – 50% indicating codes and classification were somewhat harmonised and the other 50% indicating only to a little extent.

From the stakeholder interviews, representatives from both Veolia and EuRIC emphasised waste classification as an element which varies between Member States. EuRIC emphasised that different waste classification among Member States, especially regarding green-listed wastes, results in companies not having legal clarity on shipments. It was also noted that there is differing application of end-of-waste criteria between countries. End of waste (EoW) criteria are defined under Article 6, Directive 2008/98/EC (the WFD)[81] and define the point at which certain specified waste ceases to be waste when it has undergone a recovery, including recycling, operation. As outlined under Article 6, these criteria are:

a) The substance or object is commonly used for specific purposes;
b) A market/demand exists for such a substance or object;
c) The substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to procedures and;
d) The use of the substance or object will not lead to overall adverse environmental or human health impacts.

Different Member States may have varying interpretations of these criteria which leads to varying applications of the WSR between Member States. For example, a material can be considered waste in the country of dispatch, but it may be classified as a product in the country of the facility that is receiving the waste – which may then send the shipment back. Stenna Metal noted that it is difficult for business and authorities to have a similar understanding of what is the correct classification of waste shipments, interpretation of green-listed waste and shipments between countries.

EoW criteria and the issue of classification was also raised during the first workshop. An industry association representative claimed that national EoW criteria must be notified to the Commission and that only if there are no additional criteria for EoW, can it still be shipped and considered as waste in the country of destination. This is however a different reading of the relevant articles in the WFD. It was also noted that one Member State can have specific EoW criteria according to which it concludes that a specific stream attains EoW status. However, as another receiving Member State might have not adopted the same criteria, the Member State receiving a shipment of that waste/material, can conclude that a waste shipment has been carried out. An industrial representative provided the example of exports from the Czech Republic, where they classified an item as a product, however it was classified as waste in Germany. This led to the Czech Republic's refusal to accept the return and created a case which was brought to the European Court of Justice. EoW criteria are also discussed regarding enforcement under SQ 2.3. Differing impurity limits for waste across Member States was also raised in the first workshop as an issue related to lack of harmonisation. It was highlighted that certain Member States allow for higher amounts of impurities in waste while others are more strict – classifying it as "mixed waste" despite impurity levels being very low, which hinders trade of recyclables (i.e. glass contaminated with traces of wine/metals). Impurity limits are discussed further under Coherence (See Section 6.4.2).

81 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

The Decision on the hazardous properties and European List of Waste (COM 2000/532/EC)[82] was introduced to improve classification of wastes by serving as a common means of classifying waste characteristics in a broad variety of purposes (i.e. for shipments of waste and as the basis of waste statistics reporting). However, it has been noted in the literature that the descriptions are not detailed enough to classify waste effectively. Survey data from Member States in 2008 highlighted that while the European List of Wastes (LoW) with its 839 different waste codes – is already quite extensive, the lack of specific entries is considered one of the key issues for uniform classification of waste between Member States. However, on the other hand, the significant amount of codes that already exist in the LoW only represent a very small share of the waste that is generated and is only used in a few Member States. Hence, it was noted in the review of the European LOW that it may have some codes which are overly specific (and potentially dispensable).[83]

The WSR uses codes from Annex VIII of the Basel Convention, and the codes from Annex IX of the Convention, along with Y46 and Y47 in Annex II of the Basel Convention. By way of example of such coherence, Annex VIII of the Basel Convention lists wastes which are characterised by A-codes as hazardous (e.g. A1010 refers to metal wastes containing alloys of antimony, arsenic, beryllium etc. that is duplicated in Annex V Part 1 of the WSR as a waste subject to the export prohibition in Article 36). Similarly, B-codes are listed in Annex IX of the Basel Convention and are also included in the WSR, and list wastes that are not covered by Article 1 (i.e. are not deemed hazardous) unless they contain Annex I listed material (e.g. Y1 clinical wastes from medical care in hospitals) to the extent that they exhibit Annex III characteristics (i.e. H6.2 infectious substances).

The WSR also includes codes from the OECD Decision and the European LoW. If waste can only be described using a code from the European LoW (i.e. the waste cannot be described with any of the codes of Annex III – Annex IV to the WSR) then this waste is regarded as "unlisted waste". Under the WSR, the shipment for recovery of such waste is subject to the procedure of prior written notification and consent even if the waste may be non-hazardous.

The WSR does not operate in isolation from other waste legislation and Directive 2008/98/EC on waste[84] (the WFD) also contains important provisions concerning the coding of wastes. In this respect Annex III of the WFD lists the properties of waste which render it hazardous using hazardous property codes (HP codes) from HP1- "Explosive" to HP-15.[85] While the codes listed in the WFD use a similar coding system to the Basel Convention, the two schemes are not 100% identical – the Basel Convention uses both different numbers and different characteristic texts when compared to the WFD, although in some cases there is significant overlap.

In effect, the application of the systems for the classification of wastes and their properties as described above are not directly comparable between Europe and third countries. While there are areas with significant consistency between the coding used in the WSR and codes from OECD and the Basel Convention, particularly where these are included directly in the WSR, it is perceived in the evidence

[82] European Commission (2000) Decision 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. Available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2000D0532:20020101:EN:PDF
[83] Okopol GmbH (2008) "Review of the European LoW" http://ec.europa.eu/environment/waste/pdf/low_review_oekopol.pdf
[84] OJ L312, 22.11.2008, p.3
[85] H1 – "Explosive"; H2-"Oxidizing"; H3A- "Highly flammable", 3B-"Flammable"; H4- "Irritant"; H5-"Harmful"; H6-"Toxic"; H7-"Carcinogenic"; H8-"Corrosive"; H9-"Infectious"; H10-"Toxic for reproduction"; H11-"Mutagenic"; H12-"waste which releases toxic/very toxic gas in contact with water,air,or an acid"; H13*-"Sensitizing" ; H14-"Ecotoxic"; H15: "Waste capable by any means, after disposal, of yielding another substance e.g. a leachate which possesses any of the characteristics listed above".

gathered to date that the lack of a harmonised classification scheme may have influenced disparate interpretation of waste between Member States. Hence, it is possible that the classification scheme could be improved to be more easily implemented between Member States and third countries. Coherence between the WSR and Europe's international obligations including the Basel Convention and the relevant OECD are discussed under Coherence (See 6.4.4).

Differing interpretations of waste classification between Member States may also affect data quality and reporting. From the literature, it was highlighted that between 1995-2005 data regarding shipments of wastes between Member States should be considered with caution for cross-country comparison and progress tracking of waste statistics.[86] While this predates the WSR, according to an ETC/SCP report published in 2012 which reflects on transboundary waste shipments data in the EU, differing amounts of waste are recorded when different waste classification schemes are considered and this could still be an issue today.[87] While it was noted from the results of the stakeholder survey conducted for this study that the WSR has enhanced harmonisation of general data collection to some extent (26%) or to a high extent (15%), different classification of waste between Member States, which was recognised as a key issue, may have an effect on the quality of data that is reported.

SQ 2.3 To what extent is enforcement effective and consistent across all Member States? Is the frequency of controls, sanctions and liabilities consistent and comparable in different Member States? Were inspection plans effective? Are there any measures in place at EU level to support enforcement? Are these tools effective and sufficient?

It was highlighted from the literature review that lack of cooperation between Member States may influence enforcement. For example, it was noted by BIOIS in 2014 that WEEE and ELVs constitute approximately 12% and 11% of waste transport violations, with West Africa being the most popular destination for such waste shipments. To distinguish between used cars and ELVs, there is a need for cooperation between Member States and increased follow-up and tracking of deregistered vehicles for export, as it has been estimated that 25% of ELVs in the EU do not end up in appropriate treatment facilities. This is exacerbated by the fact that the moment a car ceases to be classified as a product, and becomes classified as waste, is highly variable between Member States.[88] As previously mentioned under SQ 2.2., EoW criteria of waste is an element of the WSR which is interpreted differently between Member States.

There is no systematic/centralised data collection on waste companies that frequently violate the law, which could be useful to targeted enforcement and inspections. Increasing the resources available to customs, police officials, ports and border controls for effective inspections would be beneficial, potentially enabling an increase in inspection frequency and ensuring that a higher standard of training was received by the authorities. According to the Basel Convention's training manual for customs officers, this has already been considered in the Netherlands, where the Finance and Environment Ministries have signed a Memorandum of Understanding to agree on complimentary training, information exchange and joint inspections in order to mitigate illegal waste shipments.[89]

[86] ETC/RWM (2008) Transboundary shipments of waste in the EU : Developments 1995-2005 and possible drivers http://scp.eionet.europa.eu/publications/Transboundary%20shipments%20of%20waste%20in%20the%20EU/wp/tech_1_2008
[87] ETC/SCP (2012) Transboundary shipments of waste in the EU: reflections on data, environmental impacts and drivers http://scp.eionet.europa.eu/publications/wp2012_2/wp/wp2012_2
[88] BIOIS et al. (2014). Ex-post evaluation of certain waste stream Directives. Final report to DG Environment. http://ec.europa.eu/environment/waste/pdf/target_review/Final%20Report%20Ex-Post.pdf
[89] UNEP (2014) Manual for Customs on hazardous chemicals and wastes under the Basel, Rotterdam and Stockholm conventions http://www.basel.int/Implementation/Publications/TrainingManuals/tabid/2363/Default.aspx#

According to the European Union Action to Fight Environmental Crime (EFFACE) report on illegal e-waste shipments from the EU (2015), 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. For example, in the Netherlands, it was reported that 30% of WSR infringements are not prosecuted. [90]

Regarding enforcement and inspection, during the first set of expert interviews conducted for the interim report one Member State raised the 20-32% non-compliance rate from IMPEL reports and stated that it should be treated with some caution because it was based on inspections usually carried out due to intelligence led suspicion of non-compliance, rather than truly random inspections. If it had been random inspections this figure would be lower. Lastly, another Member State highlighted that IMPEL is not the only source of enforcement action and data. They stated that there are bilateral examples of cooperation and controls, such as between Germany and Austria.

When the survey data was interrogated for this sub-question, most respondents highlighted that they consider the enforcement activities under the WSR in their Member States (i.e. inspections, controls, sanctions) to be "somewhat effective" (43%) or "very effective" (13%) while 21% of respondents also indicated that enforcement activity was "very ineffective". When these results were further analysed in terms of organisation type, it was found that most public sector bodies (56%), business operators (41%), other (academia, consultancies) (67%) found enforcement activities to be "somewhat effective" while 35% of trade associations found it "very ineffective". Environmental NGOs were divided on this issue, with 50% selecting "somewhat effective" and 50% selecting "very ineffective".

When the additional comments from the survey were examined, it was noted by eight respondents that inspections often target recycling companies which are trying to comply with complex administrative procedures, and that distinctions should be made between administrative errors and illegal shipments. It was also noted by these respondents that this distinction could be stipulated with reference to Article 2.35(g)iii of the regulation, which defines illegal shipments.[91] Three stakeholders also highlighted that developing an electronic data interchange for waste shipments may improve traceability and ease administrative burden.

Regarding inspection plans, FEDEREC and Stenna Metal both noted in the stakeholder interviews that while the inspection plans were recognised as being beneficial in highlighting to the competent authorities that inspections can be conducted in an organised way, they are still interpreted differently between Member States. Hazardous Waste Europe also highlighted that it is difficult to carry out inspections at big ports. During the Competent Authority interviews, the Public Waste Agency of Flanders highlighted that different ports have different priorities for inspections, which makes it difficult to ensure equal enforcement. When sanctions were considered, FEDEREC noted in the stakeholder interviews that there is no distinction made between the number of fines or sanctions that are put on legal transfers with an administrative error and illegal shipments. The Environment ministry of Spain stated that as customs officials have become more informed on the issue of waste shipments, which has been identified by customs officials and police as a key issue in Spain, new sanction

[90] 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
[91] Article 2, regulation on shipments of waste https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02006R1013-20180101&qid=1454069470717&from=EN

procedures have been introduced as a means of discouraging illegal shipments, however it is too soon to tell whether this has been effective or not.

It was also noted by Spain in the Competent Authority interviews that while more needs to be done about enforcement activity, there are not enough resources to go about this, an element that was reiterated by the Competent Authority of Bulgaria. In Spain they are also currently developing a platform which customs officials will have access to, where notifiers will do paperwork online as a means of enhancing collaborative information sharing.

Table 6-9 Summary of findings

EQ2: What factors influenced the achievements observed?	
Conclusion	Factors exist which hamper and encourage the achievements of the WSR. While enforcement may have a positive effect in Member States, cooperation between Member States regarding enforcement could be improved.
What works well	• Wording and definitions in the text of the regulation. • There is a lack of cooperation between Member States which may influence enforcement, but most respondents highlighted that they consider the enforcement activities in their Member States (i.e. inspections, controls, sanctions) to be "somewhat effective" (43%) or "very effective" (13%).
What works less well	• The variety in the methodologies used to classify hazardous materials, inconsistent use of waste codes, disparate systems of inspections/controls and lack of standardised inspection criteria are some of the factors which influence the effectiveness of implementing the regulation harmoniously. • Administrative burden from procedures associated with the regulation (i.e. Article 26, time taken for the notification procedure). • Scope of the WSR for different legal interpretations of provisions. • Varying interpretations and implementation of the regulatory provisions.
Strength of evidence and potential bias	The evidence presented is a mixture of qualitative and quantitative analysis including stakeholder survey data. However, potential bias may exist from individual responses to the survey concerning different categories of stakeholders.

6.2 Efficiency

According to the Better Regulation Guidelines, efficiency considers the relationship between the resources being used by the regulation and the changes that have been made (these changes may be positive or negative).[92] This section on efficiency looks at the costs and benefits of the regulation, examining how they accrue to different stakeholders, identifying what factors are driving costs and benefits and how these factors relate to the regulation. The table below highlights the available data across the different sources of the report.

[92] Better Regulation Guidelines: Evaluation and Fitness Checks https://ec.europa.eu/info/sites/info/files/better-regulation-guidelines-evaluation-fitness-checks.pdf

Table 6-10 Available cost data

Cost data available from the interviews, survey, and open public consultation	
Interviews	• No quantified data for costs linked with the implementation of the regulation, interviewees provide the origin of the costs and tend to report if costs are high or low • Indication of which stakeholder bears the financial burden or time-consuming tasks linked with the implementation of the regulation
Open Public consultation	• No quantified data for costs linked with the implementation of the regulation, respondents provide the origin of the costs and tend to report if costs are high or low
Targeted survey	• Quantified data for administrative and operating costs is scarce across stakeholders • Indication of FTE and seniority of employee by size of the business operator for administrative tasks and operating expenditures

6.2.1 Evaluation question 3: To what extent are the costs involved justified/proportionate, given the effects which have been achieved?

SQ 3.1 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?

Throughout the evaluation and by using all possible sources (including workshops) we have identified several types of costs and benefits. The implementation of the WSR leads to costs to Member State authorities and companies. We have divided benefits between benefits to society and benefits to companies.

- Costs to Member States
  - Resources for 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.
- Costs to companies
  - Human resource costs for administration;
  - Opportunity costs (delays in notification, etc.);
  - Financial guarantees;
  - Translation of documents;
  - Disclosing of company information is potentially damaging;
  - Different costs incurred in case of disputes.
- Benefits to society
  - Improved environment;
  - employment.
- Benefits to MSs
  - WSR as tool for monitoring waste shipments.
- -Benefits to companies
  - Traceability.

In the text below, we elaborate on the above by drawing on different sources.

The Commission Staff Working document[93] identified several costs linked to the implementation of the Waste Shipment Regulation. One of the main costs to Member State Competent Authorities is linked with the discharge of illegal waste shipments. In the reporting period between 2010 and 2012, 2,500 cases of illegal shipments were reported within the EU27 [94]. Several reports from NGOs and other studies[95,96] have indicated that between 2007 and 2011, large amounts of waste from the EU was illegally exported to Africa and Asia. Such illegal shipments have entailed substantial costs to Member States. However, it should be noted that these costs would have been incurred in the absence of WSR as well. These costs include **operations to clean-up illegally shipped and dumped waste**. For example, in 2011, approximately 130,000 tons of waste was illegally dumped, its cleaning and extraction cost €160 per ton, adding up to €21 million[97]. The costs also include the **repatriation of intercepted illegal waste shipments** back to the country of origin[98]. A notable example of these repatriation costs is the case where hazardous waste destined for Nigeria via the United States had to be brought back to the port of Rotterdam, with costs amounting to €1.2 million[99]. Illegal shipments also reduce the ability to treat secondary raw materials, as the waste is "leaked" to sub-standard treatment within or outside of the EU[100] . The current weaknesses in enforcement practices have also led to lost opportunity costs to businesses, as illegal shipments undermine legal waste treatment operations. (SQ 3.1). Again, this is a cost which would have been incurred even without the WSR.

The difference in available resources and infrastructure for inspection within some of the more recent Member States entails costs for these countries to adjust to the necessary capacities to comply with new legal requirements and ensure harmonised inspection procedures on an EU level. The impact assessment within the Commission Staff Working document estimated the cost for increasing inspection and infrastructure capacities at 4,000,000€ across the EU[101].

Some of the stakeholder interviews indicated that the notification procedures for waste shipments entail large (and burdensome) administration costs for companies, although some of those interviewed are of the opinion that the costs are not very substantial. (See Procedural requirements of the WSR – Main Challenges).

Interviews with various stakeholders have highlighted monetary costs associated with the implementation of the WSR. No benefits were associated with this by the interviewees. Business stakeholders (3 out of 14) highlighted that there are substantial human resource costs associated with the implementation of the WSR. Business operators from the consultation (15 out of 41) indicated that fulfilling obligations linked with the implementation of the WSR and Regulation 1418/2007 usually requires between 1 and 4[102] full time employees per year working on these issues. On average, large firms reported that 1.57 FTE were required per year, while medium firms reported a lower 0.83 FTE

[93] 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
[94] 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
[95] European Union Action to Fight Environmental Crime (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
[96] Europol (2017), Serious and organised crime threat assessment
[97] 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
[98] European Commission (2015), ibid
[99] European Commission (2013), ibid
[100] European Commission (2015), ibid
[101] European Commission (2013), ibid
[102] These figures indicate the minimum and maximum values provided by the respondents (12 of (15 out of 41)

and micro firms a lower 0.25 FTE[103]. Moreover, the respondents highlighted that they required senior to intermediate level employees for such positions.

Nonetheless, economic operators from the survey highlighted that additional operating costs associated with the implementation of the WSR are in general lower, more or less half the administrative burden. In fact, these economic operators have indicated that it requires (12 of 41) between 0.5 and 2[104] full time equivalent per year on the WSR and Regulation 1418/2007, and usually the positions require a lower level of seniority. On average, large firms reported that 1.67 FTE were required per year, while medium firms reported a lower 0.41 FTE, and micro firms a lower 0.17 FTE[105]. These additional costs were further confirmed through the validation workshop.
However, another business stakeholder stated that if the person in charge of handling waste shipment is knowledgeable about the regulation, there are negligible additional costs. Furthermore, the interviewee added that when this is the case, the cost of human resources is mostly outweighed by the benefits of the implementation of the WSR.

Member State Competent Authorities interviews have generally pointed to financial guarantees or the equivalent insurance being a burdensome monetary cost of the implementation including the associated administrative burden (This issue is outlined under Section 5.1.3 Problems with financial guarantees under different MS legal systems). In a presentation by Moser on the "Possible methods for calculation of the financial guarantee in the EU", typical problems include shipment of sorting residues from packaging recycling, shipment of bulky wastes for recovery R3 (R12/R1) and shipment of filter dusts for recovery R4[106].

Interviewees (5 out of 9) specified that the financial guarantee or equivalent insurance is problematic depending on the location of the facility. By way of illustration, in Austria, there have been instances where the shipment of C/P-sludge for recovery R5 was not accepted for recycling, which entailed costs (for alternative disposal) twice as high as recovery costs[107]. Additionally, in the UK the value of the financial guarantee is obtained by adding costs of shipment, of disposal or recovery, of storage for 90 days, and administrative costs. However, one specificity of the Member State is that the competent authority is entitled to request an additional security based on a "worst case scenario". This was further confirmed during the second workshop, where a Member State Competent Authority representative stated that financial guarantees can provide an effective barrier against free riding, but will usually not cover costs in the event of a major incident.

Nonetheless, one of the Member State Competent Authorities stated that even though the procedure for waste repatriation is burdensome, it's highly relevant to have the dispatching country pay to rectify the issue. Often, companies are not used to doing this kind of work and risk incurring considerable repatriation costs.

When employees lack a sufficient level of knowledge of administrative processes, the case is exacerbated when the shipment is wrongly classified and ends up becoming illegal. This issue was highlighted by one Member State Competent Authority and usually occurs when waste is sent by non-EU

[103] These figures represent the average of the FTE reported by size of business operators
[104] These figures indicate the minimum and maximum values provided by the respondents (12 of (12 out of 41)
[105] These figures represent the average of the FTE reported by size business operators
[106] Andreas Moser (2015), Possible methods for calculation of the financial guarantee in the EU, http://ec.europa.eu/enlargement/taiex/dyn/create_speech.jsp?speechID=37038&key=d38ee92499e48f4e6879366f7d690186
[107] Andreas Moser (2015), ibid.

parties. The challenge for Member States arises from illegal shipments that do not hold any financial guarantee, since these shipments arrive from countries that are non-EU members. Member State Competent Authorities (2 out 9) highlighted that this problem is often the result of a lack of awareness of the WSR among the non-EU shippers. These shipments accidentally become illegal and waste shipping companies inevitably incur fines for them.

One Member State Competent Authority highlighted that one of the main benefits (non-monetary) of the Regulation 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 MSCAs on the type of waste shipped, the routes and the waste treatment methods.

Of the 215 responses of the Open public consultation, 135 reported that the WSR has led to significant costs. Within these 135 respondents, 70 are companies and 55 are business organisations. The main monetary cost mentioned is the effort and time spent on administration, such as filling in Annex VII documents, preparing notifications, negotiating the financial guarantee, training employees, and assigning or hiring personnel to complete these tasks. One business operator from the targeted survey reported that filling annex VII documents can take up to 15 minutes, including the creation and obtaining contracts, creating the annex, checking, shipping, requesting returns, and checking complaints. It is estimated that the notification can be prepared in 2 to 3 working days entailing additional labour costs.

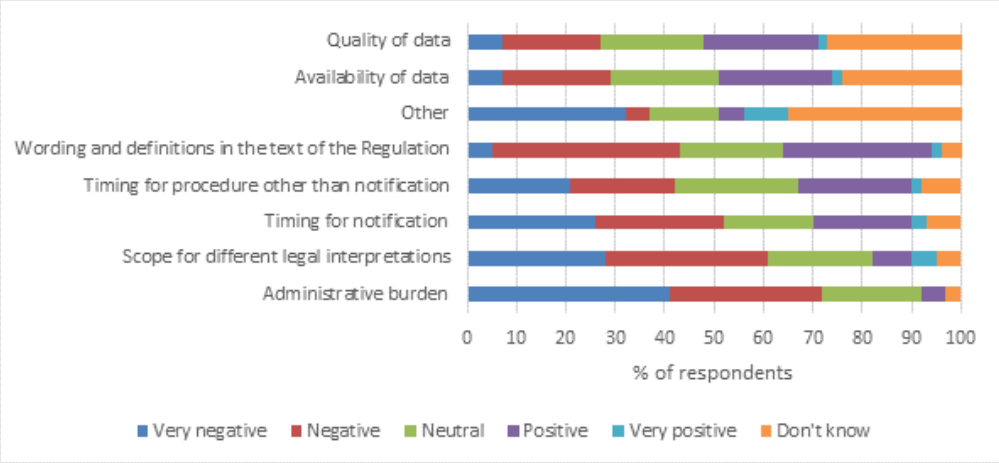
Another category of monetary costs highlighted by nearly all respondents (about 80% of all respondents) is due to the differences between Member States with regards to the WSR interpretation. These include: additional costs for trucks blocked because of disputes, legal fees for disputes, and settlement costs (considered as the easiest solution for ending disputes). Business association respondents (55 out of 215 respondents) highlighted that non-monetary costs are linked to the opportunity cost and business lost due to lengthy procedures (administrative burden), which often leads to the use of sub-standard solutions for waste streams in order to keep business as usual from stopping. Usually these lengthy procedures arise from delays in the notification processing by different Member States. Business operators from the survey (7 of 41) have indicated that it is difficult to specify precise quantitative information associated with such waiting time and delays. Some of these business operators (3 of 41 respondents) have an average estimated costs of €150,000 for such waiting times[108].

Companies (70 out of 215 respondents) highlighted monetary costs linked with the implementation of the WSR. One of the most frequently mentioned costs was the translation of permits (and associated delays). This cost occurs because Member States often require that the permit is translated into their own language.

The results from the survey appear to be consistent with the views collected through the interviews and open public consultation.

[108] The cost figure provided is an average of the costs reported by business operators (3 of 41)

Figure 6-2 Survey results for the different aspects affecting the implementation of the WSR

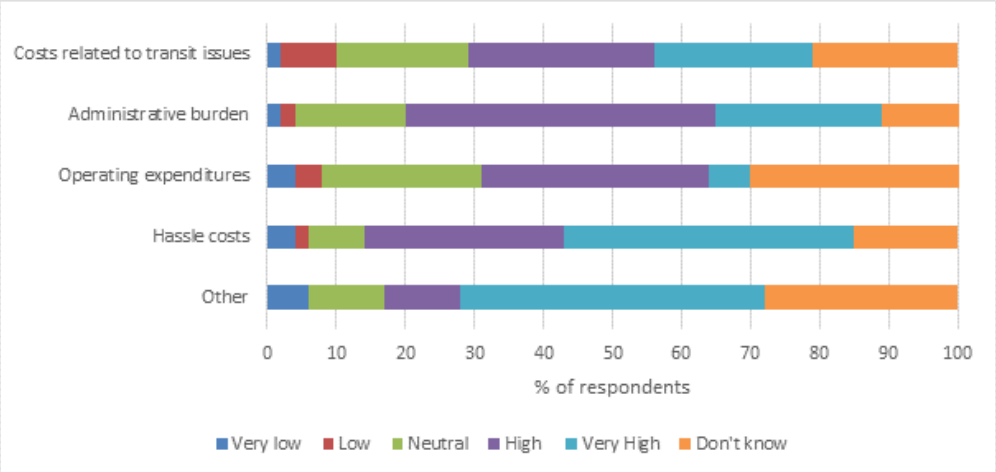


Source: Waste Shipment Regulation Targeted Survey, 2018

Administrative burdens were highlighted by most respondents and interviewees as being linked with monetary and non-monetary costs. Some 72% of respondents to the survey answered that administrative burden from procedures negatively affect the implementation of the WSR (41% very negatively, 31% negatively). 67% of these answers were from micro firms (0-9 employees), and 33% from medium firms. Only 5% of respondents felt that administrative burden had a positive impact on the implementation of the WSR. Conversely, the respondents who considered it had a positive impact were mainly large firms (over 250 employees) (47% of all answers). One business respondent highlighted that quantifying the time lost to excessive bureaucracy is very difficult.

Some 61% of respondents to the survey confirmed the perception of interviewees that the difference in interpretation of aspects of the WSR is a reason for incurring monetary and non-monetary costs for the different stakeholders. It also has a negative impact on the implementation of the regulation. Mainly businesses voiced their negative opinion of the diverging interpretations across Member States. Respondents to the survey, as well as to the open public consultation raised the issue that Member States sometimes have diverging approaches on how to handle permits.

Figure 6-3: Assessment of the costs stemming from the WSR by survey respondents



Source: Waste Shipment Regulation Targeted Survey, 2018

The above figure highlights an assessment of the costs associated with the WSR by respondents of the survey. 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 (71% of high costs) and the submission of information to public authorities (69% of high costs). In general, a negligible share of respondents consider the different types of costs to be low. According to respondents, hassle costs and administrative burdens are the highest costs stemming from the WSR. Operating costs are also seen as relatively high according to most respondents. Operating costs are generally associated, by 4% of the respondents (4% of total respondents), with the involvement of an additional full-time employee.

Respondents also mentioned some additional costs stemming from the WSR such as guarantee costs, costs due to difference in interpretation across Member States, and sanctions for administrative errors. These arguments were all raised during both the interviews and open public consultation.

During the first Workshop, two Member States, an industrial representative, and a waste trade association noted the administrative burden of the notification procedure for both the Member States and the industry.

A few Member States noted the benefits of the Annex VII (and Art 18 in general) for enforcement and reducing inspection times, which is beneficial to industries, and for traceability - seeing what is in the whole load, i.e. what is loaded and where, and where it ends up – as there are many intermediaries.

Table 6-11 Summary of findings

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, national, and EU-level?	
Conclusion	The implementation of WSR leads to several types of costs to Member States and companies. There are several monetary costs that include the delays involved with waiting times and the additional human resources that are needed to fulfil the obligations that come with the implementation of the regulation. The implementation of the regulation is also associated with tangible environmental benefits as well as strengthened enforcement which positively impacts industry and the health of general population.
What works well	The main non-monetary benefits of the implementation of the WSR are linked with higher protection of the environment There are benefits of the Annex VII for enforcement and reduction of inspection times
What works less well	Costs associated with the operations to clean-up illegally shipped and dumped waste The costs also include the repatriation of intercepted illegal waste shipments back to the country of origin Differences in infrastructure and resources across Member States entails costs for these countries to adjust to the necessary capacities to comply with new legal requirements and ensure harmonised inspection procedures throughout the EU There are substantial human resource costs for business stakeholders associated with the implementation of the WSR

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, national, and EU-level?	
	The financial guarantees or equivalent insurance (art 6 of the Regulation) are perceived as burdensome monetary costs of the implementation Translation of permits and associated delays
Strength of evidence and potential bias	Qualitative and anecdotal evidence come from all sources. There is a lack of substantial quantitative data from the different economic operators to establish patterns across the different levels and types of stakeholders, more specifically in terms of monetary costs. The costs highlighted by these economic operators mainly arise from the targeted survey but remain scarce. The issue in collecting such granular data (e.g. time spent filling notifications, number of full-time employees allocated to a specific tasks) are not statistics readily available to survey respondents. The majority of the figures stated above are from the targeted survey and online consultations with stakeholders. The lack of a baseline of costs renders the comparison with costs linked to the implementation of the Regulation difficult. Companies tend to emphasise the costs while other stakeholders are more aware of the benefits. Monetary benefits linked with the higher degree of protection of the environment are difficult to quantify within such a short time period. Moreover, such quantified benefits require substantial impact assessments to ensure a level of comparability to costs linked with the implementation of the WSR.

SQ 3.2 Are the costs proportionate to the benefits the WSR has brought?

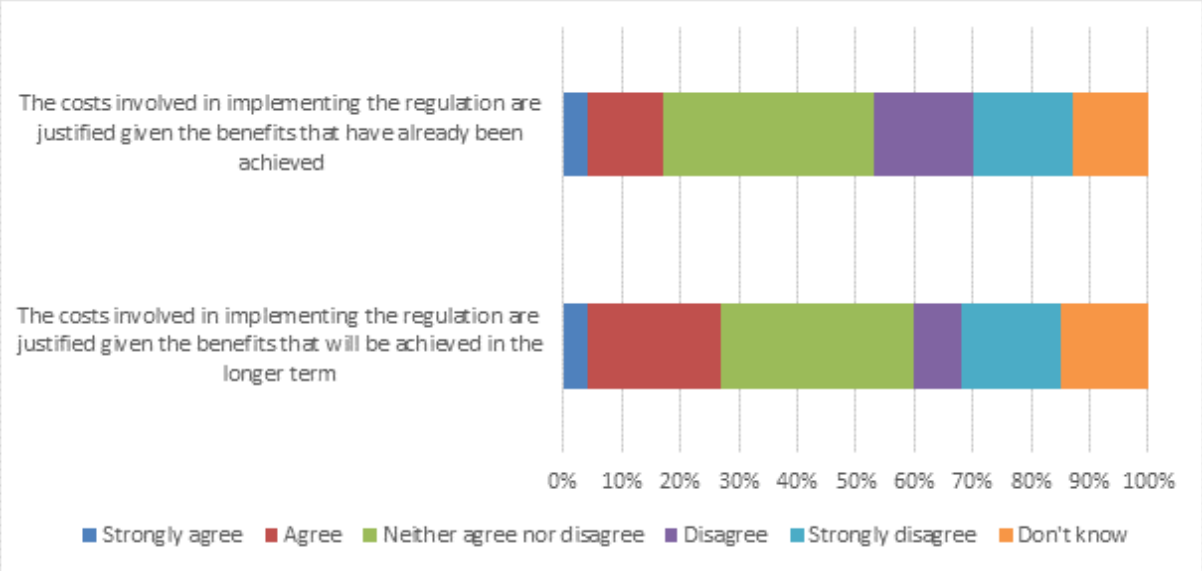
In general, respondents to the open public consultation on the WSR think that the costs involved in its implementation are justified by the benefits, however, of the 135 respondents to the question, 71 disagreed. The majority of these respondents are classified as businesses (38). Many industry stakeholders indicated that currently, businesses are interested in more than just monetary benefits such as the protection of the environment. In fact, during the validation workshop, several industry stakeholders acknowledged that they benefited from the WSR, stating that certain waste management companies would not exist without it.

Within the survey 33% of respondents state that they neither agree nor disagree with the fact that the costs involved in implementing the regulation are justified given the benefits that will be achieved in the longer term. Most of these respondents (63%) were business operators. Those who mainly agree (27%) with the statement are mainly from the public sector. Those who mainly disagree with the statement are trade associations (25%). In general, the opinions are balanced.

The responses to the second part of the question: “The costs involved in implementing the regulation are justified given the benefits that have already been achieved” generally show a similar pattern. In general the respondents neither agree nor disagree with the statement (36%). However, respondents are slightly more biased towards a negative opinion (34%) compared to the previous statement. Nonetheless, a business organisation respondent highlighted that there are some benefits to the WSR (in comparison to the absence of the regulation). Indeed, some industry associations have highlighted that some waste shipment companies would not exist without the implementation of the regulation. However, they also feel that the regulation has room for improvement. Another business association emphasised the fact that the current practices reflecting the obligations stemming from the WSR are

disproportionate to the benefits the regulation potentially creates. In their opinion, 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. Another business association highlights the fact that recycling companies, which are often SMEs, encounter obstacles and barriers to business on a daily basis. For example, there are lengthy and costly delays in the approval of cross-border shipments, even between subsidiaries of the same recycling company with installations in different countries. Another example is the level of detail of information required by the Annex VII document, this involves a disclosure of companies' confidential information which can cause serious financial damage to these companies in the case of a breach of confidentiality (e.g. Data breach, cyber-attacks, etc.). Dispersion of such confidential business information could lead to companies losing in competitiveness.

Figure 6-4 Do the costs outweigh the benefits?



Source: Waste Shipment Regulation Targeted Survey, 2018

Table 6-12 Summary of findings

EQ3.2 Are the costs proportionate to the benefits the WSR has brought?	
Conclusion	The lack of enough quantitative data, such as quantified benefits and granular legislation costs to the various types of stakeholders does not allow for a definite answer to the evaluation conclusion. The qualitative information provided by the consultations and interviews provides a status quo wherein the public actors tend to agree with the fact that the benefits are proportionate to the costs, while private actors affirm the opposite. In some cases, industry stakeholders have highlighted that waste shipment companies would not exist without the implementation of the regulation.
Strength of evidence and potential bias	Strong bias from businesses who, by default, have the tendency to emphasise the cost aspect rather than the benefit.

SQ 3.3 How have costs and benefits varied by size of enterprises (micro/small/medium-sized enterprises?)

The literature review revealed that there is currently little information on any difference between costs and benefits for companies of different size. The Administrative Burden Report[109] highlighted, based on consultation, that SMEs in the countries involved in the survey did not face major difficulties linked with the implementation of the WSR. This is an indication that, although costs for SMEs represent a higher burden than for bigger companies, they are not excessive. It was pointed out by business stakeholders (10 of 215 respondents) that SMEs communicate with Member State Competent Authorities in order to speed up procedures and obtain consent for waste shipments.

One Competent Authority interviewee (out of 9) highlighted that SMEs try to avoid administrative burdens linked with the WSR procedures by not engaging in shipping waste for recycling purposes etc. These can be very costly for them as the administrative burden does not necessarily scale down based on revenue. Thus, we can conclude that some SMEs feel they are at a disadvantage compared to larger firms.

Furthermore, three obstacles related to SME/MMEs 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 who are trying to evolve to modern markets.

Results from the open public consultation (S.Q. 3.2) have shown that respondents generally consider that the benefits of the WSR do not outweigh the costs due to the sheer amount of administration required. Analysis reveals that business operators generally share the same opinion. Furthermore, the results of the open public consultation show a similar picture when considering the costs involved in the implementation of the regulation. There seem to be no substantial differences in answers between large firms and smaller firms.

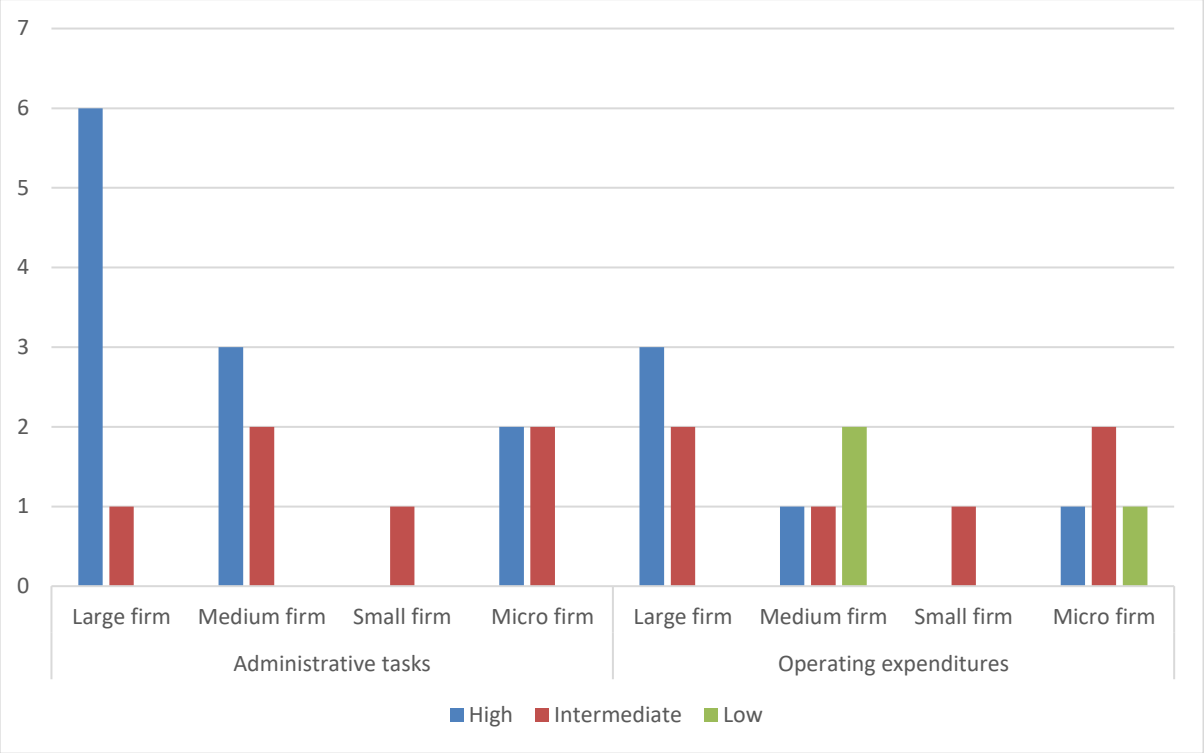
In the targeted survey business operators, more specifically Waste treatment, Waste production and Waste transport companies, highlighted that there are high costs associated with the WSR. In general, (2 of 41) micro firms (0-9 employees) and (1 of 41) small firms (10-49 employees) consider that administrative costs stemming from the WSR are high (97% of both types of firms) compared to larger companies. However, micro firms generally consider that hassle costs stemming from the regulation are very low (33%) as opposed to small firms that consider them to be high (60%). Furthermore, operating expenditures are generally high for small and medium firms (50-249 employees) as about 70% of such respondents associated the regulation with high costs. Overall, large firms (over 250 employees) tend to agree that costs stemming from the regulation are high to very high. Nonetheless, large firms' respondents express more balanced views compared to smaller firms on the costs stemming from the regulation.

When it comes to fulfilling the obligations to public authorities, filling dossiers, etc. associated with the implementation of the WSR and Regulation 1418/2007, previous sections of this report stated that administrative burdens generally require high to intermediate level of seniority of the employees assigned to such positions. The survey indicates that larger firms tend to assign more senior profiles to

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

these positions, as opposed to medium and small firms assigning intermediate profiles. Similarly, responses to the survey shows operating costs (e.g. setting up the electronic data reporting systems) follows the same pattern. However, there is a more diffuse requirement in terms of the seniority of the position, ranging from high to mid-level positions. The figure below breaks the level of seniority linked with administrative burden as well as operating costs.

Figure- 6-5 Seniority of positions assigned to administrative tasks and operating expenditures[110]



Source: Waste shipment targeted survey, 2018

Table 6-13 Summary of findings

EQ3.3 How have costs and benefits varied by size of enterprises (micro/small/medium-sized enterprises?)	
Conclusion	SMEs and micro firms are at a slight disadvantage compared to big companies who can absorb administrative burden easier. In general, administrative burdens hit smaller companies heavier. This is notable when considering the level of seniority of employees needed for such positions across larger and smaller companies.
What works well	N.A.
What works less well	Obstacles for SMEs/MMEs such as administrative burden in 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. Costs are generally more burdensome for smaller firms compared to larger firms due to their lower cost-absorption capacity, notably depending on the size of their turnover.
Strength of evidence and potential bias	There is little evidence from literature, with more substantial answers in targeted survey and the online consultation. Answers are biased towards larger (over 250 employees) and medium (50-249 employees) in the survey, as they provide considerably more granular data. Larger

[110] Total of 50 business operator respondents

EQ3.3 How have costs and benefits varied by size of enterprises (micro/small/medium-sized enterprises?)	
	companies often dispose of considerably more resources to allocate employees to answer such surveys. However, issues that SMEs face are less likely to be highlighted by larger companies seeing that they can more easily absorb certain administrative costs. In general, it is difficult for enterprises to report such costs linked with the implementation of the regulation. Indeed, the stakeholders with whom the discussion took place noted that there is no direct financial provision in their reporting related to the implementation of regulations. The lack of a baseline of costs renders the comparison with costs linked to the implementation of the Regulation difficult.

6.2.2 *Evaluation question 4: What factors influenced the efficiency with which the achievements observed were obtained?*

As the efficiency looks at the relation between benefits and costs (i.e. the level of benefit for a given cost, or the cost necessary to achieve a given benefit), the factors addressed in this evaluation sub-question influence both the effectiveness (e.g. through the impacts of factors on the benefits) and the efficiency (e.g. through the impacts of factors on the costs).

SQ 4.1 What, if any, good or bad practices can be identified in the implementation of the WSR?

The evaluation revealed the following good and bad practices. These are analysed later in the text to the extent possible:

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;
- Disadvantages with 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 Green List in the country of origin;
- Use of Basel Convention List of Wastes instead of the European LOW.

During the literature review, a set of national level best practices taken up by Member State Competent Authorities and Industry Stakeholders were identified in the Administrative Burden Reduction report of 2015[111] . For example, in Spain, some communities have already implemented electronic platforms allowing the processing of waste shipments within the country. In Ireland, a single point of contact has been established at national level to represent the country at the IMPEL-TFS cluster, the World Customs Initiative, collaborative projects within DG TAXUD and INTERPOL in this way ensuring the links and synergies between them especially with regards to good practice transfer. In the case of Italy, the region of Lombardy has implemented a cross-border waste transport information system (SITT) after an

[111] ICF (2015), ibid

in-depth study by sector experts. As a result, a company willing to export waste can clearly identify the necessary forms in each individual case and in this way save time and money. In the Netherlands, two notifications systems were developed – e-TFS and Digital Notification Advisor (DNA) – to enable companies to fill in notification forms digitally in this way reducing the paperwork. Finally, in Scandinavian countries (Sweden, Norway, Finland, Denmark), a study was conducted by the Nordic Council of Ministers in 2008, which led to the development of a notification e-service called Nordic TFS (SQ 4.1).

One bad practice identified in the study on the "Feasibility of Introducing a Certification Scheme/Standard for Recycling Treatment Facilities"[112] revealed that there were disadvantages associated with the certification scheme in place leading to operational and administrative costs to companies. While the report stated that larger companies would generally have the resources in-house to conduct self-certification schemes, SMEs might need to hire consultants and thus face higher costs. This differs from the statement in the Administrative Burden Report[113] which indicated no major differences for SMEs.

The open public consultation on the "Roadmap feedback for Evaluation of the Regulation (EC) No 1013/2006 on shipments of waste"[114], also revealed bad practices listed above in the implementation of the WSR (SQ 4.1).

Through the consultation within the "Roadmap feedback for Evaluation of the Regulation (EC) No 1013/2006 on shipments of waste", stakeholders identified a set of good practices. One anonymous stakeholder praised the use of the waste shipment portal[115], although there are some caveats. These include limitations in the size of email attachments to authorities although stakeholders have highlighted that the portal enables substantial time savings. The online portal enables shipment pre-registrations to be sent, and creates an adequate notification archive (SQ 4.1).

The lack of a common interpretation of the regulation is considered by many interviewees to be bad practice. This issue leads to several problems. For example, there are diverging WSR procedure fees across Member States. A business association interviewee highlighted that there can be differing requirements concerning insurance documents from foreign transport companies. The lack of a competent authority or a third party between the country of origin and country of destination exacerbates the problems. Additionally, a business stakeholder highlighted that there are examples of mislabelling of waste in order to avoid WSR control. One of them includes the end-of-life vehicles and WEE being exported for re-use, when in reality it is sent for scrap.

Business associations interviewed (2 out of 14) also highlighted that the "Green List" of waste is not as well controlled in the country of origin or dispatch depending on the Member State. On the flipside, China has shown that control of waste in a country receiving waste is possible. The country has imposed strict standards on acceptable levels of quality and levels of contamination in the waste they receive.

Business associations interviewed (2 out of 14) have also highlighted some good practices. For example, the electronic systems of Belgium and the Netherlands are inter-operable, hence streamlining processes

[112] Arcadis (2012), The feasibility of introducing a certification scheme/standard for recycling treatment facilities
[113] ICF (2015), ibid
[114] European Commission (2017), Roadmap feedback for Evaluation of the Regulation (EC) No 1013/2006 on shipments of waste
[115] http://www.wasteshipment.eu/tfs/htmlViewer?xsessiontag=2014772013, Trans-frontier Shipments of waste 2017

between the two countries. For the past two years, the electronic systems of Germany and Italy are used for internal waste movements in several countries. In France, the centralisation of the system has been highlighted by a business association to be an efficient way of avoiding delays in notifications.

Summary of findings

EQ4.1 What, if any, good or bad practices can be identified in the implementation of the WSR?	
Conclusion	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 MS electronic systems contributes to the set of technological good practices. Good practice sharing is facilitated by the ease of information exchange between MS. On the other hand, bad practices can arise from the inability of such systems to communicate with each other. Moreover, the lack of a common interpretation leads to issues between MS, as well as MS with third world countries. These go from differing levels of standards for quality as well as the divergence in waste classification.
What works well	• National notification systems. • Streamlining of procedures. • Uptake of technological systems. • Inter-operability of electronic systems.
What works less well	Different interpretation of the WSR in different MS is repeatedly identified as the main problem leading to several other problems. EU level electronic data interchange
Strength of evidence and potential bias	Evidence is relatively strong through the diversity of stakeholders' input and there is no bias identified.

SQ 4.2 What evidence is there that the WSR and Regulation (EC) No 1418/2007 have caused unnecessary regulatory burden or complexity?

Different evaluation sources identified the following unnecessary burdens and complexities:

- Administrative burden associated with pre-consented facilities;
- Validity of permits of pre-consented facilities;
- Processing time for notification procedures which is considered too long;
- A written notification specified by the Annex 1A and 1B of the regulation which is excessive;
- A three-day notification period prior to each transport which is not realistic;
- 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;
- No harmonised interface between national systems or a common electronic platform leading to additional burden;
- Financial guarantees which are a costly requirement for companies;
- End-of-waste status which has created another layer of complexity as recyclates can either be considered as waste or as product;
- Added complexity which makes secondary raw material supply chains less competitive than virgin raw material;
- Provisions on waste classification which currently cause difficulties.

From the literature review, the Roadmap feedback for the evaluation for the Waste Shipment Regulation revealed, based on stakeholder consultation, several potentially unnecessary regulatory burdens. These were complemented by insights from stakeholders from the Open Public Consultation, the survey and the interviews. One association of waste management companies suggested that the administrative burden associated in some Member States with the introduction of pre-consented waste treatment facilities with aligned environmental standards was an unnecessary burden. Moreover, the validity of permits for these facilities is limited to a period of three years, which was deemed too short by waste facility operators. The same stakeholder pointed out that even if pre-consented facilities comply with high environmental standards there should still be a notification.

In the open public consultation, the same association of waste management companies highlighted that the Member State processing time for notification procedures is currently too long, a fact which hinders commercial opportunities. These actors suggested fixing a maximum time limit for competent authorities to process files. Furthermore, an industry stakeholder highlighted that the written notification specified by the Annex 1A and 1B of the regulation, on the pre-notification procedure is excessive, stating that the current situation is far from that described in the WSR. A representative of a waste management association interviewee (1 out of 14) pointed to the fact that very often Competent Authorities look for small discrepancies in the notification to send it to companies for correction such as waste sample analysis which is costly and difficult. It must be noted that logistic companies tend to organise their routes based on costs and therefore fixing a pre-defined route is an additional burden.

One waste management company interviewee (1 out of 14) drew attention to the fact that there is, so far, no harmonised interface between national systems or a common electronic platform for the notification procedure which adds to the administrative burden. It is worth noting that, according to one waste management company, the end-of-waste status has created another layer of complexity as recyclates can either be considered as waste or as product depending on the Member State, thus creating uncertainty.

One business operator interviewee (1 out of 14) pointed out that there are huge costs as a result of lost business due to no guarantee of business confidentiality within the WSR. The level of detail of information required by the Annex VII document involves disclosure of companies' confidential information which can cause serious financial damage to these companies.

One environmental agency interviewed underlined that provisions around waste classification currently cause difficulties, particularly where material is described as green list on the documents but in reality, should be notified as a result of the level of contamination or prohibited if destined for a non-OECD country.

Summary of findings

EQ4.2 What evidence is there that the WSR and Regulation (EC) No 1418/2007 have caused unnecessary regulatory burden or complexity?	
Conclusion	Business stakeholders have raised several issues linked with unnecessary regulatory burden and complexity cause by the WSR and Regulation 1418/2007. Most of these issues consist of the delays that arise from complex procedures (e.g. pre-consented facilities). Additionally, excessive attention to detail by competent authorities can lead to costly corrections to

EQ4.2 What evidence is there that the WSR and Regulation (EC) No 1418/2007 have caused unnecessary regulatory burden or complexity?	
	notifications. Finally, it was stated that complexity arises from the difficulties linked with waste classification.
What works well	The nature of the question does not lead to answers on what works well.
What works less well	Administration related to pre-consented facilities as well as the necessity to fix transporters and routes. Different issues with the green list and the EoW criteria.
Strength of evidence and potential bias	A variety of opinions have been expressed throughout the evaluation. Considering the considerable amount of business stakeholder respondents, there is a bias towards the private sector.

SQ 4.3 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. It has often been claimed by interviewees and survey respondents that enforcement is different across Member States and there seems to be a consensus on this. The evaluators think that the differences come from the quality of the overall inspection system and the frequency, stringency and intensity of inspection checks. A more frequent and intense inspection system will entail higher costs than a less frequent and intense system. However, the evaluators assume that it also entails higher protection (and environmental benefits). For example, discrepancies in enforcement could lead to so-called 'port hopping' whereby illegal waste is sent through the ports with the least control. While the competent authorities of these ports incur lower costs for enforcements, they face significant environmental risks as well as legal risks and financial consequences should the illegal waste be intercepted at a later stage.

The literature review highlighted that there is also a difference in the number of infringements brought to the courts[116]. In the opinion of the evaluators, this means less costs for these country's legal system but it also means that the country would receive less revenue penalties from infringements. It would also potentially become a preferred destination for illegal shipment. The evaluators consider that a higher frequency of illegal shipments might lead to environmental and health hazards and hence higher public costs for clean-up and addressing any consequential ill health. Establishing a precise correlation between non-prosecution and foregone penalties would be potentially easier than between 'saved' inspection costs and additional costs for cleaning and health. There is no data within this evaluation to support either claim. These assumptions were presented during the second workshop and there were no objections from the participants.

According to stakeholder interviews, 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.
Some local German authorities (differs per federal state) require insurance documents from foreign transport companies that correspond with German laws. This forces companies responsible for the notification to use German transport companies and makes the legislation rigid and more costly. Some German authorities ask an administrative fee for each question they have, this leads to higher costs and delays the procedure.

[116] Illegal Shipment of Waste from the EU, A Case Study on Illegal e-waste export from EU to China

During the validation workshop, a Member State competent authority reported that suppliers located outside of Europe, sometimes don't need a financial guarantee. In these cases, to get the consent for the notification, the companies offer to use their own financial guarantee. It was reported that this leads to higher risks and extra costs.

Summary of findings

EQ4.3 How have the costs and benefits of the WSR varied at local, national and EU level?	
Conclusion	There is a lack of substantial data to suggest that there are cost and benefit differences of the WSR at different levels (i.e. local, national and EU). However, interviews with businesses have revealed that certain local authorities may in some cases require stringent insurance documents as well as require a fee for providing council on how to fulfil these documents. There have been cases where local authorities lack the adequate knowledge to determine whether a shipment is legal or not. This has entailed higher costs for economic operators in terms of repatriation costs.
What works well	Not relevant
What works less well	Costs differ between MS Less stringent enforcement of the WSR leads to a higher amount of illegal waste shipments to that MS, which inevitably leads to a lower environmental and human health Costs linked with the financial guarantee of third country suppliers
Strength of evidence and potential bias	No respondent has given an answer precisely relevant to the question. The lack of granular data does not allow for a precise estimation of cost differentiation at the various levels. Some of the insights are opinions of the evaluators. They were presented at the second workshop and were accepted by the stakeholders.

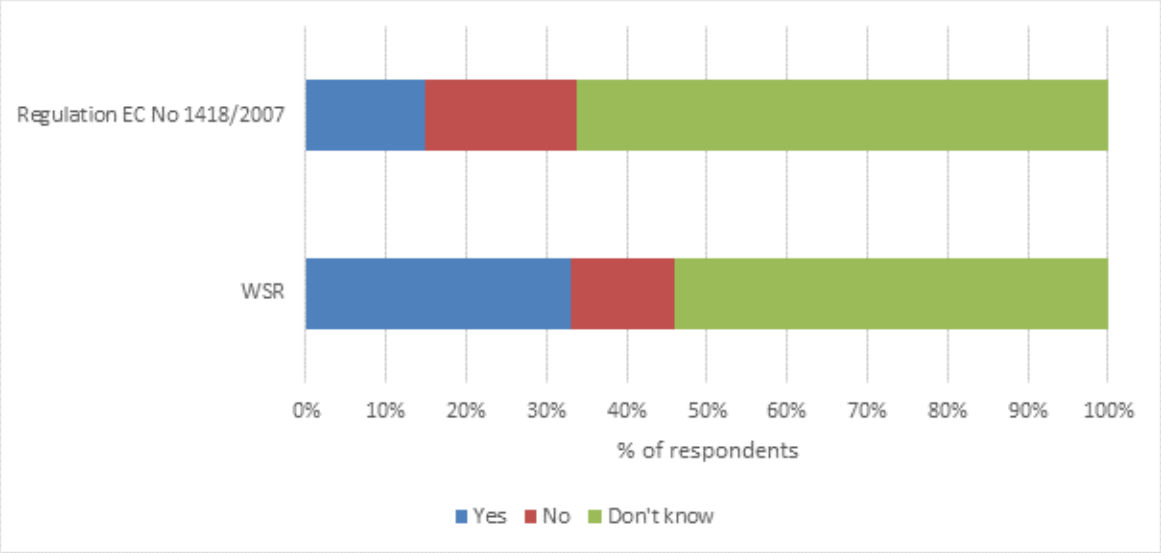
SQ 4.4 If there are significant cost/benefit differences between Member States, what is causing them?

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 the best in class;
- Administrative costs related to adapting to the different MS interpretations;
- Certain transactions are part of the grey economy[117];
- Lack of recognition of documents and transport registries;
- Differences in interpretation of impurities within green-listed waste;
- Difference in the way the notification fee is calculated;

[117] the part of a country's economic activity that is not accounted for in official statistics

Figure 6-6 Perception of the differences between Member States for the implementation and enforcement of the WSR and 1418/2007



Source: Waste Shipment Regulation Targeted Survey, 2018

As specified under SQ 4.3. higher cost in WSR implementation are associated with more intensive inspection programmes and with more stringent prosecution of infringement by the legal systems of some countries. On the flip side, 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, contract requirements and phrasing. This leads to additional time and human resources for economic operators. Resources are also needed in the process of familiarisation with the different interpretations in the different Member States. One Competent Authority interviewed pointed to the possibilities of using cash in some countries as a cause for differences in costs between countries. It has not been described where this difference comes from, but we can assume that these are foregone tax revenues for the country. Additional differences come from the fact that certain countries do not recognise the national authorisation documents of other countries and their transport registries.

It has been reported by interviewees that some Member States require that a notifier who intends to ship the waste has a seat of business establishment in the country of dispatch versus other Member States who only require a registration in a national registry or a permit under national laws. This means that some companies have heavier constraints and obligations than others, thus bringing extra costs. In addition, unfair administrative burdens between Member States lead to unfair competition as there is no harmonisation of the registration process of traders, brokers and carriers in the European Union. This brings complexity to the system, notably for intra-EU trade, and introduces a distortion of competition between firms.

There are also differences with regards to the notification fee which is either calculated per tonne (Greece) or per shipment (UK). Additionally, there are different legal costs and different amounts of insurance required for returning illegal shipments. Different countries have different licensing

requirements for transporters and therefore have different fixed costs for waste transport, regardless of whether national or international, in the Member State.

Summary of findings

EQ4.4 If there are significant cost/benefit differences between Member States, what is causing them?	
Conclusion	At Member State level, there are different costs that arise from the various inspections systems and legal prosecution (cost to Member States). Despite being expensive more stringent inspections lead to higher environmental protection. The lack of common interpretation at EU-level leads to cost differences for transporters across Member States. Some differences across Member States, such as the option to pay in cash, lead to certain bad practices which could result in higher levels of corruption and thus negatively affect all types of stakeholders. For economic operators such as businesses, unfair practices of local authorities can create substantially higher costs for these stakeholders (e.g. bias in favour of local companies versus foreign companies).
Strength of evidence and potential bias	There is enough evidence on the causes for cost differences. No bias has been identified and the question is not conducive to it.

SQ 4.5 Could the reporting under WSR and the Regulation (EC) No 1418/2007 be more efficient?

All consulted stakeholders made numerous suggestions for improving the efficiency of the two regulations. The evaluators were not in the position to assess their feasibility. The suggestions could be split in several typologies:

- Easier and faster notification and pre-consent including fast-track;
- Pooling national waste treatment facility licenses at EU level;
- Reducing differences in national approaches;
- Introduction of internationally coordinated electronic notification procedure and greater use of electronic documentation;
- The need for a larger amount of stakeholders (i.e. Customs) to be included in the notification process;
- Harmonisation and simplification of waste classifications;
- Mutual recognition of Member States transport registries;
- Removing transit countries from the notification procedure;
- Make route planning more flexible;
- Enlargement of the Green List;
- Fast track system for waste for recycling;
- Introduction of tacit consent.

According to a waste management company interviewed (1 out of 14), time is a key element in waste shipments and is a key issue for businesses involved in the field, yet notifications can take up to 10 months to be completed. For waste management companies, it is crucial that pre-consent is made easier and notification faster since the current procedure is too cumbersome and complex. This will require: more cooperation between competent authorities; an effective use of pre-consented facilities and clarification that it should last three years; a harmonised timeframe and clear enforcement of deadlines at competent authority level to make sure the answer is sent on time; a harmonised and

longer duration of the transfer validity period that should preferably start from the date of dispatch and not from the date of receipt; and shorter procedures for notification renewals.

One recycling industry association interviewed (1 out of 14) stated that the distinction between recovery and disposal in relation to transport is obsolete and unusable. Disposal can also be a purification operation prior to recycling. The rule should support recycling.

Desk research, along with feedback from stakeholders has revealed several opportunities to make the reporting under the WSR and the Regulation (EC) No 1418/2007 more efficient. According to one federation of waste management companies interviewed, there is potential to save time with regards to competent authorities reviewing of licenses. For example, national waste treatment facility licenses could be pooled at EU level (i.e. the creation of an EU-level organisation that would take note of national waste treatment facilities). Such an entity would collect, check and provide businesses with additional EU certificates confirming the fact that they are environmentally-sound within the meaning of article 49 of the Waste Shipment Regulation.

Industry stakeholder interviewees (3 out of 14) have highlighted that there are currently too many different national approaches. A notable example is the fact that Member States promote their own national electronic notification procedure as the most optimal solution and no consensus has been reached on a combined system / approach. Generally, stakeholders from the roadmap feedback for the evaluation of the WSR, suggested the introduction of an internationally coordinated electronic notification procedure (also called Electronic Data Interchange for Waste shipments by a stakeholder) A suggestion was made that there should be greater use of electronic documentation, on an EU-level system – or at least inter-compatibility of systems – which would allow for an automation of the exchange of information to competent authorities. This system would be like the one developed within the North American Transboundary Shipment legislation. Nonetheless, it was recognised that constraints are linked to the implementation of such a system such as the fact that not all Member States have equivalent IT capabilities. This emphasises the need to minimise the investment effort made by Member States to implement such a solution. Finally, the system would offer a realistic means of fulfilling centralised reporting needs on transboundary waste movements (SQ 4.5). During the expert interviews, some experts underlined that the adoption or improvement of electronic and notification systems applied by Member States would be beneficial. The compatibility of the various electronic systems was also highlighted as a point of improvement.

Industry stakeholders interviewed (3 out of 14) added that there is a need to foster efficient communication and consult with sectoral experts prior to waste shipments. Although customs are in an adequate position to carry out certain controls at the moment of export, they are not currently included in the waste notification process. It was highlighted by industry stakeholders in the "Roadmap feedback for Evaluation of the Regulation (EC) No 1013/2006 on shipments of waste", that customs officers lack a sufficient flow of information from environmental authorities with respect to waste shipments (SQ 4.5).

As already discussed under 'effectiveness', one waste management association has voiced the need for an increased harmonisation of waste classification in the open public consultation. The various sets of waste codes – Basel Convention, LoW, National – increase the complexity of waste shipment and make harmonisation difficult. It was reported by industry stakeholders during the consultation that certain

Member States used the Y-codes for waste under the Basel Convention very differently, resulting in a substantial amount of waste not being classified.

The literature review revealed that Member States were reported to use codes from the Basel Convention and the LoW interchangeably, leading to increased complexity[118] (EEA, 2012) (SQ 4.5). This is a situation which could be improved.

The codes applied for the reporting are the same as applied to the Basel Convention and these codes are too general to identify exactly what kind of waste is being shipped. If the codes from the European Waste List were used in the reports to the EC, it would give a much better overview of the shipments. In that way it would also be possible to evaluate both the environmental and economic consequences of the shipments[119].

A large waste management company interviewed made a number of suggestions for reducing administrative burden and making waste shipment and WSR implementation seamless, these included: reducing inconsistencies by streamlining EU, OECD and Basel convention waste codes and frameworks; reducing discrepancies in classification of waste and use of R/D codes by issuing guidelines for Member States and Member State Competent Authorities; avoiding protectionist measures by allowing mutual recognition of national authorisation documents and by publishing interpretative documents such as guidelines for Competent Authorities; consistency in the type of documents requested by different Member States.

Transit countries with deep sea shipping of recyclables very often want to approve or decline a notification, even though the shipment remains on board and is not unloaded during the time the vessel is in the port of the transit country. The WSR should clarify that only the ports of departure and arrival should be involved in the notification and not the ports of transit which very often block the swift transport of valuable waste for recycling.

One environmental agency (out of 14 interviewees) recommended that the lists of wastes need to be made simpler. In some circumstances OECD entries should be used instead, as this would make the process more user friendly. Further, when referring to another piece of EU legislation, it isn't always clear what legislation is being referred to. For example, the WSR defines waste as follows: 'waste' is as defined in Article 1.1(a) of Directive 2006/12/ EC; The legislation would be clearer if it named the legislation –e.g. 'waste' is as defined in Article 1.1(a) of the Waste Framework Directive 2006/12/ EC.

One association of recycling enterprises interviewed (out of 14 interviewees) stated that the financial guarantee is only used by the competent authorities as a last resort and that the cases of use of these guarantees are very rare. These guarantees, which are a safety measure, must be considered as such and should not be too burdensome for the notifiers at the risk of preventing certain transfers from being carried out and leading to sometimes less favourable waste treatment. The same association advocated that equivalent insurance which, although provided for by the Regulation, is further developed by the Member States as this has many advantages for notifiers (including that of not blocking the cash flow of the company which organises a transfer of waste).

[118] EEA, 2012, Movements of waste across the EU's internal and external borders
[119] EEA, 2008, Better management of municipal waste will reduce greenhouse gas emissions

One large waste management company interviewed (out of 14 interviewees) and one ministry of environment interviewed (out of 9 Member State Competent Authorities interviewed) recommended a mutual recognition of Member States transport registries which is currently causing differences between them. The Waste Framework Directive (art. 26) stipulates that Member States must keep records of operators. However, there is no explicit legislation on mutual recognition of the national registers. Mutual recognition of registers is already well known in other areas, such as the food sector, and could therefore easily be incorporated into the directive."

One association of the recycling industries interviewed (out of 14 interviewees) made several recommendations in relation to notifiable waste, namely: fast track for notifications that are repetitions of prior notifications (same waste, same sender, same recipient); fast track for notifications of transport between installations with a particularly good treatment quality established through "pre-approvals", certification schemes; fast track for notifications of transport between installations with the same owner; remove transit countries from the notification procedure; give the recipient country the veto by disagreement on interpretation, classification of waste, categorisation of treatment, etc.; in the case of a notification, the sender country must relate solely to the treatment at (first) recipient facilities. If part of the waste is to be transferred to one or more plants for treatment, it is only the destination of the recipient country; focus on sender and receiver systems and possibly border crossings. A very detailed and precise route planning is not needed. Alternatively, minor changes in routes should be allowed.; increased digitalisation of case processing; reconsideration of the financial collateral so it becomes less burdensome.

According to the same association of recycling industries, in relation to green waste: several types of waste should be included in the green list; the permissible amount of waste that can be transferred to laboratory analyses should be lifted and access should be extended to shipments of waste for use in test runs at treatment plants; the clarity of the permissible amount of impurities resulting from the interpretation of the chapeau in Annex III of the Regulation should be minimised. This must be done either by a more specific indication of the nature and amount of impurities for the specific fractions - in the regulation itself or in a guide - or by clarifying the function of the chapeau.
One environmental ministry interviewed (of 9 interviewed Member State Competent Authorities) proposed a fast track system for waste for recycling; fewer notifications and less control when the shipment includes an interim treatment note.

According to the REFIT Platform opinion on shipments of waste, which considers submissions by the Danish Business Forum, Finnish Survey for Better Regulation and Stakeholder group, it was largely considered that more waste types should be added to the green list, in order to avoid unnecessary waste being sent for incineration and encourage a more resource-efficient, competitive economy.[120]

One EU-wide association of hazardous waste interviewed (out of 14 interviewees) proposed that the EU should clarify the end of the notification. It would be much more convenient to consider that the last day of the notification corresponds to the date of departure of the last shipment. It is not only important because of the delay in the notification procedure but also because some shipments are very long without any certainty of the date of arrival. There is no risk of non-completed shipments as the

[120] European Commission (2018) REFIT Platform Opinion on the shipment of Waste by the Danish Business Forum, the Finnish Government Stakeholder Survey on EU Legislation and a Member of the Stakeholder Group (Mr Christensen) https://ec.europa.eu/info/sites/info/files/recommendation-ix-3a-c_regulation-on-shipment-of-waste_en.pdf

financial guarantees end when the last shipment has been finally treated. According to the same association, with regards to tacit consent: according to article 9, for shipments within the community, tacit consent by the competent authority of transit may be assumed if no objection is lodged within the said 30-day time limit. However, regarding shipment with third countries the tacit consent is linked to information to other parties about a tacit or written consent. But in the absence of answer within the 60 days, it is difficult to assess if it is considered as tacit consent or if the competent authority still needs time to instruct the request. One consequence is longer delays and long, costly and dangerous waste interim storage with environmental risks. It would be very beneficial if the WSR could reproduce what has been done with the regulation 1418/2007 in order to know in advance the position of the respective third countries on this topic. The same association shared that the application of the **pre-consent procedure** is heterogeneous among the Member States. To introduce one single procedure for the validation of the pre-consent in the regulation (either in article 14 or in annex VI - Form for pre-consented facilities) would help to have harmonised criteria that could be used in a more systematic manner and contribute to make the notification faster. In their view, the procedure for renewals should be accelerated. Indeed, the procedure of notification demands extensive work that implies a lot of time and money. It would help from an administrative point of view to limit the information needed for renewals only to potential changes (new permits, change in the quantities, changes of transporters, changes in the routes - main or alternatives, etc.). The topic of financial guarantee could benefit from some adjustments. A simplification could be to introduce the possibility for single rolling yearly financial guarantees instead of one for each notification. It would be based on the number of shipments/active volume. Having a larger global amount instead of several segmented amounts will not only facilitate the negotiations with the banks but also reduce red tape. The financial guarantees in favour of non-EU exporting state are sometimes difficult to recover or cancel. The financial guarantee should automatically be released once the certificate delivered has been received by the competent authority, which is not the case today.

However, the same EU-wide association of hazardous waste also stated that in general they are happy with having the notification procedure in the WSR, though there are opportunities to improve it. A potential improvement discussed in this regard was to allow the electronic exchange of documents, with one Member State suggesting that it should be made mandatory. Other potential improvements include new notifications with change of transporter, or having a separate procedure for EU shipment only, as 90-95% of shipments are EU based waste. Another industrial expert noted the need for differentiation between first notification and revised notification, as the latter usually has less delays. One Member State pointed out that it is important to keep the notification procedure for unlisted waste in order to know what waste is shipped, and to consider extending Annex IIIB by adding mixed waste or composite materials (where these are recoverable in the EU).
A waste industry association mentioned that 99% of notifications are general notifications under Art 13, and due to the original scope of the WSR (transport of waste from A to B), the WSR notification procedure is built on a single movement of waste, but this should be revised to cover multiple loads, and to cover immediately general notifications and not to treat them as a quasi-derogation, as they are treated today. The stakeholder also pointed out the fact that the "procedure of prior-written notification and consent" (notification procedure) is somehow the default shipment procedure under the WSR with the only exception being the transboundary shipment of 'green'-listed wastes for recovery.

Financial guarantees were seen as laborious by one industrial representative who suggested a small central fund for this. A Member State requested the limiting (in value) of the financial guarantees, stating that they are not often used.

Summary of findings

EQ4.5 Could the reporting under WSR and the Regulation (EC) No 1418/2007 be more efficient?	
Conclusion	A variety of concrete suggestions included easing administrative burden, harmonising interpretations, introduction of electronic system. These suggestions are related to common issues repeated throughout the report.
Strength of evidence and potential bias	There were many useful suggestions proposed by various stakeholders. Maybe a slight bias on behalf of the recycling association and the association of hazardous waste could be mentioned. These provided exhaustive, logical and well-justified suggestions.

6.3 Relevance

According to the Better Regulation Guidelines, relevance examines the relationship between needs and problems of society and the objectives of the regulation. Hence, this section on relevance examines certain aspects of the regulations design and how they correspond with the needs and problems of European citizens and the objectives of the EU and its global partners.[121]

6.3.1 Evaluation question 5: How well do the original objectives correspond to the objectives of the EU (and its global partners)?

According to the Expert Team for Assessing and Guidance for the Implementation of Waste Legislation (ETAGIW), the amount of waste being shipped to third countries, especially Asia and Africa, increased significantly in the early 2000s with certain recovery operations in these non-EU countries severely endangering the health of both people and the environment[122]. Therefore, the WSR was designed with requirements which aimed to ensure traceability of waste types to incorporate the provisions of the Basel Convention and the OECD decision on the control of wastes destined for recovery operations, prohibit the export of waste for disposal outside the EU/EFTA area and to prohibit the export of hazardous waste to non-OECD countries. Thus, the WSR was designed as a means of mitigating recognised environmental and health problems, which were exemplified by the Probe Koala incident on the Ivory Coast in 2006. However, nearly 11 years after entry into force there are continued discussions (e.g. among stakeholders) about the practical application of the regulation itself, despite the relevance of its objectives to those of the EU related to climate policy, the environment, health, and the Circular Economy Agenda.

Sub-question 5.1: 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?

Climate and environmental policy

The WSR is closely related to the emission reduction targets of the European Union. For example, in 2008, citizens of the EU-27 generated 9kg more municipal waste per capita than in 1999, and improvements in waste treatment have resulted in emissions reductions across sectors[123]. While the

[121] Chapter VI Better Regulation Guidelines: Evaluation and Fitness Checks. Available at: https://ec.europa.eu/info/sites/info/files/better-regulation-guidelines-evaluation-fitness-checks.pdf
[122] ETAGIW (2011) *Assessment and guidance for the implementation of EU waste legislation in Member States*. Available at: http://ec.europa.eu/environment/waste/shipments/pdf/Annex%20VII.pdf
[123] Eurostat (2011) "Driving forces behind EU-27 greenhouse gas emissions over the decade 1999-2008"

objectives of the WSR are relevant to the Circular Economy Agenda and other EU policy, including the Batteries Directive and the ELV Directive, there is a need for increased synchronisation in order to ensure these objectives are being achieved. There are several EU directives that are linked to the WSR (outlined in more detail in Section 6.4), as they impact the amount of waste available for shipping. For example, due to the minimum recycling rates for different waste types, and policies such as the Packaging and Packaging Waste Directive and the Directive on End-of-life vehicles (ELV Directive), the exports of materials including plastic, metal and paper have increased. Moreover, the European Commission's Circular Economy Action Plan[124] foresees actions to step up the enforcement of the Waste Shipment Regulation. If waste is recycled internally and motives and opportunities for illegal waste exports are addressed, it will bring valuable materials back into the economy, while fostering energy savings and reducing GHG emissions.

The results of the stakeholder interviews and interviews with Competent Authorities highlighted that environmental protection is considered one of the main benefits of the WSR. For example, the Ministry of Environment and Water in Bulgaria highlighted that the main benefit of the WSR is protection of the environment, and that the WSR provides the necessary framework to supervise shipments of hazardous waste and its treatment. This view was reiterated by EUROMETAUX, who highlighted that the WSR is crucial in two main aspects: environmental protection and securing the ambition of the Circular Economy. EUROMETAUX noted that if the WSR were not in place, there would be less recovery, recycling, and higher social costs. Remondis also emphasised that the main benefit of the WSR is that there are no longer ships full of hazardous waste being transported from Europe to Africa, and that it has also contributed towards a change of mindset regarding shipments of waste outside the EU.

The environmental objectives of the WSR correspond with wider global environmental objectives. For example, it corresponds to the UN Sustainable Development Goals as it is designed to prevent the exports of environmental risks to third countries and reduce environmental risks at source by discouraging shipments- this corresponds to SDG goal 3 – Good health and well-being as it aims to reduce environmental and health risks to society.[125]

The results from the survey also highlighted the environmental benefit of the WSR regarding transboundary waste shipments, thus illustrating the relevance of the WSR to environmental objectives of the EU and its global partners. When asked about the effectiveness of the WSR in achieving its objective of protecting the environment, 75% of respondents indicated that it has been “somewhat effective”, while 8% of respondents indicated it has been “very effective” at protecting the environment within the EU. When the global environment was considered, 70% of respondents indicated the WSR was “somewhat effective” while 5% indicated it was “very effective”.

The survey results highlight that there is a slightly higher perception of environmental protection within the EU from the regulation, than in third countries. In the additional comments, both EuRIC and ASSOFERMET (among others) indicated that, while they selected that the WSR was “somewhat effective” in achieving the objective of environmental protection – this is relative, due to the fact that the WSR provides a mechanism by which secondary raw materials can be transported from a country of dispatch (which may not have the necessary recycling capacity) to a destination country which is able

[124] European Commission (2014) “Towards a circular economy: a zero waste programme for Europe”
[125] UN Sustainable Development Goals. Available at: https://www.google.co.uk/search?q=sdg+goals&rlz=1C1GGRV_enGB763GB763&oq=sdg&aqs=chrome.1.69i57j0l5.3061j0j7&sourceid=chrome&ie=UTF-8

to recycle this material and thus keep it in the loop. If there was no such possibility of transport, materials may end up at landfills - which has negative environmental results.

However, it is also noted in the comments that delays, unnecessary costs and other barriers affect the market for secondary raw materials and recycling activities, and if the waste shipment procedures were more streamlined, more emissions and energy would be saved, more materials would be diverted from landfill and secondary raw materials would be facilitated more readily. Such comments indicate that environmental impacts could be further addressed if the WSR was adapted to facilitate the circular economy agenda. Hence, the original objective of the WSR has been interpreted to defensively limit transboundary waste shipments but enhanced environmental protection could be achieved (in terms of energy efficiency and CO_2 emissions), if shipments of secondary raw materials were encouraged and the WSR was adapted to a circular economy. This is discussed in detail under SQ 5.2. According to the survey results provided by a German recycling company (Verband Deutscher Metallhändle), the WSR causes many barriers for recycling (i.e. by making it difficult for companies to ship certain low hazard wastes for further processing) which have no added value for addressing environmental impacts, and certain materials flows are often lost for recycling.

This importance of waste infrastructure capacity was also highlighted from the results of public consultation. For example, according to Hazardous Waste Europe, attention should be paid to the existing infrastructure of Member States regarding treatment of hazardous wastes, noting that many Member States do not have adequate infrastructure to treat their own hazardous waste. Thus, a country with insufficient capacity should give limited access to foreign waste. The importance of avoiding the export of certain waste to third countries was also emphasised as relevant for addressing the environmental impacts of shipments (for example waste contaminated with substances of concern) especially given the fact that the EU tightly limits the imports of such substances.

Results from the public consultation also identified how certain provisions of the WSR may have hindered its achievement of environmental/climate objectives. For example, The UK Environment Agency highlighted that the "information based" regime in Annex VI of the WSR provides a low level of control for low risk wastes, and the controls around these wastes should be strengthened as certain low-risk wastes may still have potentially negative environmental impacts. ACEA emphasised that the definition of wastes should be more in line with the WFD. If vehicles for repair are considered waste by the WSR, this contradicts the basic principles of the WFD such as the waste hierarchy (prevention, reuse, recycling, disposal) - "The prolonged lifetime of products allows keeping their value within the economy and conserving resources at the same time, in line with the circular economy model and the waste hierarchy where prolonged / second usage is clearly superior to pure material recycling." Furthermore, according to the competent authority for the NL the present green-list procedures make it difficult to discriminate between types of recovery, noting that for green list wastes unlimited transboundary transport for all recovery operations is allowed, making it impossible, for example, to prevent the export for energy-purposes or for backfilling of waste that could be recycled.

Health and social objectives

From the literature, the introduction of a consistent certification scheme/standard for recycling treatment facilities has been highlighted as a potential opportunity to further improve the environmental and social conditions in third country waste treatment plants by developing an EU certification scheme, to mitigate waste being shipped to areas where there are insufficient facilities for

treatment and disposal in an environmentally friendly manner.[126] It was noted that such developments in the WSR would also contribute towards the regulation's relevance to addressing the objectives of the EU which are related to health for both third countries and EU 27 and that the correct treatment of waste in certified facilities would minimise the potentially negative consequences of waste treatment on nearby populations. Furthermore, increasing enforcement of existing regulatory requirements would reduce the likelihood of catastrophic accidents such as Probo Koala from re-occurring, which have potentially significant, long-term impacts on the health of the surrounding community, thus corresponding to the EU's health objectives.

However, there is evidence to suggest that this could be improved. For example, European Aluminium highlighted in the survey results that regarding Article 49 of the WSR, the wording "broadly" in "broadly equivalent" is misleading and should be dropped, and that there is a need to clearly define & refer to environmental, health and safety standards that need to be used to evaluate if exported waste undergoes the equivalent quality recycling. They noted that a solution is needed for ensuring that exported waste is treated under equivalent conditions as within the EU to reduce the risk that exported waste is treated in sub-standard conditions, resulting in environmental/ health harm.

The results of this analysis, indicate that the WSR is very relevant to the environmental, climate, health and social objectives of the EU given the potential impact of shipments (especially those containing hazardous waste) on the environment and health of citizens (as illustrated in historical incidents such as Probo Koala) and the relevance of the WSR to the recycling and waste sector in Europe, and for establishing competitive waste markets between nations. The WSR is relevant to addressing environmental and health objectives when the limiting of transboundary shipments of waste is considered as stakeholders highlight (i.e. from the survey and from the interviews) that the regulation itself has been, at least somewhat effective at protecting the environment. The results from the stakeholder consultation indicate that shipments of hazardous wastes outside and within the EU have been limited, while illegal shipments are still recognised as a relevant issue. However, it has been reiterated throughout the public consultation, survey and interview results that the relevance of the WSR to environmental and climate objectives could be further enhanced by facilitating the recycling of secondary raw materials in Europe. Furthermore, there are certain provisions within the WSR have been identified by stakeholders which may have hampered its achievements related to health/social and environmental/climate objectives.

Sub-question 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 objectives of the WSR correspond to the objectives of the EU, as they seek to address the environmental, climate and health impacts of transboundary waste shipments. It has been identified from the literature that in recent years, as part of the European circular economy agenda, there has been a trend towards considering waste as a resource rather than as a problem. For example, in some Member States, certain household wastes have been used to produce resources such as biogas and digestate fertilizer for agriculture[127]. Hence, waste has been interpreted as an opportunity for the circular economy. This issue of waste shipments in the context of a circular economy is discussed under Circular economy - Main Challenges.

[126] EC/RPA (2012) "The Feasibility of Introducing a Certification Scheme/Standard for Recycling Treatment Facilities"
[127] European Biogas Association website. Available at: http://european-biogas.eu/

According to the REFIT Platform Opinion (2018), the submission from the Finnish Government stakeholder survey highlighted that the regulation should be reviewed in order to determine if licensing procedures are necessary for shipments of waste which could be re-used within the EU – reiterating that the recovery of wastes which are suitable to be used as raw materials are essential enhancing the circular economy and efficient use of resources.[128]

As mentioned under Sub-question 5.1, there is a widespread perception among stakeholders from the public consultation, survey and targeted interviews that the WSR has not been fully effective at enhancing efficient use of resources and secondary raw materials, impeding its relevance to a more circular economy. Although not a formal objective of the Regulation, arguably the WSR is extremely relevant to the circular economy policy agenda, yet it has not been helping to enhance the efficient use of resources within the EU as much as it could be. Under sub-question 5.1, this was discussed as a drawback to achieving the regulations environmental objectives, as the transition to the circular economy has obvious positive environmental effects.

As outlined under Circular economy – Main Challenges, in terms of enhancing resource efficiency and establishing waste markets and the circular economy, the survey results highlighted that the WSR has not been effective at enhancing competitiveness of EU industry. When asked to provide further comments, one stakeholder highlighted that the unequal interpretation of the WSR between the Member States is a barrier to investments by waste management industries. Another stated that there is a lack of a level playing field for good recyclers that would benefit from fully adopted standardised rules in and out of Europe. Further comments from another stakeholder included "It is highly questionable whether the WSR is still relevant for shipments of secondary raw materials with a positive financial value". Thus, disparate interpetation has been recognised as a barrier to enhancing resource efficiency and establishing a market for waste treatment and secondary raw materials in the circular economy.
This is reiterated in the results of the targetted interviews. For example, FEDERIC emphasised that the existence of common procedures is a necessary starting point for establishing and facilliating waste markets, which needs to be updated. According to EUCOPRO, the pre-consenting of treatment facillities is not well-defined, and as a result, Member States go about this process differently. However, it was noted by the Czech competent authority that the main purpose of the WSR is not to facilliate waste markets, resource efficiency etc. Rather, the regulation's main purpose is to protect the environment.

It is widely understood that the WSR has a key role in the development of functioning markets for secondary raw materials which is necessary for progressing towards a circular economy. However, results from the survey, interviews and public consultation indicate that so far, the WSR has not been effective at enhancing this, despite its relevance to the circular economy agenda. One of the potential obstacles for establishing markets for secondary raw materials is overcoming the additional administrative burden associated with their management, which is exacerbated by the inconsistent interpretations of the WSR between Member States. The potential for fast track approval has been emphasised in stakeholder consultations as a means for catalysing the transition to electronic procedures as it would make certain waste streams more simple to categorise, in order to overcome the administrative burden associated with recyclables. Alternative feedback from stakeholder consultations

[128] REFIT Platform Opinion on the regulation on shipment of Waste by the DBF, the Finnish Government Stakeholder urvey on EU legislation and a Member of the Stakeholder group (Mr Christensen) (2018)
https://ec.europa.eu/info/sites/info/files/recommendation-ix-3a-c_regulation-on-shipment-of-waste_en.pdf

suggested making use of the possibility of introducing bilateral agreements to make the notification procedure for certain waste flows less stringent for cross-border shipments to the nearest suitable facility, as a means of further alleviating the administrative burden.[6] Hence, reducing the administrative burden by switching to an electronic system and encouraging fast track procedures for certain waste types were highlighted by stakeholders as a means of encouraging the circular economy and developing waste markets.

Summary of findings

Evaluation question 5: How well do the original objectives correspond to the objectives of the EU (and its global partners)?	
Conclusion	The WSR is very relevant to protecting the environment, health and circular economy agenda of countries within the EU, as well as neighbouring states and third countries. The regulation corresponds to global health and environmental objectives, such as the UN SDGs as it aims to reduce environmental risks from shipments. However, the increased importance of circular economy is causing some tension, as the WSR has not encouraged waste markets.
What works well	The clear consensus of stakeholders is that environmental protection is considered the main benefit of the WSR There are no longer shipments of hazardous waste being transported from Europe to third countries
What works less well	The WSR is not meeting needs of establishing markets for waste within Europe, in line with circular economy objectives.
Strength of evidence and potential bias	The analysis presents a mixture of qualitative and quantitative evidence. However, stakeholder surveys present a potential source of bias due to disparate agenda of stakeholder categories (i.e. regarding establishment of waste markets).

6.3.2 Evaluation question 6: How well adapted is the WSR to (subsequent) technical and scientific progress and EU and global market developments?

Going forward, the European Commission concludes from the Annex to the Report on the EU Action Plan for the Circular Economy (2015)[129] that from 2016, measures will be taken to improve enforcement of any revised legislation, and an initiative on waste to energy in the framework of the EU will be developed. Best practice in waste collection will also be disseminated and from 2018, voluntary certification schemes will be promoted for waste treatment facilities. Thus, there are plans in place which encourage the adaptation of the WSR to progress with EU development in technology and global market developments, particularly in the context of the progressing towards a Circular Economy. However, there was much evidence from the perception of stakeholders from the public consultation, interviews and survey that the WSR has shown limited effectiveness at adapting to technical/scientific progress nor adapting to EU or global market developments to date.

Technical and scientific progress

Recycling and reclamation of metals dominates the methods by which shipped hazardous waste is treated. Rates of landfilling increased drastically between 2001-2009 from 120,000-680,000 tonnes, highlighting the need for standardised treatment facilities and the further development of markets for

[129] Annex to the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: *Closing the loop- An EU action plan for the Circular Economy* (2015)

secondary raw materials. However, it has been noted that this has since stabilised, decreasing to 530,000 tonnes in 2015.[130]

There is some evidence in the literature which suggests that the WSR has adapted to the scientific progress of the EU. For example, up until 2009, the only waste types excluded from its scope included radioactive waste, maritime wastes and some other narrowly defined categories of waste. However, in April 2009, Article 1.3 of the WSR was amended to categorically exclude shipments of CO_2 for the sole purpose of geological storage, in accordance to the carbon capture and storage (CCS) Directive (2009/31/EC).[131] Thus, as scientific and technological advances are made regarding the development of CCS technology, the WSR has been adapted accordingly, to complement this progress.

However, 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 efficiency, 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.[132] Thus, the successful development of a standardised system may be beneficial in the adaptation of the WSR to the technical progress of the EU.

According to the survey, 21% of respondents indicated that the WSR has been "somewhat ineffective" at keeping waste shipment systems and procedures adapted to technical progress, with a further 25% indicating it has been "very ineffective". When the results for adaption to technical progress are analysed in terms of geographical spread, 100% of respondents from the U.K. indicate that the WSR is "somewhat effective" while 80% of Dutch, and 100% of Spanish respondents indicate it is "very ineffective". In Denmark, 50% respondents consider it to be "somewhat ineffective" while in Germany 50% consider it "very ineffective".

Results from the targeted interviews with stakeholders illustrated the ubiquitous perception that the WSR has not been effective at adapting to technical progress. For example, Remondis highlighted that workable tools for a full electronic interchange are still missing, and the systems developed within certain Member States often contradict each other. This was reiterated by SUEZ, EUCOPRO and FEAD, who highlighted that while this topic is widely discussed at EU meetings, there has been no unified action taken to address it and set a standardised approach for data exchange across Europe. However, it should be noted that there is currently an ongoing process in the context of the Correspondents Meeting on Electronic data interchange, but the outcomes of this are not yet clear.

Comments from the first stakeholder workshop identified several necessary additions to the WSR in order to facilitate scientific progress. For example, an industrial representative noted the need to include composite aluminium and plastic window frames in Annex IIIB. A Member State also suggested

[130] Waste shipment statistics (2018) http://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_shipment_statistics#Main_statistical_findings
[131] The Global CCS Institute website. "*Transfrontier Shipment of Waste Regulation*". Available at: https://hub.globalccsinstitute.com/publications/onshore-co2-storage-legal-resources/transfrontier-shipment-waste-regulation-10132006
[132] 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

adding certain defined composite materials to Annex III and IIIB, and in general amending Annex III and IIIB. Another industrial representative questioned the lack of a specific code for solid recovered fuel, which is included in Refuse Derived Fuel, thus preventing its shipment outside of Europe.
Another point that was raised at the stakeholder workshop related to technical development was the fact that fixed threshold levels of contamination of waste may hinder technical development. A stakeholder pointed out that the threshold levels should be based on the nature of the waste and the contaminant, reflecting their environmental impact. The circular economy goals imply more waste is transported, which requires movement of big volumes to make recycling of some materials viable (as such a need to centralise recycling). Another Member State representative pointed out that it would be helpful if the EU could set threshold limits of contamination for certain wastes.

Lastly, as highlighted in session 1 of the first workshop, the WSR has difficulty in addressing a shipment with multiple transport modes. An industrial representative, mentioned that the legislation assumes a single transport trip, meaning one vehicle and two locations (sending location, and receiving location). This does not work for multiple transport modes (i.e. road, rail, maritime transport). This causes problems with, for example, documentation, as different authorities might have different interpretations of how to deal with the same shipment, and the train and maritime transport companies do not take the annexes of the regulation into account. A recyclers association mentioned that some transport methods are also not considered within Article 18 and Annex VII. One Member State representative also pointed out that the language of the WSR is not clear about who should do what at which stage, for example, who should fill in Annex VII in the case of import. This could be solved within the framework of national legislation.

EU and global market development

The role of the WSR in the transition to a more circular economy was recognised as a key issue (See Circular economy – Main Challenges). In terms of the adapting to global and EU market developments in this transition so far, the evidence from the survey, public consultation and interviews highlight the general perception that the WSR has not been effective at adapting to such developments.

EU and global market development were mostly considered in terms of the transition to a circular economy and the development of markets for secondary raw materials and waste markets. According to the survey, results regarding the WSR effectiveness at increasing the competitiveness of EU industry 33% selected “neither effective nor ineffective”, 23% of respondents highlighted that the WSR was “very ineffective” at this, while a further 18% highlighted It was “somewhat ineffective”. When these results are analysed in terms of type of business operator, 40% waste producers, 43% waste transport, 29% of waste treatment and 75% processing industry/final recycling indicated “neither effective nor ineffective”. However, when examined in terms of the size of business, the results showed that 30% of micro-firms, 40% of small firms and 50% of medium firms selected “very ineffective”. 38% of large firms selected either “somewhat effective” or “neither effective nor ineffective”, respectively. Hence, the effects of the WSR on competitiveness may differ depending on size of the business.

This was also noted in the public consultation. According to the Ministry of Infrastructure and Water Management in the Netherlands, the WSR could contribute to the transition to circular economy by ensuring waste is used at the highest possible level of recycling, and in order to accomplish this, communication needs to be facilitated with small and medium sized enterprises.

Regarding global market developments, issues were raised during the first set of expert interviews (From the IR) which could be interpreted as indications that some provisions of the WSR are not adapted to common practice and market circumstances. One example was that waste shipments can slightly differ from the "standard" notification and are then considered illegal by some Member States. A second example was that varying or divergent routes for notified shipments are accepted by some Member States and not by others. A third example was that permissions for shipment by Member States with the length of one year might be too short (e.g. timescales shipping industry).

From the targeted interviews, FEDEREC highlighted that in terms of the evolving nature of waste – the WSR is not up to date nor adapted to modern trade practices. This was also noted by the Bureau of International recycling who added that there is an increasing number of products and materials which are now being considered as hazardous waste (i.e. WEEE) and these are very expensive to get excluded from the hazardous classification but may still have a role and be of value in the circular economy loop. SUEZ also highlighted that the original objectives of the WSR were set up under very different market conditions, which needs to be adapted to in order to remain competitive. The WSR gives less opportunity to sell outside Europe, which can result in an internal oversupply of waste which may lead to reducing the added value of certain materials and a lower recycling rate, which is not the aim. It was also noted by SUEZ that for the EU to be competitive with global markets, it should not aim to be overly restrictive. From the targeted interviews with Member State competent authorities, the Dutch representative noted there is a lack of flexibility of the regulation to adapt to a circular economy model which will need to be prepared for the disparate rates and means of transition of governments across Europe

In terms of technical progress, a centralised electronic data interchange was identified as being a necessary requisite to speed up the administrative burden, and according to the targeted interviews, certain Member States including Spain and Portugal are currently cooperating in the process of establishing this kind of technology – which would greatly benefit from a standardised format across all Member States. Regarding to scientific/technical progress and EU and global market developments, the evidence base largely suggests that so far, the WSR has not been fully effective at achieving this despite its relevance to the circular economy agenda. It is important to note that at the time of the regulation's adoption, the market for waste was very different, and advancements have since been made regarding recycling, and the global/EU market for secondary raw materials. It has been universally noted by stakeholders that more could be done in terms of adapting the WSR by making it more flexible to deal with the innovation that is necessary to evolve alongside market developments and the likely disparate rates of transition to circular economy among Member States, as well as more rapid administrative protocols for certain secondary raw materials or pre-sorted waste streams. (See Circular economy – Main Challenges.)

Summary of findings

EQ 6 How well adapted is the WSR to (subsequent) technical and scientific progress and EU and global market developments?	
Conclusion	It is likely that the WSR needs to be adapted to address its relevance to waste markets and the scientific/technical progress that has been made in recent years regarding waste treatment and recycling, particularly with regard to its role in not constraining the move to a more circular economy.

What works well	As scientific and technological advances are made regarding the development of CCS technology, the WSR has been adapted accordingly.
What works less well	Administrative issues (i.e. time taken for notification procedures and take back obligations of countries which have disparate interpretation of waste stream) may discourage experimental shipments for best available treatment processes in Europe. While it is not an objective of the WSR, the WSR has not encouraged CE market development in Europe
Strength of evidence and potential bias	The analysis presents a good level of qualitative and quantitative evidence. However, stakeholder surveys present a potential source of bias regarding financial incentives for establishing waste markets amongst stakeholders.

6.3.3 Evaluation question 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?

The WSR is relevant in the context of the EU's international obligations to multi-lateral agreements including the Basel Convention and the OECD Decision concerning the final control of transboundary movements of waste for recovery as it also applies to shipments of waste imported to the EU from non-EU countries, exported into the EU from non-EU countries and those shipments in transit through the EU, on the way from/going to non-EU countries. The progress of the WSR specifically regarding the implementation of the Basel Convention is discussed in detail under Effectiveness, sub-question 1.2.

According to the results of the survey, 61% of respondents indicated that the WSR has been "somewhat effective" at ensuring compliance with international objectives, with a further 11% indicating it has been "very effective". When these results were interrogated in terms of the type of organisation, it was found that 33% of public sector, 63% of business operators, 50% of environmental NGO's, 65% of trade associations and 83% of others (i.e. think tanks/academia/consultancies) selected "somewhat effective". 56% of Member State competent authorities indicated that the WSR was "very effective" at this. Results from environmental NGOs were split, as a further 50% of respondents from this category selected "somewhat ineffective". However, in general, the evidence from the survey suggests that there is a ubiquitous perception among stakeholders that the WSR has been effective at ensuring compliance with international objectives and the results of this indicate its relevance in the context of the EU's obligations resulting from, *inter alia,* the Basel Convention and the OECD Decision.

The OECD Decision has been transposed by the WSR, and the coherence between the WSR and the Basel Convention and OECD Decision is discussed in more detail under Coherence (See 6.4). The results from the stakeholder interviews also illustrate a general perception that the WSR is relevant to such international obligations and has facilitated their compliance within Europe by providing a legal framework for Member States. For example, the stakeholders from the Dutch Waste Management Association, the Public Waste Agency of Flanders and the Ministry of Environment of the Czech Republic indicated the relevance of the WSR in relation to the Basel Convention and the OECD Decision. It was also noted by the Dutch Waste Management Association that the WSR has been relevant to achieving the political goals of such international agreements.

Summary of findings

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?	
Conclusion	WSR is relevant to such international obligations, and has greatly facilitated compliance with them within Europe
What works well	WSR has provides a strong legal framework for Member States to implement OECD Decisions and Basel Convention
What works less well	n/a
Strength of evidence and potential bias	There is strong evidence available to show this, as it is written directly within the wording of the Directive and stakeholders have highlighted that the WSR plays a strong role in upholding international obligations.

6.3.4 Evaluation question 8: Is there any provision irrelevant or outdated/obsolete in the WSR?

In order to inform this evaluation question, the results from the survey were interrogated based on type of organisation and geographical spread. When asked whether there were any gaps, overlaps, inconsistencies or discrepancies in the provisions of the WSR, 44% of public sector respondents, 33% of business operators, 50% of environmental NGOs, 17% "other" (i.e. think tanks/consultancies/academia) indicated "no", while 81% of trade associations indicated "yes", with the remainder of this group choosing "don't know". Hence, there is a discrepancy between the general perception among stakeholders and that of trade associations regarding the relevance of the regulation's provisions. 50% of Member State competent authorities also indicated "no". When geographical spread of the competent authorities was considered the UK, Denmark, Finland and Austria were among those who indicated "yes", while Belgium, Bulgaria, Germany, Italy, Luxembourg and Romania indicated "no".

However, particular examples of issues arising from certain provisions of the WSR were highlighted during the targeted interviews. For example, FEAD highlighted that the system of financial guarantees (which are an obligation under the Basel Convention) which is in place to pay for the return of waste to its place of origin is, in their experience, very rarely used and this provision has been widely mentioned among stakeholders as an example of an unnecessary cost and delay which can limit the financial liquidity of companies. For example, from the Member State competent authority interviews, representatives from the Danish EPA and the Danish Ministry of Food highlighted that while a financial guarantee is required for every notification, there are very few notifications for which they are actually necessary. The Ministry of Infrastructure and Water Management in the Netherlands reiterated this, highlighting that the NL is looking in to ways in which this guarantee could be absolved by standardised insurances for this purpose in order to prevent losing money that could be spent on innovation. The Dutch Waste Management Association highlighted that, while having a bank guarantee is useful for certain waste types (such as paints or solvents) which could be harmful to the environment, in those cases related to lower risk wastes, the financial guarantee is not needed, and removing it would increase efficiency.

EURIC indicated that the proximity principle, which is included in the provisions of the regulation is not relevant when recycling is considered due to the increased environmental benefits – noting 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 stream which have 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 adequate installations. Despite the mixed results from the survey regarding the provisions of the WSR, the results from the stakeholder interviews revealed that certain stakeholders have highlighted that provisions specifically related to the financial guarantee requirement may be outdated.

Summary of findings

EQ 8: Is there any provision irrelevant or outdated/obsolete in the WSR?	
Conclusion	Stakeholder opinion from the survey data suggests that certain provisions are obsolete (i.e. the system of financial guarantees, the proximity principle). However, having a bank guarantee is useful for certain waste types (such as paints or solvents) which could be harmful to the environment.
What works well	n/a
What works less well	The financial guarantees required for all notification types was presented by stakeholders as a significant administrative burden that could be obsolete for certain waste streams that are low risk and contribute to the circular economy.
Strength of evidence and potential bias	The evidence from the survey should be considered carefully due to the fact that it is in the interest of certain stakeholders (i.e. trade associations, waste companies) to reduce the financial burden of waste shipments.

6.4 Coherence

According to the Better Regulation Guidelines, coherence should look at how well the regulation has worked internally and with other relevant EU/international obligations or regulations. Hence, this section provides evidence of where there is coherence between EU regulations and where there is not, (e.g. identifies where these objectives may contradict or complement each other).[133]

6.4.1 Evaluation question 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?

The implementation of the WSR may be impacted by other European and/or international legislation covering the same subject matter or other more general topics that have a direct or indirect influence on waste shipment. The following legislation has been identified as having particular relevance:

- Other EU waste legislation including the Waste Framework Directive, the WEEE Directive, the ELV Directive, Batteries Directive, the Packaging and Packaging Waste Directive, the Decision on the list of waste and the Ship Recycling Regulation;
- 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;
- Animal By-Products Regulation;
- Policy on streamlining of Members States' reporting to the European Commission.

[133] Chapter VI. Better Regulation Guidelines: Evaluation and Fitness Checks https://ec.europa.eu/info/sites/info/files/better-regulation-guidelines-evaluation-fitness-checks.pdf

This impact may be positive (strengths, synergies, efficiencies) or negative (weaknesses, inconsistencies, overlaps, or contradictions).

SQ 9.1 Are there synergies (e.g. strengths, efficiencies, etc.) as a result of the interaction of the WSR with other legislation?

The literature review undertaken for this evaluation identified synergies between the WSR and other legislation, particularly that focusing on waste. This applies to legislation covering waste streams that are included in the scope of the WSR such as end-of-life vehicles (ELV, included in list B of Part 1 of Annex V of the WSR), batteries (lists A and B of Part 1 of Annex V of the WSR) and packaging waste[134]. It is worth noting that the EU has adopted several Directives covering these and other waste streams (e.g. waste electric and electronic equipment via the waste electric and electronic equipment (WEEE) Directive and household waste, construction and demolition waste via the Waste Framework Directive) that require Member States to recycle a minimum percentage of certain waste types, thus increasing recycling rates and incentivising waste imports and exports[135]. However, this legislation faces similar challenges to those of the WSR, including concerns about the reliability of statistics and compliance issues[134].

The ELV Directive (2000/53/EC[136]) aims at limiting the production of waste arising from ELV and their toxicity; at increasing the reuse/recycling and recovery rates compared to disposal; and at ensuring the appropriate treatment of waste in environmentally sound conditions. According to BIO et al. (2014[137]), there has been good progress towards achieving the objectives of the ELV Directive. Four hazardous substances specifically identified by the Directive have almost been completely removed from vehicles. Data from Eurostat from 2018[138] indicates that most of the Member States are on track to achieve their 2015 targets for recycling/recovery/reuse of ELV. Although the ELV Directive did not include requirements regarding exports, Decision 2005/293[139] laid down provisions regarding exports to other Member States or to third countries. According to these provisions, Member States can attribute the treatment of ELV or parts thereof to themselves (for the purpose of calculating targets) if there is sound evidence that ELV have been treated as prescribed in the EU's legislation on the matter. For exports to third countries, Member States must determine whether additional documentation is needed to ensure that the exported materials are recovered or treated[134].

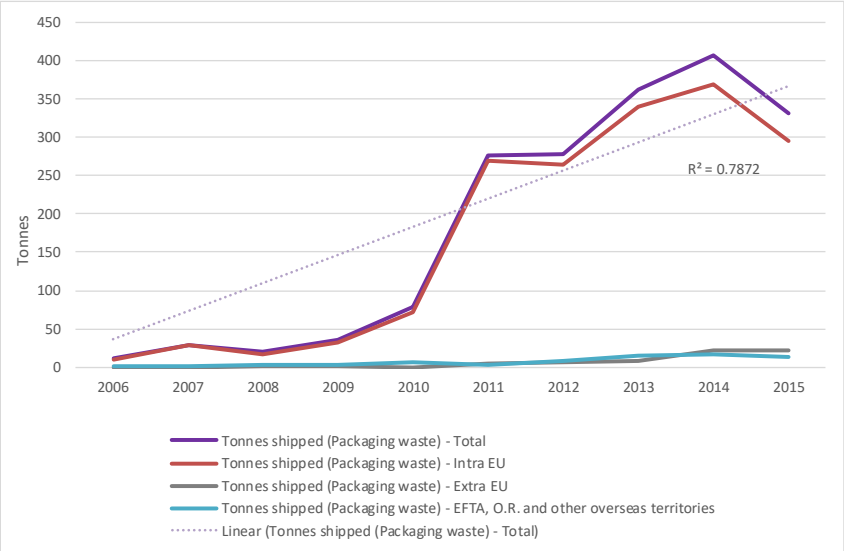
The Batteries Directive (Directive 2006/66/EC[140]) includes a provision on exports (Article 15). This article allows the treatment and recycling of batteries to be undertaken in a Member State different to that where the battery was used or outside the EU if the shipment of such batteries is compliant with the WSR. These exports are allowed to count towards the fulfilment of obligations and efficiencies only

[134] BIO, Arcadis and IEEP (2014). "Ex-post evaluation of certain waste stream Directives". Final report to DG Environment. Available from: http://ec.europa.eu/environment/waste/pdf/target_review/Final%20Report%20Ex-Post.pdf
[135] 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
[136] 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, p.34. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02000L0053-20130611&qid=1405610569066&from=EN
[137] BIO, Arcadis and IEEP (2014). "Ex-post evaluation of certain waste stream Directives". Final report to DG Environment. Available from: http://ec.europa.eu/environment/waste/pdf/target_review/Final%20Report%20Ex-Post.pdf
[138] EUROSTAT (2018) "End-of-life vehicles - reuse, recycling and recovery, totals [env_waselvt]" – Unit of measure: %. Accessed: 29th October 2018
[139] European Commission, Commission Decision 2005/293/EC laying down detailed rules on the monitoring of the reuse/recovery and reuse/recycling targets set out in Directive 2000/53/EC on ELVs. http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:094:0030:0033:EN:PDF
[140] 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 L 266, 26.9.2006, p. 1–14. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006L0066&from=EN

"if there is sound evidence that the recycling operation took place under conditions equivalent to the requirements of this Directive"[141]. This provision is very relevant, considering that some types of batteries (e.g. lead-acid batteries) are among the most hazardous waste types exported. More than 200 000 tonnes of waste lead-acid batteries were shipped across European borders in 2007. The export of hazardous waste batteries must be notified under the WSR and this is reflected in the waste export statistics.

The Packaging and Packaging Waste Directive (Directive 94/62/EC[142], as amended by Directive 2004/12/EC[143]) also makes reference to the WSR (Article 6.2), with a similar provision to that in Article 15 of the Batteries Directive described above[134]. According to Eurostat [144], 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 (Figure 6-7). As can also be observed in the figure, most of the waste shipments are intra-EU countries (i.e. imports-exports between members of the EU). The trend within extra-EU shipments (imports or exports between EU Member States and other countries) is also growth but the tonnage shipped is very small compared to intra-EU shipments.

Figure 6-7 Transboundary shipments of packaging waste reported in accordance with the WSR (2006-2015) (tonnes)



Note: This figure considers all shipments of waste (i.e. imports and exports)
Intra EU refers to movements of waste between EU countries
Extra EU refers to movements of waste between the EU and non-EU countries, but excluding EFTA countries, O.R. (Outermost Regions) and other overseas territories such as Falkland Islands, Jersey or the French overseas territories that are not part of the EU
EFTA, O.R. and other overseas territories refer to the EFTA countries, O.R., and other overseas territories
Source: Eurostat (2017[144])

Another Directive which includes a provision mentioning the WSR is the Waste Electrical and Electronic Equipment (WEEE) Directive (Directive 2012/19/EU[145]). Article 10 requires that any treatment of WEEE outside the respective Member State or the EU complies with the WSR. Despite potential issues related

[141] BIO, Arcadis and IEEP (2014). "Ex-post evaluation of certain waste stream Directives". Final report to DG Environment. Available from: http://ec.europa.eu/environment/waste/pdf/target_review/Final%20Report%20Ex-Post.pdf
[142] European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste. OJ L 365, 31.12.1994, p. 10–23. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31994L0062&from=en
[143] Directive 2004/12/EC of the European Parliament and of the Council of 11 February 2004 amending Directive 94/62/EC on packaging and packaging waste - Statement by the Council, the Commission and the European Parliament. OJ L 47, 18.2.2004, p. 26–32. http://eur-lex.europa.eu/resource.html?uri=cellar:f8128bcf-ee21-4b9c-b506-e0eaf56868e6.0004.02/DOC_1&format=PDF
[144] Eurostat (2017) "Transboundary Shipments of Waste". Data reported in accordance to Regulation No 1013/2006 of The European Parliament and of the Council. Available from: http://ec.europa.eu/eurostat/web/waste/transboundary-waste-shipments
[145] Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE). http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012L0019&from=EN

to illegal exports of waste (see SQ 9.2), the European List of Waste has several codes for WEEE and there is information from 16 Member States that indicates that 100 000 tonnes of WEEE was exported legally outside the EU. The WEEE Directive has a provision that requires Member States to report WEEE exports, which will improve the representativeness of the available data in the near future[135].

More generally, Extended Producer Responsibility (EPR) policies also have synergies with the WSR. There are EPR schemes in most Member States for all the waste streams targeted by specific Directives and mentioned above (namely ELV, batteries, packaging and WEEE). EPR implies that producers take responsibility for collecting and sorting/treating goods for recycling. Its aim is to internalise environmental externalities and provide an incentive for producers to consider the environmental considerations during product life from design to end of life. This coincides with the WSR objective of respecting the proximity principle and priority for recovery and self-sufficiency at EU level[146].
Further synergies related to Directive 95/21/EC[147], which was amended by Directive 2001/106/EC[148] have also been identified in our analysis. These Directives require Member States to remove any legal obstacles to the publication of the list of inspected and sanctioned ships, alongside tightening up measures related to the inspection of potentially dangerous ships. The application of and compliance with the WSR shall benefit from these stringent requirements for the inspection of ships.

SQ 9.2 Are there weaknesses or gaps as a result of the interaction of the WSR with other EU legislation?

Despite the synergies described above, the evaluation has identified challenges, weaknesses and gaps as a result of the interaction of the WSR with other EU legislation. SQ 9.2 covers the weaknesses and gaps of the interaction between the WSR and other EU legislation. SQ 9.4 covers inconsistencies and contradictions. These terms are often used interchangeably, especially by the stakeholders consulted. As a result of this, the information is presented as follows:

- The analysis of SQ9.2, the weaknesses and challenges identified in the literature alongside other weaknesses identified in the other sources (open consultation, interviews, targeted consultation);
- The analysis of SQ 9.4 (Inconsistencies and contradictions) focuses on the stakeholder opinions gathered in the targeted consultation when asked specifically about inconsistences and contradictions. It also presents clear examples that can be defined as contradictions or inconsistencies.

SQ 9.1 presented the synergies of the ELVD and the WSR. However, the fitness check from BIO et al. (2014[149]) identified two major challenges:

- Collection and treatment of ELV by illegal operators;
- Illegal shipment of ELV.

[146] BIO, Arcadis, Ecologic, IEEP and Umweltbundesamt Austria (2014) "Development of Guidance on Extended Producer Responsibility (EPR)". FINAL REPORT. European Commission – DG Environment. Available from: http://ec.europa.eu/environment/waste/pdf/target_review/Guidance%20on%20EPR%20-%20Final%20Report.pdf
[147] Council Directive 95/21/EC of 19 June 1995 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, p. 1–19. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31995L0021&from=EN
[148] Directive 2001/106/EC of the European Parliament and of the Council of 19 December 2001 amending Council Directive 95/21/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 19, 22.1.2002, p. 17–31 http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32001L0106&from=EN
[149] BIO, Arcadis and IEEP (2014). "Ex-post evaluation of certain waste stream Directives". Final report to DG Environment. Available from: http://ec.europa.eu/environment/waste/pdf/target_review/Final%20Report%20Ex-Post.pdf

According to BIO et al. (2014[134]), 25% of ELV do not end up in authorised treatment facilities (ATF). As a result, the reported statistics on ELV recycling are overestimated, since these only consider those vehicles that are treated in ATF. Moreover, a significant number of ELV are exported illegally from EU Member States to Africa and the Middle East[150] (as cited in BIO et al., 2014). This is a weakness that applies to both the ELV Directive and the WSR (as identified in the evaluation of effectiveness). Another crucial factor is distinguishing between used cars and ELV to discern when a car ceases to be a product and becomes waste. This is approached differently in different Member States and leads to a lack of coherence between the ELV Directive and the WSR. As noted in the analysis of SQ2.1 and SQ2.2, the consideration of ELV as second-hand goods may result in the shipment not being sufficiently inspected by the Competent Authorities enforcing the WSR. In fact, and as noted in SQ2.3, 25% of ELV in the EU are estimated to not end up in appropriate treatment facilities. These issues indicate that there is room for improvement in the coherence of the WSR with the ELV Directive.
Another piece of legislation that covers a specific waste stream and is covered in SQ9.1 is the Batteries Directive, which contains a provision requiring compliance with the WSR. This is a synergy that has supported the shipment of over 200 000 tonnes of waste lead-acid batteries across European borders in 2007 (see SQ 9.1). However, many batteries are included within the "green listed waste" and no prior approval is required, which leads to Member States not being able to check compliance with the WSR beforehand. Illegal exports of batteries were also identified as an issue by BIO et al. (2014). A key recommendation of BIO et al.'s fitness check to prevent illegal export is to improve inspection activities and to use new technologies to track movements of waste across borders. As such, the analysis indicates that there are provisions in place in the Batteries Directive to enable coherence with the WSR. However, in practice there is still room for improvement given the existence of illegal exports of batteries as well as difficulties in the Member States' compliance assurance.

As outlined in SQ9.1 above, the Packaging and Packaging Waste Directive refers to the WSR, which has increased the amount of packaging waste shipped and reported in line with the WSR. On the other hand, illegal shipments of packaging waste are also likely to be an issue as with other waste streams. This may be especially problematic for Member States such as the UK, which exported two thirds of its packaging plastic for recycling in 2016, despite indications that a significant proportion of this could be illegally exported to Asia for manual handling or burned for energy recovery[151;152].

The WEEE Directive has some of the same issues highlighted above for other pieces of EU waste legislation. As highlighted above with other types of waste, a significant amount of waste is not collected and treated according to EU standards; it is exported outside the EU disguised as used goods[153]. There is no code for WEEE in the Basel Convention waste codes used for reporting. Therefore, the regular reporting on waste movements does not reveal information on the amount of WEEE exported and imported between EU countries and to or from non-EU countries (this is also discussed in the analysis of EQ 12 below).

[150] European Parliament (2010) "End-of-life Vehicles: Legal aspects, national practices and recommendations for future successful approach".
[151] The Environment Agency (2017) "National Packaging Waste Database". Available from: http://npwd.environment-agency.gov.uk/Public/PublicSummaryData.aspx
[152] The Ecologist (2017) "UK exporting 67% of plastic waste amid 'illegal practices' warnings". 13th March. Available from: http://www.theecologist.org/News/news_round_up/2988755/uk_exporting_67_of_plastic_waste_amid_illegal_practices_warnings.html (Accessed 7th November 2018)
[153] 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

The consultation launched by the Commission aiming at collecting feedback on the evaluation roadmap[154] identified information on weaknesses or gaps between the WSR and other legislation. Feedback from the Finnish Environmental Industries (YTP) highlighted that the shipment of End-of-Waste materials and by-products faces more administrative burdens than those of virgin materials, which has a negative impact on the competitiveness of recyclables and incentivises the use of raw materials instead. Another claim for the reduction of administrative burdens relates to waste-based fuels such as solid recovered fuel (SRF) and refuse derived fuel (RDF). According to one stakeholder (anonymous) providing feedback in this consultation, these fuels should be labelled as products to reduce the trading restrictions as with other waste streams such as paper and cardboard. Another anonymous stakeholder indicated that Article 16 of the Waste Framework Directive (Directive 2008/98/EC[155]) on proximity and self-sufficiency should be included in the WSR to enhance coherence. This may be related to the derogation from the WSR included in this Article[156], as the principles of proximity, self-sufficiency and priority for recovery are already included in the WSR (objectives and Article 11).

Points were raised during expert interviews and the workshop in January, concerning the varying interpretations regarding definition of waste and end-of-waste. This can be seen as an issue of coherence between the WSR and the WFD, as well the circular economy package. Some Member States consider certain material to be non-waste or end-of-waste while other Member States consider it to be waste according to the definition of waste under article 3 of the WFD. This difference in interpretation can lead to certain shipments to be deemed illegal by a Member State of reception. while they are not considered to fall under the scope of the WFD and therefore WSR by a Member State of dispatch. In this regard, it was highlighted during the expert interviews that some shipments are not notified because they are not considered waste and therefore stay below the receiving Member State's radar, even though this Member State considers the shipment to constitute waste according to the definition of article 3 of the WFD. It should be noted that article 28(1) of the WSR indicates that if the countries of dispatch and destination cannot agree on the classification of the material shipped as waste or non-waste, it should be treated as waste. However, it seems clear from the analysis that the article is insufficient to enable coherence with the WFD in this regard, especially when the disagreement between the dispatch and destination Member States is not an issue due to the lack of notification to the latter, as indicated above (this issue is also covered in EQ10).

SQ 9.3 Are there overlaps as a result of the interaction of the WSR with other legislation?

As stated above, EU legislation covering waste overlaps with the WSR. There is positive overlap such as the synergies identified and described in SQ9.1. For instance, European legislation covering specific waste streams (e.g. ELVD, batteries Directive, Packaging and Packaging Waste Directive, the WEEE Directive) include provisions on the treatment of their respective waste streams that it needs to comply with the WSR. On the other hand, overlaps may also be negative if they lead to inconsistencies and contradictions (see SQ 9.4). Examples of this are the possible inconsistencies of the WSR with the

[154] European Commission (2017) "Feedback on Roadmaps and Inception Impact Assessments: Evaluation of Regulation (EC) No 1013/2006 on shipments of waste (Waste Shipment Regulation – WSR". Available from:)http://ec.europa.eu/environment/feedback_en.htm (Accessed 07th November 2018)
[155] 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, p. 3–30. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008L0098&from=EN
[156] Article 16(1) of the Waste Framework Directive states that "Member States may, in order to protect their network, limit incoming shipments of waste destined to incinerators that are classified as recovery, where it has been established that such shipments would result in national waste having to be disposed of or waste having to be treated in a way that is not consistent with their waste management plans"

Circular Economy Action Plan and the differences of classification of some countries in the scope of the EU customs legislation as opposed to the WSR (see SQ 9.4).

Alongside these considerations, a suggestion that there should be more overlap between the WSR and other EU legislation was made. One stakeholder (UK Environment Agency) highlighted in the public consultation that in fact, there could be greater overlap between the WSR and the WEEE Directive. An example of this is given. Annex VI of the WEEE Directive lists the minimum requirements for shipments of WEEE. The content of the Correspondents' Guidelines under the WSR are merely guidance and not legally binding. The updated Guideline on WEEE is almost a mirror image of Annex VI to the WEEE Directive 2012. The Guidelines are therefore a legal requirement under the WEEE Directive but not the WSR. As a result, this stakeholder states that it would be positive to replicate Annex VI to the WEEE Directive as an Annex to the WSR to prevent inconsistencies or confusion over what is required when exporting electric and electronic devices and not waste electric and electronic equipment under the WSR.

SQ 9.4 Are there inconsistencies or contradictions as a result of the interaction of the WSR with other EU legislation?

Stakeholders that participated in the targeted consultation were asked whether there were inconsistencies or contradictions between the WSR and other waste legislation. Non-Member State stakeholders consulted (i.e. Business operators, trade associations, other public institutions and others such as NGO and think tanks) were often not aware of any inconsistency or contradiction, but also not aware of the contrary (Figure 6-8). The highest proportion of stakeholders believing that there are inconsistencies regarding other EU waste legislation (42% of respondents), the EU raw materials policy and Circular Economy Action Plan (48% of respondents), EU trade policy (34%), product and substance legislation applicable to recycled materials (33%), and EU customs legislation (25%). Those that stated that there are inconsistencies with other EU waste legislation are mostly business operators and trade associations. Among business operators, it is worth highlighting that most micro and small firms were of that opinion. On the other hand, opinions were more mixed among larger business operators.

Among Member States, opinions are more positive in general, with a lower proportion of respondents stating that there are inconsistencies or contradictions between the WSR and other legislation (Figure 6-9). However, the legislation with the highest proportion of Member States stating that there are inconsistencies were:

- Other EU waste legislation;
- EU customs legislation;
- Animal by-Product legislation;
- Policy on streamlining reporting of Member States.

Figure 6-8 Responses to the targeted consultation: Do you think there are any inconsistencies or contradictions between the WSR and other EU/international legislation? [Non-Member State responses]

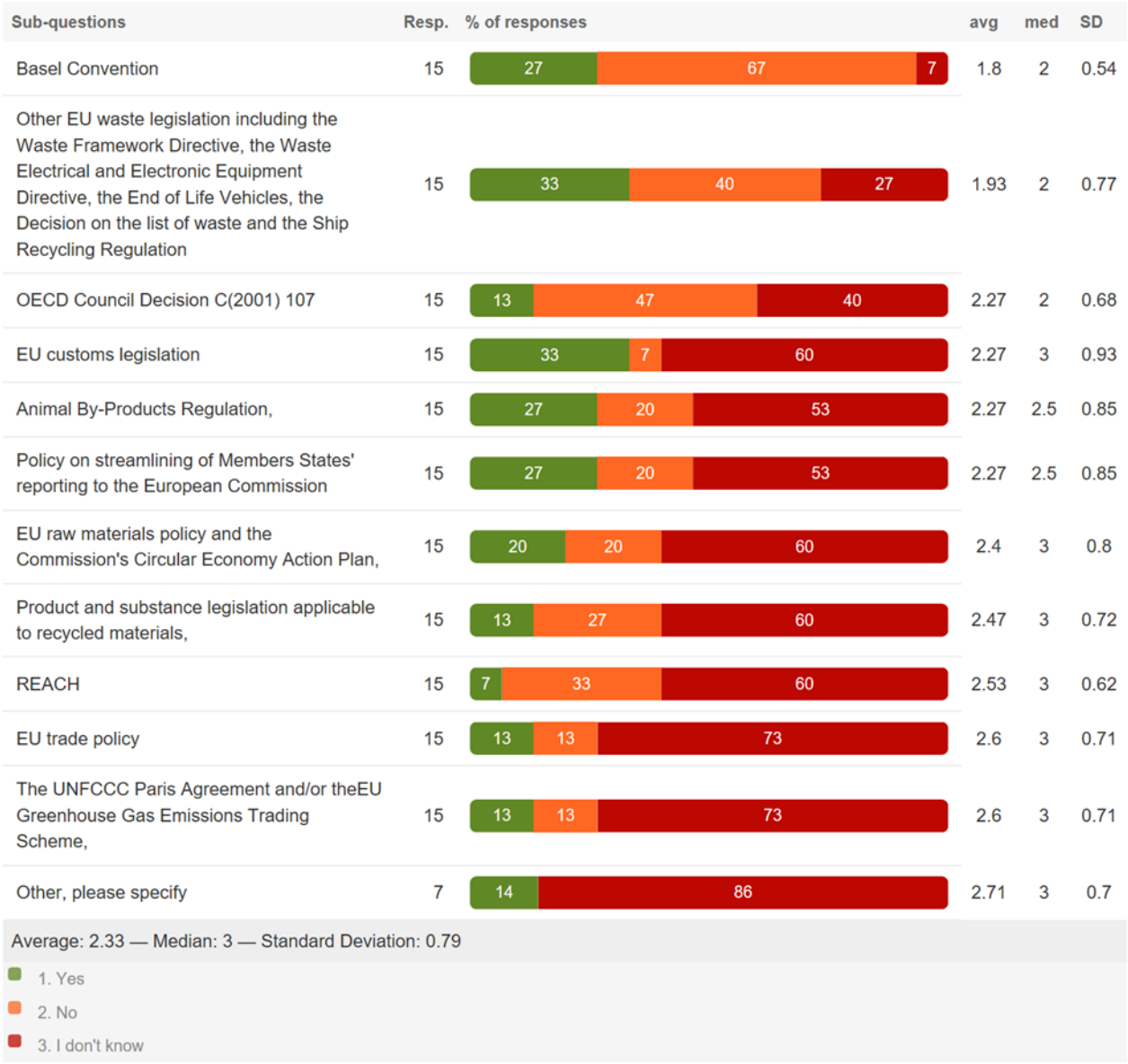
Sub-questions	Resp.	% of responses	avg	med	SD
Other EU waste legislation including the Waste Framework Directive, the Waste Electronic Equipment Directive, the End of Life Vehicles Directive, the Decision on the list of waste and the Ship Recycling Regulation	60	42 / 28 / 30	1.88	2	0.84
EU raw materials policy and/or the EU's Circular Economy Action Plan,	60	48 / 12 / 40	1.92	2	0.94
Basel Convention	56	25 / 50 / 25	2	2	0.71
Product and substance legislation applicable to recycled materials,	60	33 / 20 / 47	2.13	2	0.88
EU trade policy,	59	34 / 14 / 53	2.19	3	0.91
OECD Council Decision C(2001)107	56	18 / 43 / 39	2.21	2	0.72
EU customs legislation	60	25 / 15 / 60	2.35	3	0.85
Regulation 1418/2007	55	7 / 47 / 45	2.38	2	0.62
REACH	56	14 / 29 / 57	2.43	3	0.73
Other, please specify	22	18 / 9 / 73	2.55	3	0.78
Animal By-Products Regulation,	55	11 / 13 / 76	2.65	3	0.67
The UNFCCC Paris Agreement and/or the EU Greenhouse Gas Emissions Trading Scheme,	55	5 / 20 / 75	2.69	3	0.57
Policy on streamlining of Members States' reporting to the European Commission	55	9 / 9 / 82	2.73	3	0.62

Average: 2.30 — Median: 3 — Standard Deviation: 0.82

1. Yes
2. No
3. Don't know

Source: Waste Shipment Regulation Targeted Survey, 2018

Figure 6-9 Responses to the targeted consultation: Do you think there are any inconsistencies or contradictions between the WSR and other EU/international legislation? [Member State responses]



Source: Waste Shipment Regulation Targeted Survey, 2018

Waste legislation covering other waste streams and the Animal By-Product Regulation

Stakeholders from outside the EU pointed out that there are inconsistencies between the different directives covering different waste streams and the WSR. The feedback obtained refers to different considerations of what is waste or product, or which waste is hazardous (e.g. batteries) as the most burdensome. According to EUROMETAUX, the trend is currently to classify an increasingly large amount of waste streams as hazardous, which is adding to the notification burden and is posing difficulties to the market for secondary materials. The Annex in the WEEE Directive is also quoted as a source of inconsistency, since it is not specifically quoted in the WSR but in the Correspondents' Guidance No. 4[157], which are not legally binding.

[157] European Commission (2017) "Correspondents' Guidelines and other guidance documents: Guidelines No 4. Available from: http://ec.europa.eu/environment/waste/shipments/guidance.htm (Accessed 07th November 2018)

A third of the Member States responding to the targeted consultation stated that there are inconsistencies. A Member State stated that it is unclear how the Waste Framework Directive overlaps with the WSR and how this should be interpreted, for example regarding disposed explosives. In the open public consultation, the Ministry of Infrastructure and Water Management of the Netherlands highlighted another weakness/gap related to the Waste Framework Directive (Directive 2008/98/EC). According to Dutch authorities, this directive includes an exception in Article 2 for non-animal related materials for the use of raw material for animal feed. With this exception, not only animal materials (animal by-products) but also plant residues are exempted from the Waste Framework Directive. In this situation, the materials can still be considered as waste. However, the materials are exempted from the waste legislation. Even though the category of non-animal related materials has been added as an exception category to the Waste Framework Directive, the WSR does not have such an exception provision. As a result, this can be considered an inconsistency between the WSR and the Waste Framework Directive. The incoherence with the Waste Framework Directive was also mentioned by Municipal Waste Europe, although they did not mention what was incoherent.

In line with the statements made above, a Member State expressed concerns at the final stakeholder workshop over the overlap between Regulation 1069/2009 on animal by-products[158]. Although Article 1.3(d) of the WSR excludes "shipments which are subject to the approval requirements of Regulation (EC) No 1774/2002 (an earlier version of Regulation 1069/2009)", it is sometimes unclear which of them should apply. An example of this can be found in BIO and BiPRO (2012[159]), in which Dutch authorities wondered whether it is right to consider waste catering wastes and out-of-date products destined for transformation into biogas and for composting, or whether they are animal by-products and therefore excluded from the WSR according to Article 1.3(d) of that Regulation. In this regard, it was pointed out at the workshop that this unclear distinction when both regulations overlap is currently part of a case submitted in November 2017 to the European Court of Justice by a German court.

Circular Economy Action Plan

Non-Member State stakeholders that believed that there are inconsistencies with the Circular Economy Action Plan are relatively evenly distributed among all stakeholder groups and among all business operator sizes. Several stakeholders highlighted that the secondary materials market promoted by the Circular Economy Action Plan is hindered by the different interpretation of the WSR from Member States, as well as the difficult and complex procedures required by the regulation itself. These complex procedures can lead to lengthy and costly delays in the approval of cross-border shipments, even between subsidiaries of the same company in different countries, according to another stakeholder. It was also highlighted that there is an issue between reuse and disposal. This has to do with the definition of waste and the waste codes in the WSR and other classifications such as the EU customs codes, in which, for instance, new and old electronic equipment cannot be differentiated. These issues pose hurdles to a well-functioning market in secondary raw materials. This has also been highlighted in EQ10.

[158] 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 (Animal by-products Regulation). OJ L 300, 14.11.2009, p. 1–33

[159] BIO, BiPRO (2012) "Assessment and guidance for the implementation of EU waste legislation in Member States". REFERENCE: ENV.G.4/SER/2009/0027. Report on the experience gained with the helpdesk for questions related to the WSR. prepared by BIOIS with support from BiPRO. Available from: http://ec.europa.eu/environment/waste/shipments/pdf/report_helpdesk_forum.pdf (Accessed 30th October 2018)

Some Member States also stated that there were inconsistencies with the Circular Economy Action Plan (3 Member States, which is 50% of the 6 Member States that replied "Yes" or "No" to the question. 9 more Member States answered that they did not know).

EU customs legislation

As stated above, 25% of respondents that are not Member States believed that there are inconsistencies between the WSR and EU customs legislation. Those that stated this highlighted that the definition of waste is not harmonised. In some cases, waste exported with a notification may be considered by customs to be products. This adds unnecessary costs to waste shipments because customs fees must be paid. An example given was refrigerators exported from Norway to Sweden. Another stakeholder also stated that the WSR should be aligned with the latest customs codes to prevent these issues. The literature also highlights possible contradictions between the WSR and the EU customs legislation. According to a report commissioned by DG TAXUD in 2011[160], these systems are incompatible, which hinders the collection of statistics on trade of goods and waste management; having an impact on policy, trade, economic and enforcement monitoring[160]. However, it is worth noting that this is a more general reporting issue that emanates from the incompatibility of goods and waste reporting statistics in general (and so the Basel convention codes are also incompatible), and not from the WSR itself.

Most of the Member States (82%) that provided an answer to this question stated that there are inconsistencies between the WSR and EU customs legislation. In relation to this, a Member State stated that while waste is a commodity if, for example, it contains secondary raw materials, customs codes are not linked to waste codes.

Links with Directive 2008/99/EC on the protection of the environment through criminal law

In the final stakeholder workshop, a Member State suggested making a link between the WSR and this Directive. Some Member States may consider filling in paperwork and administrative documents incorrectly a criminal offence under their national law, whereas this link is not reflected at European level.

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?

Considering the responses to the stakeholder consultation that were not Member State competent authorities (Business operators, trade associations, NGO, think-tanks), only 13% of respondents thought the WSR had been very effective or effective in increasing the competitiveness of EU industry. That is, 41% of them that have a negative opinion about the WSR in this regard (see section 6.1).

Regarding the internal market for secondary materials, several trade associations (European Recycling Industries' Confederation (EuRIC), FEDEREC, ELECTRO RECYCLING, Federación Española de la Recuperación y el Reciclaje and MRF) stated that the WSR causes major burdens due to the issue caused by the provision of Article 18.1 on the jurisdiction of the person arranging a waste shipment (see EQ 10). Another trade association (EU ITD) also comments on the administrative burdens caused by the WSR and suggests the transboundary movements within EU Member States should be open and equitable to the principle of free movement of goods applied to other services. According to Suez Europe, the

[160] 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

WSR is not adapted to the reality of market and trade. Dealers and traders of secondary materials need to know the precise delivery date of secondary raw materials. According to this company, the complex and long-lasting procedures of the WSR hinder the functioning of this market.

As highlighted in EQ 10 and 11 and as mentioned by Municipal Waste Europe and Stenna Metal in an interview, the differences in interpretation of several aspects of the WSR make it difficult to have a level playing field among Member States, or even among regions of the same Member State. This is also stated to cause issues for SMEs (See also SQ 2.2 on harmonisation).

SQ 9.6 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.

The targeted consultation has mixed opinions from stakeholders. Whereas 16% of them have very negative or negative views, 14% have positive or very positive views on the impact of the WSR on innovation. An issue highlighted by some stakeholders 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 are often not permitted to receive waste, which has a financial impact on them and hinders the potential for investing in innovative processes. Some stakeholders claimed that it would be positive to raise the limit of 25 kg established by Article 3.4[161]. This was stated to specifically affect recycling technology innovation. In this sense, Municipal Waste Europe also pointed out in an interview that it is difficult to test and open new facilities for new types of waste since they do not at first reach the critical mass necessary to make new facilities profitable.

In the open consultation, the Ministry of Infrastructure and Water Management of the Netherlands pointed out the existence of two conflicting interests. On the one hand, there is a need for being flexible to accommodate new developments and preventing having an outdated Regulation after a relatively short period of time. On the other hand, certainty and legal clarity are needed for reducing the legal risks of investments on innovations. According to this stakeholder, this issue could be studied on a case by case basis and provide legal clarity on specific cases.

A citizen responding to the public consultation on the evaluation roadmap commented on this topic and reported that the regulation does not foster competition or innovation in the field of recycling waste (especially industrial and hazardous waste).

SQ 9.7 To what extent does the WSR provide additional employment opportunities?

Regarding employment, data from EEA[162] quoting Eurostat indicates that there are over one million workers in the waste management sector in the EU. 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 manufacturing facilities, such as the collection of recyclable materials or other activities that enable

[161] Shipments of waste explicitly destined for laboratory analysis to assess either its physical or chemical characteristics or to determine its suitability for recovery or disposal operations shall not be subject to the procedure of prior written notification and consent as described in paragraph 1. Instead, the procedural requirements of Article 18 shall apply. The amount of such waste exempted when explicitly destined for laboratory analysis shall be determined by the minimum quantity reasonably needed to adequately perform the analysis in each particular case, and shall not exceed 25 kg.
[162] 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

the use of recyclables. This suggests that real employment figures are higher. More than 130 000 people were employed in wholesale of waste and scrap in 2008, an increase of around 25% since 2000[163, 135]. It should be noted, however, that it is not possible to disentangle jobs that are linked to cross-border waste trade from those of the waste management sector as a whole. Another relevant issue is the low-quality and potentially unhealthy work conditions arising from illegal waste exports[135].

Eurostat[164] also indicates that there has been growth in employment related to the environmental goods and services sector. The relative increase in the 2007-2015 period was of 22%, but this is not split by sector. National accounts employment data by industry from Eurostat[165] shows a 18% increase of employment related to waste management and remediation activities in the EU between the adoption of the WSR (2006) and 2015 (1.058 million workers to 1.244 million workers, respectively). Moreover, the number of enterprises related to materials recovery in the EU has increased 10% from 2011 to 2015 (from 18,400 to 21,200 enterprises according to Eurostat[166]. Again, this information does not attribute a share of employment among related sub-sectors, including waste shipping.

Therefore, although employment in the sector has increased, it is not possible to attribute a specific proportion of this to the WSR to establish a firm conclusion on whether the WSR is coherent with EU objectives on employment.

No additional information was identified in the interviews with experts or the consultations.

Summary of findings

EQ9 - 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?	
Conclusion	**Synergies** • Synergies exist with legislation covering waste streams that are included in the scope of the WSR such as end-of-life vehicles (ELV, included in list B of Part 1 of Annex V of the WSR), batteries (lists A and B of Part 1 of Annex V of the WSR) and packaging waste. The EU has adopted several Directives covering these and other waste streams (e.g. waste electric and electronic equipment via the waste electric and electronic equipment Directive and household waste, construction and demolition waste via the Waste Framework Directive) which require Member States to recycle a minimum percentage of certain waste types, thus increasing recycling rates and in turn, incentivising waste imports and exports. • The WEEE Directive (Article 10) requires that any treatment of WEEE outside the respective Member State or the EU complies with the WSR. Data requirements under the WEEE Directive are expected to improve the data quality on these exports in the context of the WSR. • The EPR schemes support the WSR objective of respecting the principle of proximity and priority for recovery and self-sufficiency at EU level. **Gaps / weaknesses**

[163] EEA (2011) "Earnings, jobs and innovation: the role of recycling in a green economy". Report No. 8/2011.
[164] Eurostat (2018) "Employment in the environmental goods and services sector [env_ac_egss1]". Accessed 25th October 2018
[165] Eurostat (2018) "National accounts employment data by industry (up to NACE A*64) [nama_10_a64_e]". Accessed 25th October 2018.
[166] Eurostat (2018) "Industry by employment size class (NACE Rev. 2, B-E) [sbs_sc_ind_r2]". Accessed 25th October 2018.

EQ9 - 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?	
	• The collection and treatment of ELV and batteries by illegal operators as well as illegal shipments of ELV and batteries were identified as major weaknesses, affecting the WSR. • The Basel Convention, hence the WSR which transposes it, does not include waste codes for WEEE; therefore, reporting on waste movements does not reflect the amount of WEEE exported and imported between EU countries to or from non-EU countries. • There are varying interpretations of waste and end-of-waste, reflecting a coherence issue between the WSR, the WFD and the Circular Economy Package. **Overlaps** • Although overlaps are traditionally considered as a negative element, in this context, it was reported that greater overlap could be sought between the WSR and waste legislation, such as the WEEE Directive, to avoid potential inconsistencies. Positive overlap with the ELV Directive and the Batteries Directive were also noted. • A 'negative' overlap was reported between the Animal by-products Regulation, the Waste Framework Directive and the WSR. It is not entirely clear when each applies in certain cases, particularly caused by 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. **Inconsistencies** • Other EU waste legislation: A significant number of stakeholders who deal with the WSR regularly stated that there are inconsistencies between the WSR and the WFD and the WEEED. These difficulties were mainly related with the different definitions of waste and the differences between hazardous and non-hazardous waste; • Circular Economy Package: It was highlighted that the Circular Economy Action Plan aims at promoting, among other things, a market for secondary materials. The various definitions, inconsistencies, different interpretations and complex procedures within the WSR is posing difficulties to the achievement of that objective, according to a significant proportion of stakeholders, although the greater concern is among business operators and trade associations (almost half of the respondents that are not Member States and 20% of Member States). This leads to the question on what can be to better align the WSR with the objectives of the Circular Economy policy and the Raw Materials Initiative, in particular to facilitate waste shipments in the internal market while at the same time ensuring compliance with environmentally sound management principles for non-hazardous waste that is exported to non-EU countries – this is however, out of the scope of this study. • EU Customs legislation: According to several sources, there are inconsistencies between the EU customs legislation and the WSR, especially regarding the different classification codes used in each. This leads to the same article/material being considered a waste by some countries and a product 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 dispatch country. **Industrial innovation** • Despite the limited information available, there was generally more negative than positive feedback from stakeholders. Some stakeholders claimed that it would be positive to raise the limit of 25 kg established by Article 3.4 as this was hindering innovation. This is

EQ9 - 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?	
	because 25 kg is not often enough to test and establish pilot trials for novel technologies with realistic quantities of waste. **Employment** • There are over a million workers in the waste management sector in the EU. There is well documented evidence of an increase of jobs related to recycling and wholesale of scrap and waste in the last 15 years. Also, the number of enterprises related to materials recovery in the EU has also increased (10% between 2011 and 2015). Employment related to environmental goods and services has also increased steadily in recent years (22% from 2007 to 2015). However, there is not enough information to attribute a share of this to the WSR.
What works well	Synergies and positive overlaps between the WSR and other Directives covering waste streams that are included in the scope of the WSR, as stated above.
What works less well	• The collection, treatment and illegal shipments of ELV and batteries were identified as major weaknesses of the WSR. • There are varying interpretations of waste and end-of-waste, reflecting a coherence issue between the WSR, WFD and the Circular Economy Package. These various definitions of waste have also been highlighted by stakeholders as creating coherence issues between the WSR and the WEEE Directive. This different level of interpretation has also been stated as posing difficulties to a level playing field among Member States or even among regions of the same Member States (see EQ 10 and 11). • The varying interpretation of waste and end-of-waste reflected above causes issues in the interaction between the WSR and the Animal by-product Regulation. • There are inconsistencies between the EU customs legislation and the WSR, especially regarding the different classification codes used in each. • Industrial innovation is not sufficiently promoted. The 25 kg limit in Article 3.4 impedes operators to try novel technologies with waste in real-case quantities.
Strength of evidence and potential bias	Good level of evidence on the synergies, gaps, weaknesses, overlaps and inconsistencies. There was limited information on the extent to which the WSR promotes industrial innovation and employment. There was no apparent bias.

6.4.2 *Evaluation question 10 - To what extent is the WSR coherent internally, including with Regulation (EC) No 1418/2007?*

The evaluation of the internal coherence of the WSR assesses how the various components of the Regulation operate together for the achievement of its main objectives. In this case, it is also relevant to assess whether the WSR is also coherent with Regulation (EC) No 1418/2007. This Regulation concerns the exports for recovery of waste listed in Annex III ('Green' listed waste) or IIIA ("Mixtures of two or more wastes listed in annex III and not classified under one single entry […]") to the WSR to certain countries to which the OECD Decision of transboundary movements of wastes does not apply.

Within Member States, half of the respondents of the survey believed there are no internal gaps, inconsistencies or discrepancies. There was a small number (4, or 29% of responses) that stated there are. In general, the arguments to back this opinion were not strong, with four respondents (Austria, Denmark, Finland, UK) claiming that there should be more clarity on the definitions and exemptions

from the scope. One Member State competent authority (Bulgaria) also commented during an interview on the fact that there are some inconsistencies between Member States on waste classification. There is an issue between how the wastes listed in annex III and IIIA are reported; the threshold 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 impurities was also mentioned during the stakeholder workshop. Some Member States publish the limits they accept. An industry association representative raised the question of why impurities are refused in case of contamination not having a negative environmental impact, as reducing environmental impact is the main objective of the WSR. In other words, there are some contaminations that can be expected, and which do not have negative environmental impact because waste operators know how to deal with them (e.g. Glass waste - contamination with wine or metals).

On the other hand, almost half of the respondents that were not Member States (i.e. business operators, NGOs, trade associations and other institutions) stated that there are internal inconsistencies within the WSR. However, rather than mentioning a discrepancy or inconsistency between provisions of the WSR, most responses mentioned the different interpretations given by Member States to the provisions set out in Article 18.1 on the jurisdiction of the person in charge of the dispatch of the waste (see also SQ2.2). This issue has been highlighted by trade associations. The French Association of Recycling Companies indicated that the different interpretation in different countries hinders recycling activities. According to them, the interpretation made by France (i.e. the person who arranges the waste shipment must be a French company[167]) does not allow for dealers or brokers which do not belong to the country of origin or destination of the waste to take part in these transactions. The same applies to the provision requiring the importer (consignee) of the waste to be under the jurisdiction of the country of destination[168]. On the other hand, there are Member States that only require the registration of the company (including dealers) in a national registry.

Other trade associations such as the European Recycling Industries' Confederation (EuRIC), the German Association of Metal Traders, the Italian Association of iron and steel distributing, trading and processing companies (ASSOFERMET) and the Spanish Federation of recycling and recovery are of the same opinion. They also added that different interpretations of the classification of waste in the dispatch and destination country might mean that recovery facilities will not sign the consignment information required under Annex VII of the Regulation if the material is not considered waste in that country, despite it being considered as such by the country of dispatch. This makes it difficult to promote a market for secondary materials if the WSR has such complex procedures. This issue is also commented on in SQ9.2.

A respondent to the survey from industry (European Electronics Recycling Association) highlights that these discrepancies also occur at regional level (i.e. within Member States). This means that it is possible for operators to transfer waste internally to the region/province with the laxest interpretation before exporting the waste.

[167] 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.
[168] 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.

Although the different interpretation of Article 18 leads to enforcement issues within Member States, it is an issue of how the Regulation is enforced rather than an issue of internal coherence of the WSR. Still, 43% of the respondents to the survey that are not Member States stated that the wording and definitions of the WSR have a negative impact on the implementation of the WSR. Although it was not stated specifically by any of them, it is possible that this apparent lack of clarity in the definitions may have had some influence on the different interpretations (see above) of different Member States. This link has not been explicitly mentioned by any stakeholder responding to the survey. What is specifically mentioned by over 60% of the stakeholders that are not Competent Authorities is that the scope for different interpretations in the WSR has a very negative or negative impact on the implementation of the regulation.

The European Federation of Waste Management and Environmental Services (FEAD) indicated that the provisions covering hazardous waste in the WSR must be clearly distinguished from those covering non-hazardous waste, thus preventing a single approach applying to both types of waste. No specific example of this issue was given.

The issue of varying interpretation / enforcement of the Regulation is largely reflective of the opinion from the REFIT Platform on shipments of waste on "patchwork enforcement" of the WSR and the stakeholder group recommended that reinforcing exchange of best practice examples of implementation and enforcement would encourage more uniform enforcement[169].

Each Member State must submit an annual report to the Convention Secretariat for the previous year which addressees the legal provisions, implementation, and environmental protection measures (European Commission, 2012). Every three years, a report is drawn up based on these Member State reports to address shipment restrictions, monitoring, and measures against illegal waste shipment (European Commission, 2012) (See SQ 4.5).

As regards the coherence between the WSR and Regulation (EC) 1418/2007, respondents to the survey from all stakeholder groups indicated that in general 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 (EC) 1418/2007 with the latest prohibitions and requirements imposed by some countries (e.g. China). Cypriot authorities stated that in some cases these bans, and additional requirements are stricter than the general rules of the WSR. Nevertheless, two Member State competent authorities (Denmark and the Czech Republic) highlighted an issue that is more relevant for coherence; a possible inconsistency between Article 36.1(f) of the WSR and the regime established under Regulation (EC) 1418/2007. Article 36.1(f) applies to the exports from the EU to countries to which the OECD Decision does not apply. The provision states that wastes which import has been prohibited by the country of destination are prohibited. According to these authorities, it is unclear whether the ban solely applies to the restrictions defined in Regulation (EC) 1418/2007 or whether it also applies to bans that are purely national and not part of the Regulation.

[169] European Commission (2018) REFIT Platform Opinion on the Regulation on shipments of waste by the Dniash Business Forum, the Finnish Government Stakeholder survey on EU legislation and a member of the Stakeholder group (Mr Christensen) https://ec.europa.eu/info/sites/info/files/recommendation-ix-3a-c_regulation-on-shipment-of-waste_en.pdf

Summary of findings

EQ10 - To what extent is the WSR coherent internally, including with Regulation (EC) No 1418/2007?	
Conclusion	It can be concluded that the WSR is generally coherent internally, but that Member States may use very different criteria in applying and enforcing the regulation. This has been highlighted more by industry and trade associations than by Member States. This is more an issue of enforcement rather than of the internal coherence of the WSR. This is reflective of the opinion from the REFIT Platform in shipments of waste on "patchwork enforcement" of the WSR. However, a significant number of stakeholders considered that the wording and definitions of the regulation have a very negative or negative impact on the implementation. These apparent difficulties may be partially responsible for the different interpretations of the provisions of the WSR of different Member States. However, it is worth mentioning (as highlighted in the stakeholder workshop) that certain aspects are defined in the OECD Decision and the Basel Convention, which the WSR transposes into European regulation. In these cases, changes would have to be made to the overarching international legislation rather than implementing incoherent amendments to the definitions of the WSR. As regards the coherence of the WSR with Regulation (EC) 1418/2007, it can be concluded that they are generally coherent. However, various stakeholders highlighted two issues: • A possible inconsistency or contradiction between Article 36.1(f) and how it is understood and applied in practice as per Regulation (EC) 1418/2007. Some stakeholders have highlighted that the scope of the article is not clear and that the regime or system established by Regulation (EC) 1418/2007 is not consistent with Article 36.1(f) of the WSR; • The delays between a ban imposed by an importing country and this ban being reflected in the Regulation. It is believed that this is not an issue of internal coherence. •
What works well	The WSR is generally coherent internally and with Regulation (EC) 1418/2007. There are a small number of possible issues (see below), that are generally outside the definition of "internal coherence".
What works less well	• Member States may use very different criteria in applying and enforcing the WSR. This is not, however, an issue of coherence but an issue of enforcement. • There is a possible contradiction between Article 36.1(f) of the WSR ("*Exports from the Community of the following wastes destined for recovery in countries to which the OECD Decision does not apply are prohibited […]: Wastes the import of which has been prohibited by the country of destination*") and how it is understood and applied in practice within the provisions of Regulation (EC) 1418/2007. Also, the delays in updating the Regulation with the most recent restrictions imposed by countries in the scope of Regulation (EC) 1418/2007 is also seen as problematic, although this is not an issue of internal coherence but of coherence between the information included in the Regulation and the latest restrictions imposed by those countries.
Strength of evidence and potential bias	Good level of evidence. No apparent bias.

6.4.3 *Evaluation question 11 - To what extent are strategies / legislation at Member State level coherent with the WSR, in particular Article 33?*

Despite the limited availability of information regarding the coherence of the WSR with strategies and legislation from Member States, several differences of 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, rather than specifically related to the systems for supervision and control of shipments of waste exclusively within Member States, as covered by Article 33. The analysis of this EQ will cover that feedback that is relevant to Article 33 first. Much of the information about the different interpretations in the application of the WSR is covered in EQ2.2 and EQ10.

The responses from the survey were not very conclusive, since half of the respondents that were not Member States did not know the extent to which strategies or legislation at Member State level is coherent with the WSR. The other half stated that the legislation covering national shipments of waste and the WSR was generally coherent in all countries, although several stakeholders expressed some concerns. These were generally on the different interpretation of Member States rather than competing strategies, rather than on inconsistencies between the WSR and national legislation/measures in national waste shipments. It is not clear whether all the stakeholders that felt there was little coherence in this regard had the same interpretation.

As for Member States, around three quarters of those responding to the survey believed that Member States have an internal waste shipments system that is coherent with the WSR. Another 20% did not know whereas only one Member State stated that there was coherence to a little extent. No Member State believed that there was no coherence. The only potential issue specifically mentioned was highlighted by the Belgian competent authority from Flanders. According to this stakeholder, Italy does not have a national system that applies Article 24.2 of the Regulation[170]. This means that illegal shipments cannot be sent back to this country, according to the stakeholder.

An issue that has been mentioned (see EQ 10 above) is that the divergences in interpretation of the WSR do not only exist at national level but also at regional level. As a result, different provinces/counties may have stricter or less strict regimes within the same country. As a result, it was stated that in some countries shipments within national borders may follow certain routes that are specifically designed to stay within those regions with the less strict interpretation. As mentioned in the analysis of EQ 10, this is more an issue of interpretation and enforcement rather than an inconsistency between a national law or strategy and the WSR.

According to FEAD, there is a need to harmonise what is considered green-listed waste in different EU Member States. Furthermore, harmonisation is needed regarding the qualification and approval of qualified treatment facilities, as well as regular and comprehensive inspections of these facilities. Also, some Member States may apply the provisions related to the export of waste for incineration in a different way. Finland was included as an example, as an anonymous stakeholder stated that it is not possible to export municipal solid waste (MSW) for incineration to other EU countries if domestic waste incineration capacity is available.

[170] Article 24.2 of the WSR contains provisions that apply to the obligations of competent authorities when an illegal shipment is the responsibility of the notifier. These requirements consist of a priority list to ensure the waste is taken back, recovered or disposed by the notifier or the competent authority within 30 days or whichever period is agreed between the competent authorities concerned.

Pre-authorisations were also raised as a point of concern. According to FEAD, the system of pre-consented facilities is regarded as a step towards the harmonisation of EU waste markets. However, few pre-consented facilities exist in the EU, and these are mainly concentrated in a small number of Member States. This stakeholder considers that the potential of this system can be increased if it is spread in more EU Member States and clearer and more harmonised criteria for eligible facilities are implemented.

Although it is not part of the original Regulation, another element that has been unevenly implemented is the measure recommended by the Commission[171] to simplify the waste shipment notification system by implementing an electronic system and to improve the approval process. Based on data from ICF (2015[172]), eleven Member States have fully implemented this measure, while nine have not done so and two were due to fully implement it by 2014. Apart from the Netherlands, no other Member State described national measures that go beyond the measures of this recommendation[172].

The Commission has planned actions to streamline the enforcement of the WSR in all Member States in its Circular Economy Action Plan[173]. The rationale behind this is not only increasing the environmental and health benefits, but also reducing illegal waste shipments in order to recover valuable materials. As noted in EQ10, there are some inconsistencies between this plan and the WSR that may hamper the achievement of this objective.

Summary of findings

EQ11 - To what extent are strategies / legislation at Member State level coherent with the WSR, in particular Article 33?	
Conclusion	Most stakeholders identified differences between the application of the WSR between Member States and not within Member States as in Article 33. Here, only the statements relevant to the latter will be presented. The evidence is not very conclusive. Stakeholders generally agreed that there was general coherence between Member State national strategies for internal waste shipments and the WSR. However, a small number of them raised concerns: • There are divergences in interpretation of the WSR arise at regional level as well. As a result, in some countries shipments within national borders may follow certain routes in regions with less strict interpretations of the WSR.
What works well	In general, the limited evidence found on this subject suggests that national strategies and waste shipments within borders are coherent with the WSR.
What works less well	Some stakeholders raised concerns about the fact that in some countries there are regional differences in interpretation of the WSR. As a result, some internal shipments of waste followed different routes.
Strength of evidence and potential bias	Limited amount of evidence. In general, stakeholders understood the question in terms of the varying interpretation of the WSR in different Member States, rather than the coherence of the WSR within Member States. No apparent bias. However, there was no factual evidence found to support the statements made.

[171] Commission letter to the Permanent Representatives of EU Member States, July 2010. The letter is not publicly available but it is mentioned in the fitness check of the ABR programme (Annex I) and in European Commission (2014) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Regulatory Fitness and Performance Programme (REFIT): State of Play and Outlook. SWD(2014) 192 final
[172] ICF (2015) "ABRPlus study. Final report". European Commission. Available from: https://publications.europa.eu/en/publication-detail/-/publication/257ede84-dd11-4873-be36-77aaca2faeab
[173] European Commission (2018) "Circular economy package". Available from: http://ec.europa.eu/environment/circular-economy/index_en.htm (Accessed 07th November 2018)

6.4.4 Evaluation question 12 - To which extent is the WSR coherent with international commitments on waste?

This evaluation question assesses the coherence of the WSR with international commitments on waste. Special focus is given to:

- The Basel convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (SQ 12.1);
- OECD Council Decision C(2001)107 (SQ 12.2).

SQ 12.1 What is the coherence of the WSR with the Basel convention?

As the WSR is the implementation of the Basel Convention into EU law, both legislations should be fully coherent. As required by the Basel convention when in force, the WSR prohibits all exports of hazardous waste outside the OECD and all waste disposal outside the EU/EFTA countries[174]. In fact, a Member State competent authority (Czech Republic) stated that the WSR is coherent and builds on the Basel Convention, as the latter is not legally binding per se and needs to be applied via legislation.

Results from the targeted consultation with non-Member State stakeholders indicated that although it is generally accepted that the WSR is coherent with the Basel Convention (50% of respondents indicated that there are no inconsistencies), there were still 25% of respondents that believe that there are contradictions. This 25% was split evenly among business operators, trade associations and other (NGO, think tanks, etc.). Most respondents did not provide a reason why they were of that opinion. Only one respondent (Inashco BV, a business operator) stated that the most concerning discrepancy was the issue of financial guarantees. The additional development of the financial guarantee concept in the WSR has severe financial consequences, according to this stakeholder.

In the case of Member States, almost three quarters of them have stated that there are no inconsistencies or contradictions. Two examples of possible inconsistencies were provided by Member State competent authorities. The first inconsistency relates to the provision of Article 7.4 of the WSR. Article 7.4 requires competent authorities to respond to notifications within 30 days. On the other hand, the Basel Convention establishes a period of 60 days for doing so (Article 6.4). The competent authority pointing this out (Finnish Environment Institute) did not state whether this was causing any issues. The second inconsistency has to do with green-listed waste. 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 requirements of Article 18. However, given that the OECD Decision requires green-listed waste to be subject to certain information requirements ('Green control procedures'), this provision needed to be in the WSR and is not incompatible with the Basel Convention.

Another inconsistency identified was the differences in waste codes used under the Basel Convention and the European List of Waste. Eurostat has published data on cross-border waste shipments since 2011. In 2015, Eurostat[175] published an article on the potential of using the European List of Waste (LoW) classification alongside the Basel convention classification to produce better information on

[174] 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. /* SWD/2013/0268 final */ Available from: http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52013SC0268
[175] 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 (Accessed 07th November 2018)

cross-border waste shipments. The shipment notification application form included in Annex VII of the WSR requests information on the following:

- 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).

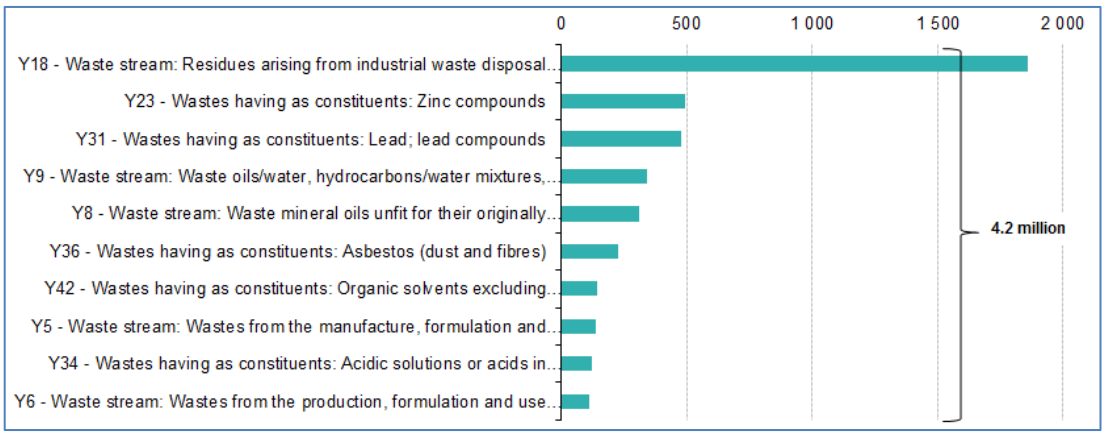
However, the Basel Convention reporting requirements only include the Basel Y-codes and the detailed Basel codes[175]. The information on waste shipments could be greatly improved if the ELoW was also used, as this provides more detail about the characteristics of waste.

Eurostat[175] shows how the information of different types of waste could be improved if the LoW is used along with the Basel codes:

- Hazardous waste: The top 10 Basel Y-codes were enough to cover 71% of the hazardous waste exported in 2013 (see Figure 6-10). On the other hand, the top 30 hazardous LoW codes by quantity are needed to describe the same amount of exported hazardous waste. This gives an indication of the higher level of detail of LoW codes. Also, it is possible to link wastes identified by a LoW code to the most common treatment that the waste is exported for and to identify the largest export and import countries for those waste types;
- Construction and demolition wastes: Using the LoW enhances the precision of identification of waste within this group;
- Non-hazardous waste: Non-hazardous waste represents almost 12 million tonnes of the notified waste exported in the EU every year. The Basel convention only has two codes for this group of wastes. Conversely, the LoW has over a hundred different codes for non-hazardous waste, which increases the level of detail of non-hazardous waste exports;
- WEEE: Exports of WEEE cannot be identified under the Basel Y-codes. However, the LoW identifies several types of WEEE, including whether this is hazardous (e.g. transformers and capacitors containing PCB) or non-hazardous.

The main additional information relates to the type of waste, the processes behind the generation of the wastes, hazardous substances contained in waste, possibilities for assessing required waste treatment capacities[175].

Figure 6-10 Top 10 Basel-Y codes by amount of exported hazardous waste reported (2013) [1 000 tonnes]



Source: Eurostat (2015[175])

This difference in the level of detail and coverage of the Basel system and the LoW has also been addressed in the feedback of the WSR evaluation roadmap, with FEAD arguing that these systems are not fully compatible, and this creates challenges for the collection of accurate and consistent data on waste shipments. Furthermore, FEAD also highlights the need to develop guidance on the classification of waste and on how to correlate the OECD, Basel and LoW waste codes. Other than that, FEAD is of the opinion that the WSR is fully coherent with the Basel Convention.

The Spanish competent authority mentioned that some green-listed waste is not well defined. Therefore, there is information missing that may make operators classify the waste as green-listed waste when in reality it is not. This may change when using the LoW since the level of detail allows for more information of the characteristics of the waste to be included. A trade association (Dutch Waste Management Association) stated that this divergence in codes may have an impact on the operation of the WSR system.

During the workshop, an industrial representative, noted that the waste codes – EU list, Basel convention and OECD – were extremely important. They suggested that there needs to be a table of correspondence between the three lists. A Member State questioned this statement by claiming that this is not possible as all three waste code lists are from different systems and cross comparisons are not possible. However, the Commission noted that work is being done to align some of the codes. The EU adopted an implementation table, with alignment between custom codes and waste codes under Regulation 1245/2016[176]. The industry representative also stressed the need to look at the waste hierarchy, which also applies when waste is shipped. The Commission stated that the WSR currently has provisions to help enforce the waste hierarchy. In deciding to grant a consent for a transboundary shipment under the notification procedure, competent authorities should consider the waste hierarchy. Currently the WSR (in particular Article 12) does not oblige competent authorities to investigate this aspect.

In conclusion, the information gathered suggests that the WSR is generally coherent with the Basel Convention. The literature suggests that, overall, the WSR is coherent with the Basel Convention, except for the codes used to define waste in both legislations. The information gathered from the workshop, the targeted consultation and interviews highlighted a few possible inconsistencies, namely:

- Differences in the waste classification systems (also identified in the literature);
- Financial guarantees;
- Differences in the time for competent authorities to respond to notifications (30 / 60 days);
- Differences in the requirements for green-listed waste.

The last three items were each mentioned by one stakeholder, without further support from other stakeholders or from evidence identified in the literature. This suggests that the possible discrepancies do not hinder the fact that the basic principles of the Basel Convention are well, and coherently, developed in the WSR, although the latter may go beyond without hindering the objectives of the Convention.

[176] 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. C/2016/4780. OJ L 204, 29.7.2016, p. 11–69

The issue of the waste codes is widely reported in the literature and identified by some stakeholders. Work is being undertaken to align some of the codes. One competent authority stated that waste classified as 'green' may be contaminated and therefore not be properly classified by operators. However, this is an issue more of enforcement and inspections rather than of any classification system per se. Therefore, the possible effects that these differences may have on the effectiveness of the WSR and on implementation have been covered in the Effectiveness section of this evaluation (see SQ 2.2 on harmonisation).

SQ 12.2 What is the coherence of the WSR with OECD Council Decision C(2001)107?

The information on the coherence of the WSR with the OECD decision C(2001)107 is rather limited. Respondents to the targeted consultation were asked this question. Most non-Member State respondents stated that there were no inconsistencies (43%) or that they did not know (39%). A small number of respondents (18% stated that there were inconsistencies). Among Member States, responses have followed similar trends. In this case, 47% of Member States stated that there are no inconsistencies and 40% did not know. Only two Member States (Finland and Denmark) stated that there are. These 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. This was also highlighted in SQ 12.1 (Basel Convention).

Also, and as highlighted above, according to feedback received in the public consultation on the WSR evaluation roadmap, guidance is needed to correlate the OECD waste codes to the LoW. According to the stakeholder who stated this (FEAD), this guidance, which should also cover the distinction between waste/non-waste, and simple criteria for the classification of waste; would enhance the harmonisation of classification and therefore support in the achievement of the objectives of the Regulation.

The Spanish competent authority highlighted an issue with green-listed waste that could be due to the divergence between the LoW and the OECD waste codes, although it also has other root causes, as the wrong classification of contaminated waste as green-listed waste is an issue of implementation and enforcement of the Regulation. Also, and as mentioned above, the Dutch Waste Management Association highlighted that the different waste classification systems affect the operation of the WSR. 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.

Also related to green-listed waste, a Member State representative mentioned in the final stakeholder workshop the issue of Annex IV of the WSR and the fact that "Basel entry A1180[177] […] do[*es*] not apply and OECD entries GC010[178] [*and*] GC020 […] in Annex III, Part II apply instead when appropriate".

[177] A1180: "Waste electrical and electronic assemblies or scrap containing components such as accumulators and other batteries included on list A, mercury-switches, glass from cathode-ray tubes and other activated glass and PCB capacitors, or contaminated with Annex I constituents (e.g., cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they possess any of the characteristics contained in Annex III (note the related entry on list B B1110)10". Definition as in: UNEP (2014) Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. Text an annexes (Consolidated). Available from: http://www.basel.int/Portals/4/Basel%20Convention/docs/text/BaselConventionText-e.pdf (Accessed 30th October 2018)

[178] "GC010 Electrical assemblies consisting only of metals or alloys. GC020 Electronic scrap (e.g. printed circuit boards, electronic components, wire, etc.) and reclaimed electronic components suitable for base and precious metal recovery.". Definitions as in OECD (2004) Decision of The Council C(2001)107/Final concerning the Control of Transboundary Movements of Wastes Destined for Recovery Operations, as amended by C(2004)20. Available from: http://www.oecd.org/environment/waste/30654501.pdf (Accessed 30th October 2018).

Although the Correspondents' Guidelines No 4[157] cover this issue and are a useful tool, they do not always resolve legislative issues.

Information gathered from stakeholders (targeted consultation, open consultation) suggest that the issue of the different waste classification systems could influence how the WSR operates and therefore on its effectiveness. This issue has been covered in the Effectiveness section of this evaluation (see SQ 2.2).

Other relevant international provisions

OECD Council Recommendation C(2004)100 on Environmentally Sound Management of Waste

This recommendation tackles waste shipments between OECD countries and specifies a distinction between non-hazardous waste, "green list" and hazardous waste in the "amber and red list", which also applies under the Basel Convention and the WSR[179]. Following this recommendation, the OECD has an interactive database with information on transboundary movements of waste within OECD countries, although not many countries have included information. Although it is not stated in the WSR, a similar database at EU level could support the monitoring of activities and provide a common electronic depository with information on waste shipments at EU level. As with the OECD database mentioned above, the full potential of such a European database would only be achieved if Member States incorporate data on a regular basis[179].

North American Agreement on Transboundary Waste

The US is a signatory (not a party) to the Basel convention. Also, it is obliged to meet the requirements of OECD decision C(2001). In addition to these, the US has bilateral agreements with Mexico and Canada for the transboundary movement of waste in North America[180]. This agreement appears to be coherent with the WSR in some concepts such as the prior information consent, but there are two main differences:

- In the US, it is known that only 3-5% of shipments are inspected, due to space and logistics issues. As a result, new measures are being taken to complement border inspections[179];
- The North American Commission for Environmental Cooperation has developed an electronic-based system for tracking transboundary shipments of hazardous waste[179].

The Bamako (Africa) and Waigaini (Asia, South Pacific islands) conventions

These two regional conventions cover transboundary shipments of waste respectively in Africa and Asia.

The enactment of the Bamako convention in 1998 arose as a response to Article 11 of the WSR and from the ineffectiveness of the Basel convention to control the illegal shipment of waste to less developed countries[181]. Although IEEP et al. (2009[179]) did not explore the coherence of the Bamako convention with the WSR in detail, it was identified that inspection criteria were not harmonised.
The so-called Waigaini convention (officially: Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region) entered into force in 2001. The main

[179] IEEP, BIO and Eco-logic (2009) "Study on inspection requirements for waste shipments". A project under the Framework Contract G.4/FRA/2007/0067. Final report for the European Commission. Available from: http://ec.europa.eu/environment/waste/shipments/pdf/report_august09.pdf
[180] US EPA (2016) "International Agreements on Transboundary Shipments of Hazardous Waste". Available from: https://www.epa.gov/hwgenerators/international-agreements-transboundary-shipments-hazardous-waste
[181] UNEP (2017) "The Bamako convention". UN Environment. Available from : http://www.unep.org/environmentalgovernance/bamako-convention

aim of the convention is to eliminate the transboundary movements of hazardous and radioactive waste, to minimise the production of these types of waste in the Pacific region and to ensure the environmentally sound disposal of waste within the geographical area covered by the convention[182]; [179].

IEEP et al. (2009[179]) did not undertake an assessment of the coherence of these two regional conventions with the Basel convention or the WSR, but it was highlighted that there is significant opportunity for potential synergies between the WSR and other continental legislation or initiatives on the transboundary movement of waste, as fostered by Article 11 of the WSR.

Summary of findings

EQ12 - To what extent is the WSR coherent with international commitments on waste?	
Conclusion	• In general, the WSR is coherent with the Basel Convention and OECD decision C(2001)107. • The codes used in the Basel Convention, the OECD and the European List of Waste (LoW) are all different. The LoW codes are generally more detailed. These codes are not easy to harmonise and to convert from one classification to the other. There is undergoing work to align some of the codes. • The WSR develops the concept of financial guarantees more precisely than the Basel Convention and the OECD decision. Some stakeholders feel that this contradicts these two pieces of overarching legislation. • The Basel Convention does not have requirements for green-listed waste, as opposed to the WSR. Although some may consider this an inconsistency, it can be concluded that it is not. The OECD decision requires for green-listed waste to be subject to certain information requirements ('Green control procedures'). • The Basel convention indicates a period of 60 days to respond to notifications, whereas the WSR gives a period of 30 days.
What works well	In general terms, the WSR is coherent with the Basel convention and OECD decision and the WSR. In general, stakeholders felt that the WSR is fully compatible and coherent with its two overarching pieces of legislation.
What works less well	The inconsistencies between the European list of waste, the Basel convention and the OECD codes have been highlighted in the literature review and by a significant number of stakeholders. There is a general perception that these inconsistencies hinder the implementation and functioning of the Regulation.
Strength of evidence and potential bias	Good level of evidence. No apparent bias.

6.5 EU Added Value

EU Added Value refers to the changes which have occurred where it can be reasonably argued that these are due to the regulation more so than what could have been/could be achieved on a national level by both the public authorities or private sector[183]. Hence, this section on EU Added Value considers arguments resulting from the regulation which concern these aspects.

[182] SPREP (n.d.) "Waigani convention". Secretariat of the Pacific Regional Environmental Programme. Available from: http://www.sprep.org/legal/waigani-convention (Accessed: 20th December 2017)
[183] Better Regulation Guidelines: Evaluation and Fitness Checks https://ec.europa.eu/info/sites/info/files/better-regulation-guidelines-evaluation-fitness-checks.pdf

6.5.1 *Evaluation question 13 - What has been the EU added value (of the WSR together with Regulation (EC) No 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)?*

The literature[184] indicates that there has been an increase in the volume of waste shipped between countries, possibly as a result of the WSR. The assumption being that the waste has moved to the location / facility that improves its treatment and disposal, although this is not tested or proved in the literature. This point is also discussed in the answer to Q15.

There is nothing apparent from our literature review on what would have happened without the WSR, for example, would waste shipments have increased anyway? The debate on this is illustrated in a 2009 EEA report[185] which states that better waste management has been on the agenda in the EU, particularly in the old Member States, for the last 20 to 30 years. New waste strategies and legislation on the handling of waste have been introduced at both EU and national levels. In general, the requirements for waste management have been harmonised in the EU during this period, especially over the last 10 to 15 years. This, together with the introduction of the single market in the EU in 1993, which stimulated transboundary shipments of goods, including waste, has prompted an increase in waste shipments between EU Member States for treatment and disposal.

The questions as to why the EU implemented the Basel convention and the OECD decision into EU law, and the role of the Court of Justice of the European Union when rules are made into EU law, is considered in more detail in relevance. This question also crosses over with the nature of the WSR, i.e. a regulation rather than a directive. The fundamental difference between a regulation and a directive is explained by the EC[186] as follows:

- *Regulations:* A "regulation" is a binding legislative act. It must be applied in its entirety across the EU. For example, when the EU wanted to make sure that there are common safeguards on goods imported from outside the EU, the Council adopted a regulation;
- *Directives*: A "directive" is a legislative act that sets out a goal that all EU countries must achieve. However, it is up to the individual countries to devise their own laws on how to reach these goals. One example is the EU consumer rights directive, which strengthens rights for consumers across the EU, for example by eliminating hidden charges and costs on the internet and extending the period under which consumers can withdraw from a sales contract.

The WSR is therefore a regulation because a fundamental reason for its existence is to enable a consistent implementation across Member States of the Basel and OECD decisions, and a Regulation is a better legal means of achieving this than a Directive. The WSR also appears to have come into existence as a reflection of the fact that the EC acted on behalf of the Member States in the UN's Basel negotiations and used the original WSR as a means of implementing it in all Member States. This question is somewhat difficult to answer as the sources are relatively old (e.g. Council decisions from 1993[187] where the context is not apparent) and limited to the preamble of the WSR itself.

[184] For example: SWD(2015) 291 final. COMMISSION STAFF WORKING DOCUMENT. Accompanying the document 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 Generation, treatment and transboundary shipment of hazardous waste and other waste in the Member States of the European Union, 2010-2012. {COM(2015) 660 final}
[185] EEA (2009) Report: "Waste without borders in the EU"
[186] European Union, available at https://europa.eu/european-union/eu-law/legal-acts_en Accessed 4/10/2018
[187] Europen Union, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:1993:039:TOC Accessed 4/10/2018

This question (what the added value of the WSR is as opposed to each Member State adopting their own approach) was raised in the interviews with Member State Competent authorities and other waste industry stakeholders.

Seven Competent Authorities responded to this question and they raised the following points. Two Competent Authorities stated that as the WSR applies to transboundary movements of waste the alternative would be more bilateral agreements between Member States. In comparison to the alternative of Member State provision the WSR was felt to give better legal clarity and it created (in effect) a multilateral agreement with a clear framework and boundaries between hazardous and non-hazardous waste.

Four of the Competent Authorities pointed out that if transboundary movement of waste became harder (as they felt it would without the WSR), this would reduce the availability of waste treatment options and the ability to recycle / recover materials, as the economies of scale would reduce if resource recovery plants were sized to national arisings of a particular waste stream, rather than being able to be sized to accept arisings from multiple Member States.

One competent authority pointed out that prior to the WSR there were even more local variations within Member States. The Member States have acted in order to reduce these variations, with common approaches first being adopted across regions (e.g. in NL and F). This trend to standardise approaches within a Member State has continued, for example France was reported as now having moved to a single national approach (rather than regional) and this is viewed as being positive in terms of improving the consistency and speed of decisions. One Competent Authority made the point that national regulations (in their Member State) have evolved in order to better align with the WSR. A Competent Authority from an eastern Member State pointed out that without the WSR it is far from guaranteed that every Member State would have developed rules that were as detailed (and consistent) as those in the WSR.

All the Competent Authorities who responded on this question felt that the WSR builds on the Basel agreement and this results in a better framework with additional provisions, additional detail and clearer legal implications. Other benefits of the WSR as opposed to Basel include the additional flexibility it offers in comparison to Basel on shipping green listed waste, which should enable waste to travel to a wider variety of treatment types, which is positive in terms of the single market and the reuse of resources. Two Competent Authorities specifically mentioned the improved clarity (i.e. the system of bank guarantees) on take back obligations, in the WSR as opposed to Basel.

Three of the Competent Authorities made the general point that the core principles of the WSR are strongly supported, so major restructuring is not needed or desired, but there is a case for some adjustment, possibly via ‘soft’ routes such as additional guidance.

Six waste companies, or waste trade associations, responded to this question. Three of those that responded felt that EU level regulation is better than Member State only regulation as it ensures more consistent and harmonised procedures, and as such it adds value. Four of the stakeholders felt that in the absence of the WSR there would need to be more Member State rules, and these were unlikely to be consistent between Member States, or between wider areas of Europe. All six felt that this lack of consistency would significantly increase the administrative burden of moving waste.

Three of the company respondents felt that Member State only rules would also increase the risk of Member States designing these rules to favour their own facilities and situations, i.e. protectionism, where they would allow imports to their facilities, but not exports of wastes away from their facilities. This pattern would be expected to follow the regional trends in Europe, which are typically more facilities in the northern and western Member States and the south and east of Europe still lacking capacity. This situation would not be helpful in advancing the recovery and recycling of waste and would run counter to the other principles of the waste hierarchy, where waste should flow to the most suitable location for treatment or reuse, and this location may be cross border.

During the second workshop it was noted by one Member State representative that the framework and boundaries for hazardous and non-hazardous waste needs to be clearly defined as they still have issues with the current system. An industry association agreed with this point emphasising the importance of maintaining the distinction between the requirements needed for shipment of hazardous and those for non-hazardous waste in the WSR. For hazardous waste, provisions should remain as strict as they currently are to ensure traceability and safe treatment.

Summary of findings

EQ13 - What has been the EU added value (of the WSR together with Regulation (EC) No 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)?	
Conclusion	• The WSR has improved the consistency of approaches between Member States and has provided useful extra detail, compared to Basel and the OECD approaches. The key positive aspects are that the WSR has enabled a more consistent (between Member States) application of the BASEL and OECD approach. The WSR also gives more detail and provides a forum for EC wide discussion of the issues involved in waste transport. Despite these positive aspects some variations remain in the detailed approach of Member States. • The codes used in the Basel Convention, the OECD and the European List of Waste (LoW) are all different. The LoW codes are generally more detailed. These codes are not easy to harmonise and to convert from one classification to the other. There is undergoing work to align some of the codes. • The WSR develops the concept of financial guarantees more precisely than the Basel Convention and the OECD decision. Some stakeholders feel that this contradicts these two pieces of overarching legislation, but it could also be considered EU added value, in that it means the WSR is providing additional detail in comparison to the Basel Convention and OECD decision. • The Basel Convention does not have requirements for green-listed waste, whereas the WSR does. Although some may consider this an inconsistency, it can be concluded that it is not. The OECD decision requires green-listed waste to be subject to certain information requirements ('Green control procedures') • The Basel convention indicates a period of 60 days to respond to notifications, whereas the WSR gives a period of 30 days – this shorter period could be considered EU added value as it should help speed up waste shipments.
What works well	N.A.

EQ13 - What has been the EU added value (of the WSR together with Regulation (EC) No 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)?	
What works less well	N.A.
Strength of evidence and potential bias	We have been unable to get stakeholder opinions or any literature which answers the question of "the extent to which the enforcement committee of the Basel Convention would be as effective as a judgment of the European Court of Justice". There are no obvious candidates who could answer this question. Our conclusion would be that the fact that the WSR is a Regulation rather than a Directive suggests that the consistency and enforceability of a Regulation (as opposed to a Directive) was a factor. A more general difficulty with answering this question is that it is very hard to test the counter factual, i.e. no WSR and just Basel / OECD, so we have had to rely on the opinions of those involved in the waste industry, though this includes international waste firms with experience of working in parts of the world where Basel and the OECD approaches are the only guidance.

6.5.2 *Evaluation question 14- To what extent do the issues addressed by the WSR continue to require action at EU level?*

This question has a significant overlap with the questions relating to relevance.

The literature[188] suggests that there is a better quality of data on waste shipments as a result of the WSR (same point as question 15). The quality and consistency of waste statistics are important because they enable the proper monitoring and evaluation of waste policy.

The 2013 Impact Assessment (IA) for strengthening the inspections and enforcement of the WSR[189] 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 counties is often initially moved within the EU, so if the inspections in the origin Member State 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.

This question was raised in the interviews. All five of the Competent Authorities that responded felt that the issues still require EU level action. Two of the Competent Authorities made the point that the

[188] https://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_shipment_statistics
[189] 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 Accessed 4/10/2018

WSR needs to keep adapting to technical progress and to facilitate the transition to the Circular Economy, as they recognised that at present the WSR is causing some problems for the circular economy and that there are opportunities related to reducing the burden on the shipping of green listed waste to aid circular economy. Two Competent Authorities made the fundamental point that the purpose of the WSR is to control waste rather than to create waste markets.

Eight waste companies or trade associations responded to this question, with seven explicitly agreeing that there is still a need for EU level action. Four of the respondents stressed that the WSR needs to be kept up to date, particularly with regards to helping to enable the circular economy and refining harmonisation between Member States. Regarding harmonisation, one stakeholder felt that the meetings of Member State correspondents have become less frequent, so there is less discussion between Member States on the WSR than there used to be. The stakeholder felt that this could be explained by the legislation being mature and the Member States being (relatively) happy to live with it. However, he felt that if there was more willingness to meet more often it would help to solve some of the problems in an effective (albeit soft) way – e.g. more guidance and arrangements between Member States. Although he also recognised that some of the two-way deals don't seem like 'good regulation' as they should be more universal. Another point on the continued need for evolution was raised in respect of the green lists, as they are important in the circular economy.
Two of the stakeholders mentioned the benefits the WSR brings in terms of helping cooperation between Member States. Two of the stakeholders made the general point that the WSR should help to create markets as well as controlling / stopping waste shipments.

Summary of findings

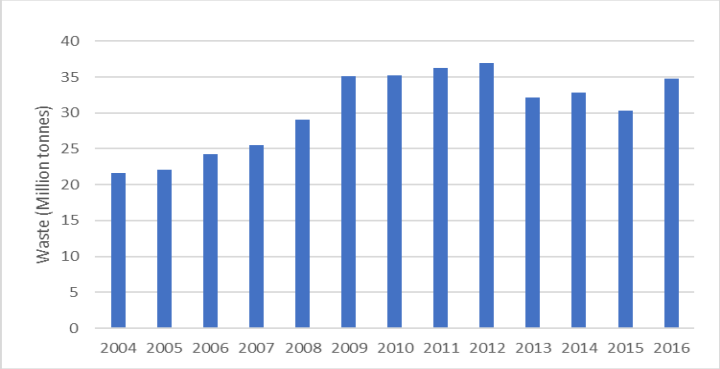
EQ14 - To what extent do the issues addressed by the WSR continue to require action at EU level?	
Conclusion	• The WSR improves the consistency of the detailed approach to waste shipments across the Member States, and that this issue remains pertinent. The key positive aspects that support this conclusion are that waste shipments are international by nature, so there is a clear consensus that there remains a need for coordinated action at EU level, to enable consistency and to try and avoid illegal waste shipments routing via Member States with lower standards. • The main factors that raises some concern is that because the WSR has some relevance on the issues associated with enabling a more circular economy it needs to evolve to minimise / reduce any negative impacts on this. However, as discussed elsewhere this is an issue that goes beyond the WSR.
What works well	N.A.
What works less well	N.A.
Strength of evidence and potential bias	The evidence is qualitative, and it is hard to test the counter factual.

6.5.3 *Evaluation question 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?*

When discussing Regulation 1418/2007 it is important to give some context. Hazardous waste shipments from the EU are prohibited and are also covered by the Basel Convention. Regulation 1418/2007 supplements this regime by regulating exports of non-hazardous waste to non-OECD Decision countries. Therefore, it should not be concluded that abolishing Regulation 1418/2007 would lead to large volumes of hazardous waste from the EU going to developing countries, because there are other regulatory barriers to this. The EU has no legal obligation under the Basel Convention or OECD Decision to restrict exports of non-hazardous waste, and it appears that no other country or region has such a regime.

An EEA report from 2012[190] stated that movements of non-hazardous waste, such as plastics, metals and paper, have increased considerably in the previous decade, with an increase in exports from the EU to the Far East, particularly China. Non-hazardous waste exports declined somewhat in 2008/2009 during the economic downturn but picked up again and exceeded the pre-2009 levels in 2011. The Circular Economy Monitoring framework[191], contains more up to date data on trade in recyclable raw materials, it shows that exports from the EU to non EU28 countries rapidly increased during the first decade of this century, then flattened out or reduced following the economic downturn but the more recent data shows that the growth in exports may be returning. It is not yet clear if the recent (January 2018) actions to restrict imports of certain waste streams by China[192] will have any impact on these trends.

Figure 6-11 Exports from the EU 28 to non-EU countries of recyclable raw materials



Source: The Circular Economy Monitoring framework[193],

The literature suggests that there is better quality data available because of the WSR, and this link to the provision of better data could be considered as EU added value, in that better data enables better policy monitoring and better policy. The waste statistics[194] also show that waste transfers between Member States appear to be still very much dominated by transfers between the old EU 15. As mentioned elsewhere in this report there remain numerous calls for an EU wide approach to the electronic labelling of waste shipments. Another issue that is also mentioned elsewhere, but has some

[190] EEA ,(2012).Movement of Waste Across the EU's Internal and External Borders. Available at https://www.eea.europa.eu/publications/movements-of-waste-EU-2012
[191] Eurostat. Available at http://ec.europa.eu/eurostat/web/circular-economy/indicators/main-tables Accessed 4/10/2018
[192] World Trade Organisation. Notification available at https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=237688&CurrentCatalogueIdIndex=0&FullTextHash=371857150&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True Accessed on 4/10/2018
[193] Eurostat, Available at http://ec.europa.eu/eurostat/web/circular-economy/indicators/main-tables Accessed 4/10/2018
[194] https://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_shipment_statistics

relevance to this question, is that the data reported under the Basel codes does not appear to align with the WSR data. A 2011 report for the EEA from the Copenhagen Resources Institute[195] investigated how much additional information the transboundary shipped wastes based on the LoW provides compared with information based on the Basel codes.

The data from Eurostat quoted in section 2.1.6 illustrates that waste transfers between Member States appear to be still very much dominated by transfers between the old EU 15.

Of the five Competent Authorities who offered an opinion on this question during interviews, three of them offered the general opinion that 1418 adds some value but the relative infrequency and slow pace of updates are problems. Two Competent Authorities pointed out that a positive aspect of Regulation 1418 was that it had put in place the need for financial guarantees (to cover the cost of returning waste shipments) for 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. However, one Competent Authority felt that the guarantees are not large enough and need to be standardised and increased. Another Competent Authority stated that they are looking at this issue in order to investigate if there can be more flexibility for the dispatch country in how this is organised.

Four waste companies and other stakeholders offered an opinion on this question and generally agreed with the Competent Authority's in that 1418 adds value, but the information it generates (on which wastes which non-OECD countries will accept) quickly becomes outdated. One waste company stated that they must ask a client in the state in question to get the current picture. One stakeholder felt the updates could be done quicker if the fact that (in their opinion) it's a technical issue, so the ideal would be a technical update system rather than the current political type update (which is slow). For example, since the last update in 2015 the waste types not accepted in China and Serbia have changed a lot, but this is not captured.

Another issue raised on 1418, where there was value recognised, but problems with the detail, was on equivalent treatment standards. Although the principle and the fact that it gives some additional legal certainty and clarity was welcomed, the fact that equivalence to the EU standard is not specified in 1418 was a weakness. This poses the risk that the standards outside the EU are lower, but this cannot be judged.

The second workshop included a discussion on 1418. DG ENV highlighted that they often receive complaints and negative comments regarding Regulation 1418/2007, especially since China's ban of waste. However, many of the workshop participants noted that the Regulation was useful for them. A Member State noted it creates a level playing field in the EU. An industrial stakeholder highlighted that is sets the framework for what is allowed and what is not. A second Member State authority noted that without the regulation 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.

[195] Copenhagen Resources Institute (2012),Transboundary shipments of waste in the European Union — Reflections on data, environmental impacts and drivers, Available at https://cri.dk/publications/transboundary-shipments-of-waste-in-the-european-union-reflections-on-data Accessed on 4/10/2018

Although many stakeholders agreed that the regulation was useful, they further stated there were other issues to be addressed. One Member State representative noted that it is not enough to view Regulation 1418/2007 in isolation. The provision on the precautionary principle also needs to be examined (especially as non-OECD countries do not have the capacity to deal with certain wastes). An industrial stakeholder raised the point that issues are caused by the slow pace of updates to the Regulation – however, an information paper from the German Federal Environment Agency makes it functionally useful for them. A suggestion was made by a Member State authority that it would be more lenient to use Article 18 by default for prior notification. However, a second Member State noted that the reason for using Article 37 was to ensure the precautionary principle.

There are several issues raised by China's recent ban on imports of many types of waste. For example, the ban raises questions on whether sorted non-hazardous waste such as paper and cardboard should be subject to trade restrictions on environmental grounds (enforced by the EU under Regulation 1418/2007) when it does not pose a greater environmental hazard than the same paper and cardboard before it was used. This ties in with a recurring issue in this evaluation of the coherence of the waste shipment regime with the circular economy and waste as a secondary raw material.

Many stakeholders have called for the Commission to update the Annex to Regulation 1418/2007 more frequently. While the logic behind this is understandable it needs to be balanced against the significant administrative burden for the Commission of obtaining official up to date information on waste import regimes from over 150 non-OECD countries, many of who have national administrations who can be difficult / impossible to get responses from. The regulation of shipments of low risk non-hazardous waste could also be criticised for consuming some of the limited resources of EU Member State Customs officials, when this time could arguably be better spent (in terms of addressing environmental risk) checking for illegal hazardous waste shipments.

Summary of findings

EQ15 - 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?	
Conclusion	• Regulation 1418 is useful in that it provides some information that would not otherwise be available, and this information should help reduce the export from the EU of waste that is not wanted in the country of destination. • The Regulation also gives a legal basis for pursuing waste shipment repatriation costs and provides some detail on equivalent treatment standards The formal process of updating the information appears to be relatively slow, and this means it can become out of date, with the highest profile recent example (of plastic to China) suggesting that waste could be exported there when this is no longer the case. • However, the waste industry appears capable of finding this information themselves. Improving the timeliness of the data collection would impose additional administrative burden on the Commission, in what is already a time-consuming task for them.
What works well	N.A.
What works less well	• The Regulation limits exports to some countries, even though they accept this waste from other large economies (e.g. the USA), though this could be a positive, if a risk averse

EQ15 - 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?	
	attitude is adopted. Another problem with the Regulation is that equivalent treatment standards are not defined. • There are several issues raised by China's recent ban on imports of many types of waste. For example, the ban raises questions on whether sorted non-hazardous waste such as paper and cardboard should be subject to trade restrictions on environmental grounds (i.e. Regulation 1418/2007) when it does not pose a greater environmental hazard than the same paper and cardboard before it was used. This ties in with a recurring issue in this evaluation of the coherence of the waste shipment regime with the circular economy and waste as a secondary raw material. • There is also an issue of the risk of restricted customs resources being diverted to inspecting non-hazardous waste shipments when this resource would be better directed (in terms of addressing environmental risk) to hazardous waste shipments.
Strength of evidence and potential bias	The amount of waste shipped outside of the EU is very small in comparison to the amount shipped between Member States within the EU, so the experience of using 1418 is relatively limited. We have received input from stakeholders with knowledge of its use, but it appears to be a small group. We have not approached the non-OECD countries that this relates to for input (this was excluded from the scope – due to the large effort required, with little hope of return, for what was a seen a comparatively minor issue).

6.5.4 Evaluation question 16 What would be the most likely consequences of stopping EU action?

Some waste data[185] (pre- 2012) indicates that there has been an increase in waste shipments out of Europe. However more recent data[196] suggests that this increase may be reducing. There are no clear opinions apparent on whether the WSR have influenced this and as such it is difficult to know what would happen without the WSR.

In their feedback on the evaluation roadmap for this study the European Electronic Recyclers Association (EERA) stated that there should be an examination of the extent to which the WSR helps enhance the efficient use of resources and establishes a well-functioning single market for waste treatment services and recovered materials within a more circular EU economy. EERA also commented that 'The market for waste treatment services is not a single market in Europe. The WSR prevents a single market for waste from existing.' The reason for this opinion was investigated via interview and it relates to difficulties caused by differing interpretations of the waste codes when moving electronic scrap for recovery between Member States. This issue is picked up in more detail under effectiveness.

During the targeted stakeholder consultations, the question was asked as to what the most likely consequences of would be stopping EU action in this area (the WSR and Regulation 1418). Five Competent Authorities responded to this question in detail. Three of the Competent Authorities predicted that the situation would be to fall back on the Basel agreement pus the OECD decisions along with bi or multi-lateral 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

[196] https://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_shipment_statistics

least well-regulated Member States. Although this is already felt to happen to some extent, it would become worse.

A Competent Authority felt that the Communication between Member States would reduce, for example the meeting of correspondents and this would lose the opportunity to continue the helpful learning between Member States on adding detail to Basel and implementing the WSR. One Competent Authority felt that the negative effects would be worse for small Member States, than for larger Member States because they have more cross border waste movements.

Eight companies and trade associations offered an opinion on this question. They all agreed with the Competent Authorities that the likely consequence would be that national rules plus Basel would apply, although Member State rules have no mention of transboundary movement so without the WSR this would have to be developed (for the national rules to work together and integrate Basel). It was also pointed out that the Basel and OECD regulations have much less detail than the WSR. They also agreed that this would result in a worse situation than with the WSR. The down sides mentioned were: illegal shipments would increase, it would imply even less harmonised legislation and procedures, less trade, less recovery, less recycling, higher social costs, harder to get 'right of return' etc. A stakeholder with knowledge of the situation prior to the WSR said this was the approach prior to its existence and that the WSR is a change for the better. One stakeholder offered the opinion that some Member State rules have evolved over time, but it is very hard to separate this evolution from the WSR, as they have moved to align themselves with it.

The need for waste shipments between Member States was repeated by two stakeholders, based on the need to size certain facilities (especially for hazardous wastes) at a larger capacity (for commercial viability reasons) than can be supplied by a single Member State. This view was caveated by one stakeholder who felt that although stopping the WSR would be negative, reducing the ease of waste shipments may oblige some Member States (like Sweden, NL, Germany) to increase their own capacity to deal with their waste. This could be positive for some Member States, where exporting waste for incineration is currently cheaper than developing the capacity to recycle it within the Member State. This situation was thought to be most relevant for with materials with a low value.

This question was also included in the survey, with respondents given the opportunity to reply in free text. There were eight replies in total to this question, all from waste industry / trade association stakeholders, with the key responses being as follows:

- Recycling would be likely to decrease (with negative effect on secondary materials market) (six responses) without the WSR mechanism to ease cross border waste movement;
- The fall-back option is the international framework (Basel), with less harmonisation between Member States (three responses);
- Would remove (or reduce) the ability to export waste to the Best Available Technique (BAT);
- Waste transport would become more subject to market drivers, which would result in less environmentally sound management of waste, less recycling and reuse, lower resource efficiency, a decrease in recovery, including energy recovery and increased social costs.

The public consultation also included a related question, that was phrased as follows: **What would be the most likely consequences of abolishing the WSR and Regulation EC No 1418/2007?**

There were 43 replies to this question, with the key response being as follows, in order of frequency, the number in brackets is how many stakeholders made the same (or a very similar point):

- Increase in the number of illegal shipments (including those out of the EU, partly because legal shipments would become much harder to organise and its harder to control illegal activities with a lack of a common approach). (11);
- Reduction in trade of waste and recycling (which is negative for the circular economy). (9);
- Even more inconsistency between Member States (7) / National approach, with fall back on Basel (9) which is less detailed and could lead to more delays due to the lack of consistency.
- Chaos. (9);
- Increased risk of environmental harm (7) 'some countries would become landfills for others';
- Harder to enforce take back obligations. (3);
- Decrease in competition (because cross border movements are harder). (3);
- Some saw a limited number of positives (3). These were that metal recycling would not reduce, testing of new recycling processes would be easier, exports out of the EU would be easier and trade would be easier with lower administrative costs. (*These statements appear to assume that the WSR would be replaced with no regulation, which seems unlikely*);
- It would be counter to Basel signature, and therefore break international law.(2);
- Possibly more take back of illegal shipments outside the EU - under Basel (and there would be less information on what countries would accept) (2);
- Collapse of the secondary commodities market due to national variations in regulations. (2);
- Loss of waste traceability;
- Waste shipments would be more driven by the least cost solution;
- Less level playing field (as less consistent).

During the second workshop two Member State authorities noted that they did not agree with the statement that trade of green-listed waste would decrease without WSR. As WSR has stricter definitions than Basel, therefore it seems unlikely that trade of such waste would decrease if restrictions were lifted.

Summary of findings

EQ16 - What would be the most likely consequences of stopping EU action?	
Conclusion	• The assumption from virtually all stakeholders that stopping EU level action would result in the WSR stopping and cross border shipments being controlled only by Basel and the OECD decision. • The consequences of such a change match losing the benefits of EU level action from question 13, for example the higher level of consistency between Member States and the higher level of detail on procedures that the WSR bring. • In addition to these benefits being lost there is also a reasonable argument that the risks of illegal shipments would increase and the ease of moving recyclable material between Member States would reduce.
What works well	N.A.
What works less well	N.A.
Strength of evidence and potential bias	As with the other EU added value and the coherence questions it is hard to test the counter factual. There were a small number of stakeholders that felt that removing the WSR would make recycling easier, due to the removal of any cross-border restrictions.

	This opinion seems highly unlikely to us as it assumes that Basel and the OECD arrangements would also stop.

7 Conclusions

The report sets out the history of, and rationale for, the WSR, as well as the scope for intervention and societal relevance. It provides a response to several evaluation questions that form the basis of this evaluation, as part of an overall evaluation framework set out in section 3 and in Appendix B, using various methodological tools (i.e. interviews, workshops, survey, open public consultation, literature analysis), defined in section 4. It provides the key findings of the study, set out in Section 6 Evaluation results.

This section provides a high-level summary of what the study has found. Further details and specific examples are provided in the earlier sections of this report.

7.1 Effectiveness

Achievement of objectives

As outlined under Section 5, key issues have been recognised which have hampered the effectiveness of the WSR in fully achieving its objectives. Our analysis indicates that perhaps the most challenging objective to achieve is to enable a uniform application across Member States (Objective 1.4), as this is closely linked with the development of inspection plans to combat illegal shipments and harmonisation of waste reporting and classification – all of which were widely recognised throughout the literature as obstacles impeding the regulations effectiveness. This was further confirmed via our consultation strategy, including interviews and survey.

A survey and interviews with various Member State Competent Authorities and other relevant stakeholders confirm findings from the literature that the WSR does provide an effective legal framework to implement the Basel Convention and OECD Decision, hence supporting the protection of the environment and health – both seen as the main benefits from the legislation. There is a general understanding of the limitations of a legal instrument to prevent illegal waste flows going out of the EU to third world countries, and a strong consensus that continued effort to sustain and improve enforcement will be essential, including targeted controls and tackling deficits of staff. Competent Authorities mainly call for 'adjusting the legislation, rather than substantially restructuring it: both accrued guidance and deeper harmonisation seem to be considered with higher priority than actual changes to the legislation itself. It was also suggested by Competent Authorities that there is a need to move on to new challenges, including defining an approach to the circular economy i.e. for recycling. For example, it should be easier to ship low risk waste across the EU and if we aim to establish an industry using secondary materials, then the administrative processes associated with the WSR should not hinder this aspect of the transition to circular economy.

Obstacles

Common obstacles to the implementation of the WSR are discussed in detail under Section 5 and include lengthy notification procedures and approval of cross-border shipments even between subsidiaries of the same company with installations in different countries which are regarded as often burdensome and leading to high costs. The current framework also disregards the fact that certain waste streams constitute secondary raw materials that need to be readily available to enable a Circular Economy. The protection of the environment from dumping untreated waste is a necessity, but this can

be achieved without restricting trade in secondary raw materials. Recycling companies, many of them SMEs, encounter obstacles and barriers to their business activities on a daily basis.

Shipments and imports are regularly negatively affected by different Member States interpretations of whether waste is hazardous or non-hazardous. These delays are not only disruptive to the recycling process but also have financial consequences for recycling operations.

The results of the survey revealed a range of factors which are percevied among stakeholders to have negatively influenced the effectiveness of the WSR. These factors include:

- Lack of harmonisation;
- Administrative burden of procedures;
- Scope for different interpretations of its provisions;
- Wording and definitions in the provisions of the regulation.

External forces have also influenced the regulation (e.g. economic forces) as a result of price increases for raw materials and the growing economy in Asia which has had a large influence on global waste trade. However, it can be said that the WSR has been most influenced by internal factors – which were identified in the survey across all business types from public sector bodies, Competent Authorities, trade associations and environmental NGOs – as well as others (consultancy and academia). The variation in interpretation across Member States – especially in relation to variation in waste codes and classification was identified from all stakeholder consultation tools as a key issue.

A lack of cooperation between Member States was also identified as a factor which has influenced enforcement. This was explicitly mentioned in relation to EoW criteria and the different interpretations of this across Member States. While the survey results highlighted that most respondents indicated that enforcement is somewhat effective in their own Member States – lack of consistency and cooperation between Member States is an issue. Regarding sanctions for illegal shipments, there is evidence from the survey which suggests that administrative errors are occasionally picked up and sanctioned more than actual illegal shipments and that more targeted enforcement and appropriate sanctioning should be put on illegal shipments and inspections. It was also noted by two Member States – Spain and Bulgaria – that while illegal shipments are recognised as a problem, there is not always enough resources to mitigate this. The differing priorities for various ports for inspection, as well as the difficulty in carrying out effective inspections at large ports with limited resources was also identified, as illegal shipments find the line of least resistance to get through Europe.

It is likely that reducing the administrative burden of the notification procedure would feed back in to the differing priorities at ports and reducing illegal shipments, by making it easier for coordinated information exchange and reduce the likelihood of administrative errors occurring in the first place. Certain Member States (i.e. Spain) are already establishing an electronic data exchange as a means of reducing administrative burden – but a standardised and coordinated system in place 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.

To conclude, further harmonisation and cooperation between Member States is needed. This may also encourage the establishment of waste markets within the EU. It is also likely that further efforts

regarding the adaptation to technical progress could positively effect issues related to administrative burden.

7.2 Efficiency

Different sources of the evaluation seem to point to costs at several levels (monetary and non-monetary) associated with the implementation of the WSR, notably at Member State, 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 the administrative burden, financial costs and dispute settlement costs. A big portion of the costs are due to different interpretation of the regulation in different MS. On the other hand benefits are mainly societal improved environment being the most important one. For Member States the WSR represents a tool for monitoring waste shipments.

In general, consulted stakeholders, especially public bodies, think that the costs involved in its implementation are justified by the benefits. A narrow look at own's costs and benefits may logically skew the perception of businesses towards an opinion that costs are not justified. The positive opinion becomes more prominent as soon as businesses look at the general societal benefit rather than at their financial bottom-line only.

In general, SMEs highlighted that administrative burdens linked with the implementation of the Regulation do not scale down well with their relatively lower revenue. SME stakeholders have highlighted during interviews and the consultation that they are at a disadvantage compared to larger firms, when it comes to the resources, they can invest in addressing administrative burdens. Indeed, while larger firms can allocate resources to a whole compliance department, this was highlighted to be impossible for smaller companies. Additionally, the higher risk of mishandling of administrative procedures increased the change of getting their shipment classified as illegal. The survey results highlighted that micro and small firms experience higher administrative costs stemming from the WSR compared to larger firms. Nonetheless, all sizes of enterprise generally agreed that the costs stemming from the Regulation are high.

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 MS electronic systems contributes to the set of technological good practices. Additional to the technological uptake, good practice sharing is facilitated by the ease of information exchange between MS. On the other hand, bad practices can arise from the inability of such systems to communicate with each other. Moreover, the lack of a common interpretation leads to issues between bordering MS, as well as MS with third world countries. These go from differing levels of standards for quality as well as the divergence in waste classification.

Business stakeholders have raised several issues linked with unnecessary regulatory burden and complexity cause by the WSR and Regulation 1418/2007. Most of these issues consist in the delays that arise from complex procedures (e.g. pre-consented facilities). Additionally, excessive attention to detail by competent authorities can lead to costly corrections to notifications. Finally, it was stated that complexity arises from the difficulties linked with waste classification.

There is a lack of substantial data to suggest that there are cost and benefit differences of the WSR at different levels (i.e. local, national and EU). However, interviews with businesses have revealed that certain local authorities may in some cases require stringent insurance documents as well as require a fee for providing council on how to fulfil these documents. Moreover, there have been cases where local authorities lack the adequate knowledge to determine whether a shipment is legal or not. This has consequently entailed higher costs for economic operators in terms of repatriation costs.

At Member State level, there are different costs that arise from the various inspections systems and legal prosecution (cost to MS). Despite being expensive more stringent inspections lead to higher environmental protection. Also, the lack of common interpretation at EU-level emphasises the cost differences for transporters across Member States. Some differences across MS, such as the option to pay in cash, bring to light certain bad practices which could result in higher levels of corruption and thus negatively affecting all types of stakeholders. For economic operators such as businesses, unfair practices of local authorities can create substantially higher costs for these stakeholders (e.g. privilege of local companies versus foreign companies).

A variety of concrete suggestions included easing administrative burden, harmonising interpretations, introduction of electronic system. These suggestions are related to common issues repeated throughout the report.

Time is highlighted to be a key element for business operators. As such, easier and faster notification and pre-consent processes (including a fast-track system) could be greatly beneficial to economic operators. Moreover, the reduction of difference between national approaches would begin solving time inefficiencies. Indeed, while some inefficiencies have been highlighted, it was stated that pre-consent should be made easier and notification procedures faster.

Additionally, opinions from Member State competent authorities and Business operators voiced the necessity for increased cooperation between competent authorities, effective use of pre-consented facilities and clarification on the time period, a harmonised timeframe and clear enforcement deadlines. As such, pooling national waste treatment facility license at EU-level, as well as introducing an internationally coordinated electronic notification system procedure would create an EU-level effort that would allow to render processes of the regulation more efficient. Similarly, the harmonisation and simplification of waste classifications alongside the mutual recognition of MS transport registries continues the EU-coordinated level effort.

Also, business operators insisted that there be a harmonised, and longer, duration of the transfer validity period, and shorter procedures in case of renewal of notification. Also, the removal of transit countries from notification procedures, as well as the introduction of tacit consent could benefit these inefficiencies linked with the implementation of the regulation.

In conclusion, there is a need for harmonisation of practices between Member States. Often Business operators face costs that arise from the different systems. Another issue important for the streamlining of the regulations is increasing the speed at which occur administrative tasks. This could be resolved by reducing the complexity of such tasks for both competent authorities and business operators.

7.3 Relevance

Relevance of the WSR to environment, health, social impacts of the waste shipments

The WSR is very relevant to protecting the environment, health and circular economy agenda of countries within the EU, as well as neighbouring states and third countries. The available evidence suggests that in terms of mitigating the risks associated with waste shipments for disposal, and protecting the environment from hazardous waste shipments, the WSR has been beneficial at upholding international obligations, although illegal shipments do still occur. However, progress has been made in terms of mitigating the potential health impacts of environmental effects, as the regulation offers a formal framework for ensuring waste treatment and encourages the application of the Basel Convention and the OECD Decision.

As presented in SQ 5.1 (See 6.3.1) the clear consensus of stakeholder opinion from the interviews with Competent Authorities, trade associations, and private companies is that environmental protection is considered the main benefit of the WSR, and it was noted that there are no longer shipments of hazardous waste being transported legally from Europe to third countries which is also reflected in the data on increased disposal rates within the EU This was reiterated in the interviews where 75% of respondents highlighted that the regulation had been somewhat effective at achieving its environmental objectives and is thus relevant to addressing the health and environmental impacts associated with waste shipments.

Technical, scientific and progress regarding EU market developments

Establishing a circular economy in Europe is an important aspect of the environmental agenda, especially regarding reducing carbon emissions and consumption in EU Member States. One of the central objectives outlined in the communication for addressing the interface between chemical, product and waste legislation (2018) is to "enable recycling and improving the uptake of secondary raw materials, by limiting unnecessary burdens, and facilitating the cross-border circulation of secondary raw materials to ensure that they can be traded easily across the EU".[197] The WSR is highly relevant to establishing waste markets not just inside the EU, but also for enabling European waste markets to be competitive in a global context. Despite the achievements of the WSR in protecting the environment from hazardous waste shipments and its utmost relevance to the circular economy agenda, its achievements regarding the encouragement of Member States to establish waste markets and enabling circular economy has been questioned. This was a universal finding across all platforms of stakeholder consultation used in this study. Regarding the adoption of technical and scientific progress, administrative issues regarding the time taken for notification procedures and take back obligations of countries which have disparate interpretation of waste streams was also mentioned in terms of discouraging experimental shipments for best available treatment processes in Europe.

However, it must also be noted that the original objectives of the WSR was not to enable such waste markets but to discourage transboundary shipments of waste. Hence, it is likely that the WSR needs to be adapted to address its relevance to waste markets and the scientific/technical progress that has been made in recent years regarding waste treatment and recycling. While it was noted in the circular economy Communication of 2015 that Europe aims to limit "unnecessary burdens" regarding the uptake of secondary raw materials and their cross-border circulation – the administrative burden of the WSR for

[197] Communication on the implementation of the circular economy package: options to address the interface between chemical, product and waste legislation (2018)
https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018SC0020&from=EN

recycling companies, customs officials and the competent authorities would suggest that this objective has not been achieved in relation to the WSR. As presented under SQ 5.2 (See Section 6.3.1), the results from the stakeholder survey highlighted that 23% of respondents selected that the regulation has been "very ineffective" at increasing competitiveness of EU industry with many highlighting the administrative burden for recyclers associated with the classification of shipments and the process of becoming a pre-consented facility and cross-border shipments of waste.

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

The relevance of the WSR to multilateral agreements like the Basel Convention and the OECD Decision was recognised across all means of stakeholder consultation and there is no question that it has encouraged their implementation in European Member States.

Outdated or obsolete provisions of the WSR

The survey results highlight mixed opinions from stakeholders regarding the provisions of the WSR, and it was noted that most trade associations highlighted that there were some gaps, overlaps, inconsistencies or discrepancies in the provisions of the WSR. Specific examples that were identified included the financial bank guarantee required for all notifications, and this provision feeds back into technical and scientific progress as it was discussed in terms of reducing financial liquidity of companies and hindering investment in technical progress. The financial guarantees required for all notification types was presented by stakeholders as a significant administrative burden that could be obsolete for certain waste streams that are low risk and contribute to the circular economy.

Hence, adapting the WSR to recent market developments regarding secondary raw materials was considered a high priority for stakeholders. Stakeholders prioritised increasing overall efficiency of the administrative process as a means of adapting the WSR. Examples included the establishment of an electronic data interchange, further enhancing more standardised waste classification and enabling fast track procedures for certain waste streams in order to facilitate being shipped for appropriate treatment - It is possible that enabling internal markets for secondary raw materials in this way would also increase the competitiveness of European waste markets on a global scale.

The evidence available suggests that it is necessary to update the provisions of the WSR to reflect its relevance to establishing the circular economy within the EU as this was not considered in the original provisions. Thus far it has not been successful at this. Despite this, there is no question that the WSR has been beneficial at upholding compliance with multilateral agreements like the Basel Convention and the OECD Decision. There are opportunities to strengthen the WSR by adapting it to technology which could play a role in reducing the administrative burden for certain Member States.

7.4 Coherence

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

There are synergies between the WSR and waste legislation, especially those Directives covering specific waste streams. The ELVD, Batteries Directive, the Packaging and Packaging Waste Directive and the WEEED all contain specific provisions to comply with the WSR. Since the appearance of the Regulation, waste exports of these streams have increased, and this is reflected in waste export statistics. Related to this, there are also synergies with the Extended Producer Responsibility (EPR) in that producers take responsibility for collecting, sorting and treating goods for recycling with the

principles of proximity, priority and self-sufficiency. Despite these synergies, waste legislation has the same issues regarding waste shipments as the WSR: The existence of illegal shipments of waste.

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

Despite the synergies identified during the evaluation, several challenges remain. In the 'thematic' waste legislation (i.e. ELVD, WEEED, batteries, PPWD) there are illegal shipments of waste and waste shipments organised by illegal operators. Also, the definitions of hazardous and non-hazardous and their interpretation in different Member States make the shipments of certain waste streams such as batteries difficult.

Another issue of concern is the different interpretation of the definition of waste and end-of-waste criteria. This can be an issue of coherence between the WSR and the WFD. Some Member States may consider certain material to non-waste whereas other Member States may consider it waste according to the definition in Article 3 of the WFD. Therefore, certain shipments may be deemed illegal by a Member State of reception, while they are not considered to fall under the scope of the WFD and the WSR by the Member State of dispatch. Other inconsistencies between the WSR and the WFD are related to animal by-products. This also affects the coherence between the WSR and the Animal By-Product Regulation.

Another possible inconsistency has to do with the Circular Economy Action Plan. Although some Member States are aware of this, it was mostly business operators and trade associations that raised this issue. According to them, the WSR is hindering the achievement of the Action Plan's objectives of promoting a market for secondary materials due to the different interpretations of Member States and the administrative burden created by the Regulation.

Another point of conflict is the EU customs legislation. The different interpretations of the classification codes of the EU customs legislation and the WSR leads to some countries having to pay customs fees for exporting waste due to being considered a "product" in the destination country.

Support of the WSR to the EU internal market

Most stakeholders had negative views of the WSR and its interaction with the EU internal market. According to them, the WSR is hindering the creation and promotion of a market for secondary materials and has increased the administrative burden for authorities and operators. The differences in interpretation of the Regulation mean that the single market is not well integrated.

Support of the WSR to innovation

Although there was limited information on this topic, it was clear that most stakeholders that have a role related to the WSR do not think that it fosters innovation. There are multiple barriers to the testing and initiation of new recycling and treatment strategies, methodologies and technologies in a way that it is very difficult for a new treatment technique to receive enough waste to be profitable until the technique is mature and well established. However, financial investments are not easily secured if these new technologies and routes are not tested first. This contradiction seems to be hampering industrial innovation.

Support of the WSR to employment

Eurostat indicates that there are over a million workers in the waste management sector in the EU. Employment has grown consistently in the recycling sub-sector, with an increase of almost 70% from 2000 to 2008. Moreover, more than 130 000 people were employed in wholesale of waste and scrap in 2008. There is also information on the growth of employment related to the environmental goods and services sector and the growth of enterprises related to materials recovery. Although it is true that employment in the waste management sector has increased and that it could be assumed that part of this may be due to the WSR, it is not possible to disentangle jobs that are linked to cross-border waste trade from those of the waste management sector as a whole, in order to clearly affirm that the WSR has had a clear contribution to employment.

Internal coherence of the WSR

The evaluation has assessed the internal coherence within the articles of the WSR itself as well as the WSR with Regulation (EC) No 1418/2007. The Regulation is generally coherent internally. However, the different interpretations of Article 18.1 are posing difficulties in the operation of the Directive. This article states that the person arranging the shipment should be under the jurisdiction of the country of dispatch. Similarly, the consignee for delivery shall also be under the jurisdiction of the country of destination. This is making the operation of dealers and brokers of recyclates difficult.

Regarding Regulation 1418/2007, the WSR is generally coherent with it. A few issues remain, namely:

- A possible inconsistency or contradiction between Article 36.1(f) and how it is understood and applied in practice as per Regulation (EC) 1418/2007. Article 36.1(f) applies to the exports from the EU to countries to which the OECD Decision does not apply. The provision states that wastes which import has been prohibited by the country of destination are prohibited. Some stakeholders have highlighted that the scope of the article is not clear and that the regime or system established by Regulation (EC) 1418/2007 is not consistent with Article 36.1(f) of the WSR;
- The delays between a ban imposed by an importing country and this ban being reflected in the Regulation. It is believed that this is not an issue of internal coherence.

Coherence of the WSR with Member State internal strategies and with Article 33

In general, the WSR appears to be coherent with Member State internal policies and strategies. However, stakeholders expressed their concerns with the interpretation of the Regulation in each country, even at regional level. This means that there are differences between Member States that are hindering the functioning of the Directive.

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

In general, the WSR is coherent with this overarching legislation. However, two issues remain:

- **Differences in the waste classification systems (Basel Convention and OECD decision):** The codes used in the Basel Convention, the OECD and the European List of Waste (LoW) are all different. The LoW codes are generally more detailed. These codes are not easy to harmonise and to convert from one classification to the other. These inconsistencies that are also applied differently in different Member States have been highlighted in the literature review and by a significant number of stakeholders. There is a general perception that these inconsistencies hinder the implementation and functioning of the Regulation. SQ2.2 has covered the issue of harmonisation in the scope of the effectiveness of the Regulation;

- **Financial guarantees (Basel Convention and OECD decision):** The WSR develops the concept of financial guarantees more precisely in a way that several stakeholders consider that it contradicts the Basel Convention and the OECD decision;
- **Differences in the requirements for green-listed waste (Basel Convention):** The Basel Convention does not have requirements for green-listed waste, as opposed to the WSR. Although some may consider this an inconsistency, it can be concluded that it is not. The OECD decision requires for green-listed waste to be subject to certain information requirements ('Green control procedures')). Also related to this, there are issues related to Annex IV of the WSR where it states that Basel entry A1180 does not apply and OECD entries GC010 and GC020 apply instead. Although the Correspondents' Guidelines No 4 cover this issue and are a useful tool, they do not always resolve legislative issues, as they are only guidelines and not legally binding *per se*;
- **Differences in the time for competent authorities to respond to notifications (Basel Convention):** The Basel convention indicates a period of 60 days, whereas the WSR gives a period of 30 days.

7.5 EU Added Value

What are the benefits of WSR compared to Member State level action alone

The situation with Member State level action alone would be national rules for internal waste movements, plus Basel and OECD for transboundary movements. The WSR provides much more detail and enables a more consistent approach than Basel, based on reported experience in non-EU countries that use Basel versus the reported experience of Member States and waste companies using the WSR. The data shows that there has been an increase in the movement of waste between Member States. This is partly driven by waste policy and the pressure to reduce landfill and increase recycling, which encourages waste to move to the facilities best suited to dispose or recycle it. The fact that all types of waste treatment and disposal facilities are not available in all Member States, yet, could be interpreted as being counter to the proximity and self-sufficiency principle. However, it is also reasonable to conclude that for some waste streams it makes sense for one facility to serve more than one Member State or areas of more than one Member State. The Competent Authorities and waste industry agree that this movement has been easier as a result of the WSR and although it is not perfect, the alternative of Basel plus agreements between Member States would have several major drawbacks. These drawbacks include: lack of consistency between Member States, which implies varying environmental standards and the lack of a 'level playing field' for waste companies. The lack of consistency would also imply a higher cost of compliance, which increases the risk of non-compliance and the environmental risks this brings. The increased difficulty of moving waste cross border would also risk reducing recycling and reuse, because it would become harder to move waste to recycling facilities in other Member States, when they do not exist within a Member State.

All Member States have evolved their national waste transport policies in line with the WSR, without the WSR it is likely that this evolution would have been more divergent, which would have had negative consequences.

Do the issues still require EU level action

The evidence and opinions from Competent Authorities and waste industry both agree that it does, and that the alternative (see question above) would have many drawbacks. There is agreement that it

needs to continue to evolve, particularly regarding playing its role in helping to enable the Circular Economy. It is recognised that there are mechanisms in place to do this (e.g. meeting of correspondents) but some feel these mechanisms are somewhat slow, underused and/or lack power to act. The Basel regulations are also felt to be a constraint, in that they are perceived as being outdated and difficult to change. Though many of the issues associated with enabling the circular economy are recognised as being beyond the remit of the WSR.

There is a predictable split of opinion between some Competent Authorities and the waste industry on the main reasons for having the WSR. Some Competent Authorities think it is primarily to control waste movements and protecting / promoting the market in waste is either irrelevant or much less important. The waste industry thinks that the WSR has an important role in waste markets and cite the benefits it brings to enabling the waste hierarchy (i.e. making it easier to move waste to the best recycling facility) as being a benefit of this. The conclusion that we would make is that it has a role in both.

The WSR generates data on EU level waste movements, broken down by waste stream, which is useful to monitor waste policy development.

EU added value of regulation 1418

Regulation 1418 is useful in that it provides some information that would not otherwise be available, and this information should help reduce the export from the EU of waste that is not wanted in the country of destination. The formal process of updating the information appears to be relatively slow, and this means it can become out of date, with the highest profile recent example (of plastic to China) suggesting that waste could be exported there when this is no longer the case. However, the waste industry appears capable of finding this information themselves. Improving the timeliness of the data collection would impose additional administrative burden on the Commission, in what is already a time-consuming task for them. Some feel it has also added value in putting a place a more detailed system for funding the take back of shipments deemed to be illegal.

China's recent ban on imports of many types of waste ban raises questions on whether sorted non-hazardous waste such as paper and cardboard should be subject to trade restrictions on environmental grounds (i.e. Regulation 1418/2007). This ties in with a recurring issue in this evaluation of the coherence of the waste shipment regime with the circular economy and waste as a secondary raw material. There is also an issue of the risk of restricted customs resources being diverted to inspecting non-hazardous waste shipments when this resource would be better directed (in terms of addressing environmental risk) to hazardous waste shipments.

It is apparent[195] that the WSR provides more (useful) data on the nature of the waste exported than would be the case if Basel alone was used. There is support for the principle of equivalent treatment standards, but concern that there is no detail on how to assess / prove this equivalence.

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

A very large majority feel that this would have very negative consequences, as the likely result, as described above, would be that cross-border waste shipments would be controlled by the Basel agreement and agreements between individual Member States. The negative consequences would stem from the lack of consistency and detail this would result in. This would lead to an increase in environmental risks (due to a likely increase in the cost of compliance), a reduction in progress towards

the goals of the waste hierarchy and circular economy (due to increased barriers to the movement of waste to, better suited, cross border recycling facilities) and potential distortions in the waste market (due to the lack of a level playing field and the risk of protectionist attitudes developing, with Member States seeking to prevent any waste being exported from their own facilities).
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.

7.6 Provisions within the WSR identified as posing challenges

The following table identifies those provisions of the WSR that have been identified through this study as challenging in terms of either achieving the objectives of the WSR or being potentially detrimental to other EU policy. These provisions are already identified within the main body of this report against the relevant criteria but are included here in order to bring all relevant provisions together in one location.

Table 7-1 Challenges in relation to the WSR highlighted in this evaluation

Article(s):	Challenges identified	Relevant Report Section
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.	5.1.1
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.	5.1.1
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.	5.1.2
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.	5.1.1
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.	5.1.2
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.	5.1.2

Article(s):	Challenges identified	Relevant Report Section
Articles on principle of proximity and self-sufficiency, from the WFD article 16(1) and considered in the WSR.	Unharmonised interpretation and application among Member States and differing interpretations of the distinction between recovery and disposal in the context of these two principles.	5.1.2
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.	5.1.3
Article 6(1) and article 6(4) on financial guarantees.	Harmonisation issues related to how Member States apply the requirement of financial guarantee.	5.1.3
Article 50 on inspections.	Non-uniform application of waste shipment inspections. Lack of criteria for the frequency and quality of inspections.	5.1.4
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).	5.1.5
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. Not uniform application of the classification system of the annexes to the WSR within Member States. Unclear whether a waste treatment is to be considered recovery or disposal. 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 WFD.	5.1.6

Appendix A - List of amendments

A first step in this evaluation was to establish a list of amendments of the WSR since 2006, identifying their date of application and summarising their main aim and mechanisms.

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	*OJ L 316/6, 04.12.2007*	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	*OJ L 309, 27.11.2007, p. 7*	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	*OJ L 188, 16.7.2008, p. 7*	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	*OJ L 87, 31.3.2009, p. 109*	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	*OJ L 97, 16.4.2009, p. 8*	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	*OJ L 140, 5.6.2009, p. 114*	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	*OJ L 119, 13.5.2010, p. 1-*	Following clarifications at the OECD Working Group on Waste Prevention and Recycling (WGWPR) 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	*OJ L 182, 12.7.2011, p. 2*	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	*OJ L 46, 17.2.2012, p. 30*	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	*OJ L 79, 21.3.2013, p. 19*	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	*OJ L 330, 10.12.2013, p. 1*	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	*OJ L 189, 27.6.2014, p. 135*	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 of waste. Inserted a review clause for the Regulation to be undertaken by the Commission.	1.1.2016
Commission Regulation (EU) No 1234/2014 amending Annexes IIIB, V and VIII to Regulation (EC)	*OJ L 332, 19.11.2014, p. 15*	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	26.5.2014

Title	Official Journal Reference	Summary of changes made	Date of effect
No 1013/2006 on shipments of waste		environmentally sound management primarily as a result of changes under the Basel Convention.	
Commission Regulation (EU) 2015/2002 amending Annexes IC and V to Regulation (EC) No 1013/2006 on shipments of waste	*OJ L 294, 11.11.2015, p. 1*	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) EU) No 660/2014 amending Regulation (EC) No 1013/2006 on shipments of waste	*OJ L 189, 27.6.2014, p. 135-142*		
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	*OJ L 204, 29.7.2016, p. 11-69*	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

Appendix B – Evaluation Framework

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 MS 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
	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	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

Effectiveness: how successful the EU action has been in achieving or progressing toward its objectives					
			transparency of waste shipments		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 Public consultation
	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?	Identification of disparities between MS, the causes and severity of these disparities and how these relate to the state of implementation	The list of disparities and differences in implementation in different Member States, and the consequences on effectiveness	Qualitative analysis from information gathered through consultation and interviews	Review of the regulation implementation Review of relevant literature sources (e.g. implementation reports) Consultation and questionnaire analysis Public consultation
	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?	Identification of disparities in the enforcement between MS; the causes of these disparities and how these relate to the state of enforcement	Commentary on enforcement level in different MS	Qualitative analysis from information gathered through consultation and interviews	Review of the regulation implementation Review of relevant literature sources (e.g. implementation reports) Consultation and questionnaire analysis Public consultation

Effectiveness: how successful the EU action has been in achieving or progressing toward its objectives					
	SQ 2.4 Were inspection plans effective?	Identification of disparities in the inspections plans between MS; the causes of these disparities and how these relate to the state of inspection	Commentary on inspections in different MS	Qualitative analysis from information gathered through consultation and interviews	Review of the regulation implementation Review of relevant literature sources (e.g. implementation reports) Consultation and questionnaire analysis Public consultation

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**
EQ3. To what extent are the costs involved justified/proportionate, given the effects which have been achieved?	**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, national and EU level?"	The costs (monetary/non-monetary) to MS and EU public authorities, the public and private organisations (including the influence of sizes of enterprises on costs) were assessed and understood The associated benefits / impacts (monetary/non-monetary).	**Monetisation of admin burden and operating expenditures. Quantification of Hassle costs** (i.e. associated with waiting time, delays, redundant legal provisions and corruption) using proxy indicators or qualitatively Costs for national authorities to monitor and enforce the Regulation: Monetisation of monitoring and verification costs. Indirect regulatory costs (i.e. substitution of product and services due to the potential disincentive of export of waste): Qualitative assessment 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	Primarily through consultation with industry representations and competent authority. Use of proxies to ensure comparability of data and the 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 Quantitative / Qualitative analysis: Direct benefits of improved wellbeing: Scale of importance according to stakeholders.	Review of relevant literature Stakeholder questionnaire Member State specific questionnaire and follow-up interviews Stakeholder interview Public open consultation

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					
			costs, increase in material/energy recovery. Indirect benefits: Possible spill-over effects (qualitative)	Direct financial/economic benefits: Judgment based on literature review, secondary data and interviews. Spill-over effects: Qualitative analysis	
	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
	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	Description of influencing factors	Qualitative analysis	Review of the relevant literature (e.g. waste markets report) Consultation and

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					
		implementation of the WSR across Member States			questionnaire analysis Public consultation
	SQ4.5. Could the reporting under WSR and the Regulation (EC) No 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 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)	Qualitative analysis	Consultation and questionnaire analysis Public consultation Review of relevant literature sources (e.g. waste market reports)

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	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?					
	materials within a more circular EU economy?				
EQ 6 How well adapted is the WSR to (subsequent) technical and scientific progress and EU and global market developments?	/	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.	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).	Qualitative analysis based on consultations evidence	Review of relevant literature sources Consultation and questionnaire analysis, in particular from industry Public consultation
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?	/	The extent to which the WSR contributes to achieving EU international obligations	Evidence of relevance of the WSR and commentary	Qualitative analysis	Review of relevant literature sources Consultation and questionnaire analysis Public consultation
EQ 8 Is there any provision irrelevant or outdated/obsolete in the WSR?	/	Evidence gathered allows for the identification of obsolete or irrelevant provisions	List of any obsolete provisions and commentary.	Qualitative analysis	Review of relevant literature sources Consultation and questionnaire analysis Public consultation

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**
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: ● 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 ●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	SQ 9.1. Are there synergies (e.g. strengths, efficiencies, etc.) as a result of the interaction of the WSR with other EU legislation?	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.	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	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 Consultation and questionnaire Public consultation
	SQ 9.2. Are there weaknesses or gaps as a result of the interaction of the WSR with other EU legislation?	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.	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	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 Consultation and questionnaire Public consultation
	SQ 9.3. Are there overlaps as a result of the interaction of the WSR with other EU legislation?	The extent to which identified overlaps 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 focus on overlaps	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 Consultation and questionnaire Public consultation
	SQ 9.4 Are there inconsistencies or contradictions as a result of the interaction of the WSR with other EU legislation?	The extent to which identified inconsistencies and contradictions 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 focus on inconsistencies	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 Consultation and questionnaire Public consultation

Coherence - To what extent is the WSR (together with Regulation (EC) No 1418/2007) coherent with other EU policies?					
and EU trade policy, ●EU raw materials policy, ●Animal By-Products Regulation, ●Policy on streamlining of Members States' reporting to the European Commission;					
	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?	The extent to which the WSR achieve the objectives considered in coherence with other EU rules	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 MSs and sectors). Special attention will be given to potential issues with accessing secondary raw materials.	Quantification of level-playing field based on various proxy indicators such as the degree of delocalisation, relocation of jobs in waste management etc.	Review of existing policy initiatives Review of relevant literature (e.g. waste markets report) Consultation and questionnaire analysis, in particular from SMEs Public consultation
	SQ9.6. To what extent does the WSR promote industrial innovation?	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 industrial innovation in the EU.	Judgment based on literature review and secondary data.	Review of existing policy initiatives Review of relevant literature
	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

Coherence - To what extent is the WSR (together with Regulation (EC) No 1418/2007) coherent with other EU policies?					
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 MS 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 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	/	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 The extent to which the enforcement committee of the Basel Convention would be as effective as a judgment of the European Court of Justice.	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 Public consultation

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?					
Convention and OECD decisions)?					
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

Appendix C – Consultation strategy

Consultation Strategy Evaluation of the WSR

Context

Article 60.2(a) of Regulation (EC) No 1013/2006 on shipments of waste[198] (Waste Shipment Regulation - WSR) calls on the Commission to carry out a review of this Regulation by the end of 31/12/2020. In accordance with the Better Regulation Guidelines, an evaluation of the Regulation is the first step in this process.

The evaluation of the WSR which will be carried out together with Regulation 1418/2007[199] will assess the overall effectiveness, efficiency, relevance, coherence, and EU added value of these pieces of legislation. A roadmap for this evaluation was published on EUROPA in January 2017 and remained open for comments until March 2017. The evaluation will rely on both existing data, including information gathered in the context of implementation reports, as well as new data from stakeholders. Stakeholder consultation is a key component of this evaluation to identify the most relevant issues, to collect data in response to the evaluation questions (outlined in the roadmap) and to ensure a balanced and comprehensive assessment of the waste shipment legislative framework. The evaluation will investigate costs and benefits associated with the implementation of the WSR for the stakeholders, at local, national and EU level.

Further information in relation to the evaluation can be found in the published evaluation roadmap[200].

Consultation objectives and scope

The objective of the consultation will be:

- To collect additional relevant facts and data on the implementation of the WSR beyond the materials already available as part of Commission implementation reports, studies and similar materials developed and made publicly available from relevant stakeholders including Member States, industry and non-governmental organisations;
- To identify provisions that consultees believe work well and the added value that the WSR brings to this effect;
- To identify those parts of the WSR that have been considered as problematic including problems encountered in implementation, excessive regulatory burdens, duplication and overlaps with other law, inconsistencies both within the WSR and with other legislation and policy objectives, measures that are no longer relevant and, therefore, obsolete and to identify any gaps in the Regulation limiting its functioning and its ability to meet its given objectives;
- To identify and analyse potential divergences in the application of the WSR across the EU and identify the reasons, whether more harmonisation of rules is needed.

Relevant evidence is expected to be gathered in the form of views and opinions supported, to the extent possible, by facts and figures against five evaluation criteria. The consultation should identify

[198] OJ L 190, 12.7.2006, p. 1
[199] OJ L 316, 29.11.2007, p.6
[200] http://ec.europa.eu/smart-regulation/roadmaps/docs/2017_env_026_waste_shipment_evaluation_env.pdf

both areas where there is broad agreement among stakeholders and areas were significant differences of views exist, and in the latter case the consultation should allow the identification of which group of stakeholders the different views refer to.

Relevant stakeholders

The WSR has implications for a broad range of stakeholders from Member State administrations and competent authorities, to industry operators involved in the production of products, by-products and waste, trade, transport and treatment and recycling / disposal of waste, by-products or end-of-waste materials, financial institutions in respect of financial guarantees, EU citizens and, beyond the EU's borders, governments, stakeholders and citizens that may be impacted as a result of the (legal as well as illegal) transfer of wastes, including hazardous wastes and their insufficient treatment and/or disposal at the final place of receipt.

Relevant stakeholders may be grouped as follows:

- Public administrations: the experience from competent authorities and customs authorities from Member States in charge of implementing the WSR, port authorities, is expected to be very relevant. European and non-European organisations, agencies and committees and officials from relevant EU institutions, like European Commission services will also be consulted;
- Industry associations: knowledge of the industries / value chains concerned will be a key factor in assessing the impact of the Regulation. This stakeholder group includes European and national representatives of manufacturing companies, Extended Producer Responsibility Organisations, waste management companies/organisations, representatives of waste exporters/importers or transporters and recyclers and users of waste and secondary raw materials;
- General public, consumers, environmental protection organisations: the involvement of environmental non-governmental organisations will be relevant for their contribution on waste management, pollution, circular economy, etc.;
- Other stakeholders: any other stakeholder (e.g. academia, think-tank) who may have an interest in the circular economy generally and waste shipment specifically.

Methodological overview

This section presents a short summary of the main consultation methods and tools that are intended to be employed to engage with stakeholders:

- Open public consultation: the aim of the open public consultation is to gather the opinion of any interested citizen or organisation. It will also aim in particular at engaging with stakeholders that do not take part in the targeted surveys and interviews and to collect feedback from them on Contribution of WSR to combatting illegal traffic of waste, changes triggered by WSR and associated benefits, the alignment between the WSR objectives and the needs of the countries, adaptation of WSR to technical and scientific progress, EU added value. To engage widely to the European audience, the open public consultation will be carried out in all EU languages in the first quarter of 2018;
- Targeted consultations through interviews and surveys will be carried out in the first half of 2018 to gather specific evidence through interviews including SMEs, and via case studies based on the initial evidence collected. This consultation will be carried out primarily in English;

however, depending on the situation, interviews may involve additional languages such as French, German and Dutch;

- Consultation of key international organisations and third countries (OECD, Basel Convention Secretariat, WTO, WCO, Interpol etc., China including Hong Kong, US, Turkey, India etc.) will be carried in the first half of 2018: EU Delegations could be used for this purpose (demarches);
- Member State specific consultation to address in particular inspection plans and the effectiveness of Article 50.2(a). Following an initial consultation with Member States via written communication to be carried in the first half of 2018, Member States may still be contacted for follow-up interviews in order to close any remaining gaps, seek clarifications on the responses; etc.
- Stakeholder workshop: two public workshops will be organised to assist in identifying and confirming the issues that will need to be assessed in the evaluation. The workshops should give priority to the main stakeholders (see above) and occur in January 2018 and September 2018 (to be confirmed);
- Feedback received on the evaluation roadmap201

Ways to publicise the results of the consultation activities

The output of all consultation activities will be summarised in a synopsis report and as part of the evaluation report.

[201] http://ec.europa.eu/environment/feedback_en.htm

Appendix D – Synopsis report

Introduction

This synopsis report 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[202] was presented by the Commission in 2017.

The objectives of the consultation were:

- To collect additional relevant facts and data on the implementation of the WSR beyond the materials already available as part of Commission implementation reports, studies and similar materials developed and made publicly available from relevant stakeholders including Member States, industry and non-governmental organisations;
- To identify provisions that consultees believe work well and the added value that the WSR brings to this effect;
- To identify those parts of the WSR that have been considered as problematic including problems encountered in implementation, excessive regulatory burdens, duplication and overlaps with other law, inconsistencies both within the WSR and with other legislation and policy objectives, measures that are no longer relevant and, therefore, obsolete and to identify any gaps in the Regulation limiting its functioning and its ability to meet its given objectives;
- To identify and analyse potential divergences in the application of the WSR across the EU and identify the reasons, whether more harmonisation of rules is needed.

Relevant stakeholders to be addressed as part of the evaluation were identified as:

- Public administrations: particularly competent authorities and customs authorities from Member States in charge of implementing the Waste Shipment Regulation, port authorities, European and non-European organisations, agencies and committees and officials from relevant EU institutions, including the European Commission;
- Industry associations: including European and national representatives of manufacturing companies, Extended Producer Responsibility Organisations, waste management companies/organisations, representatives of waste exporters/importers or transporters and recyclers and users of waste and secondary raw materials;
- General public, consumers, environmental protection organisations; and
- Other stakeholders: any other stakeholder (e.g. academia, think-tank) who may have an interest in the circular economy generally and waste shipment specifically.

The methods to be applied according to the consultation strategy were identified as:

[202] https://ec.europa.eu/info/sites/info/files/wsr_evaluation_consultation_strategy.pdf

1. Open public consultation using the Commission consultations website;
2. Targeted consultations through interviews and surveys;
3. Consultation of key international organisations and third countries;
4. Member State specific consultation to address in particular inspection plans and the effectiveness of Article 50(2a);
5. Two stakeholder workshops; and
6. Feedback received on the evaluation roadmap.

All of these methods were applied, albeit in relation to Tool 3 - consultation of key international organisations and third countries - and as addressed in the inter-service group meeting of the evaluation, consultation was limited to representatives of the OECD and UNEP as consultation with wider parties was considered impractical.

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.

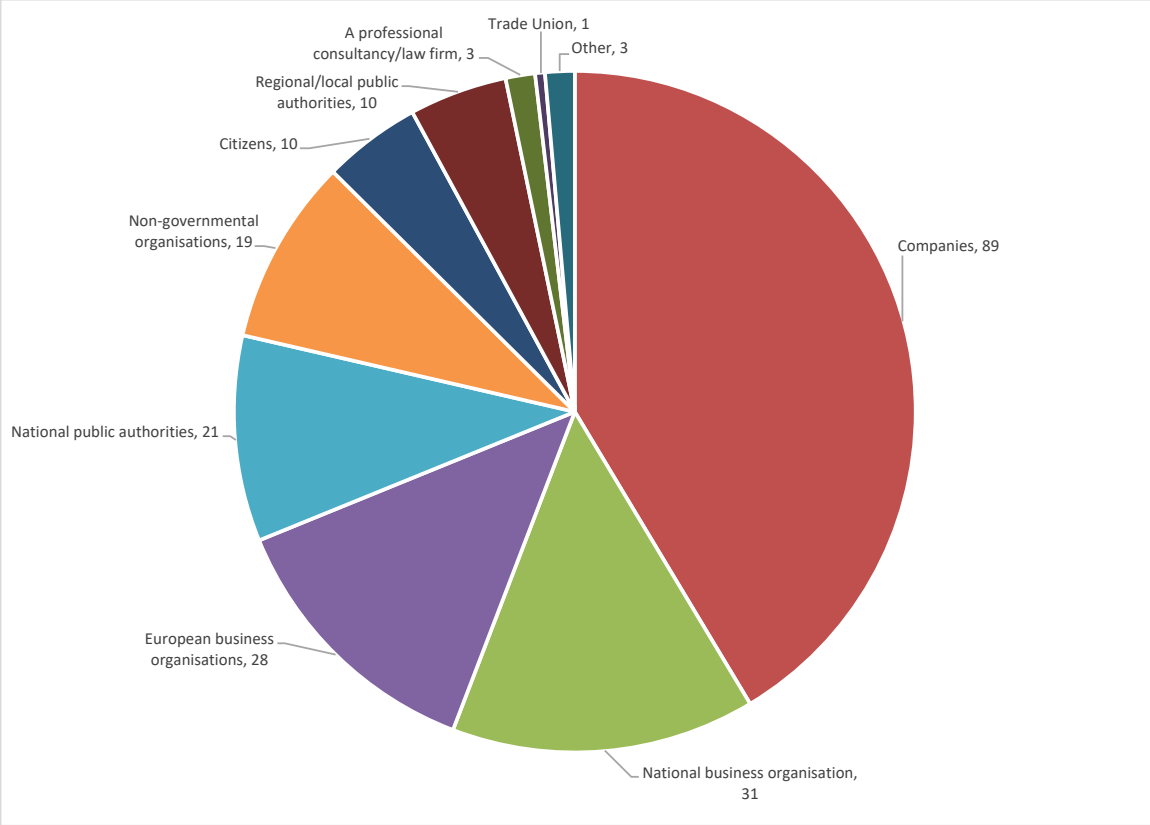
The questionnaire was drafted to be accessible to the public and, to this end, contained a limited amount of technical language in relation to the WSR. It was made available in all EU languages and uploaded to the EU Survey tool[203]. The consultation period started on 30th January 2018 and ended on April 27th, 2018. To maximise the response rate, a link to the questionnaire was placed on the Consultations page within the EUROPA Website,[204] 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 4-1 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 below.

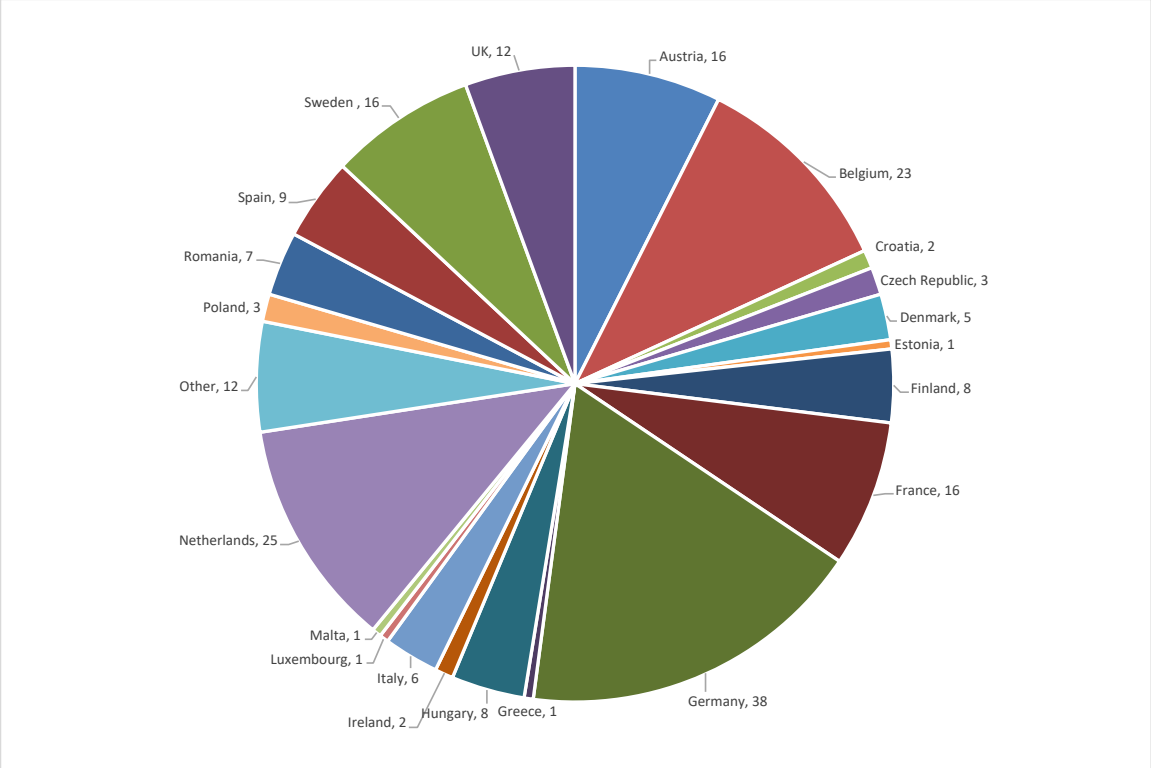
[203] https://ec.europa.eu/eusurvey/home/welcome
[204] https://ec.europa.eu/info/consultations/public-consultation-evaluation-waste-shipment-regulation_en

Figure 0-1 WSR Evaluation Public Consultation stakeholders type breakdown



On average 10 people per country have answered to the Consultation. 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). It is assumed that the fact that many of the participants are based in Belgium is due to 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 below.

Figure C-2 WRS Evaluation Public Consultation country breakdown



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.

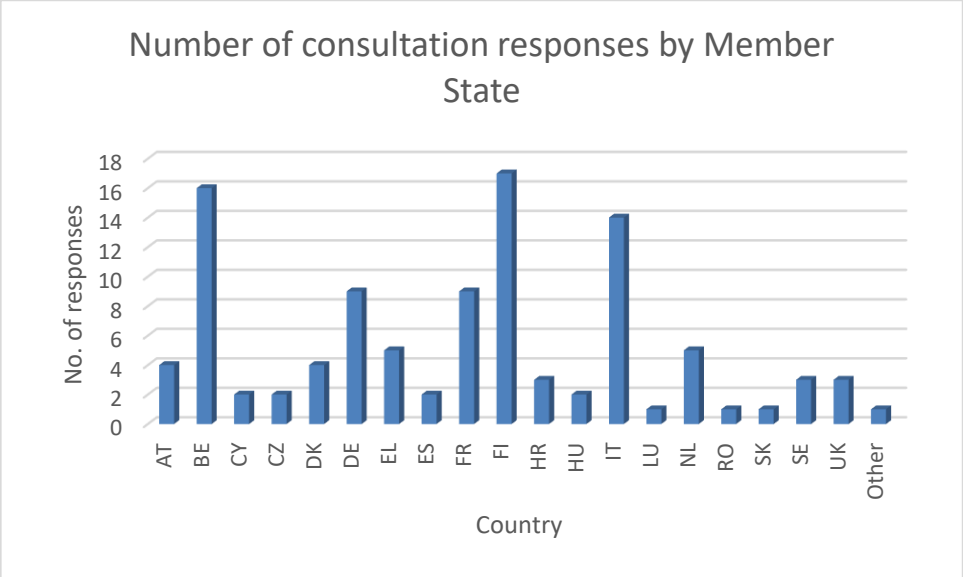
Targeted surveys

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.

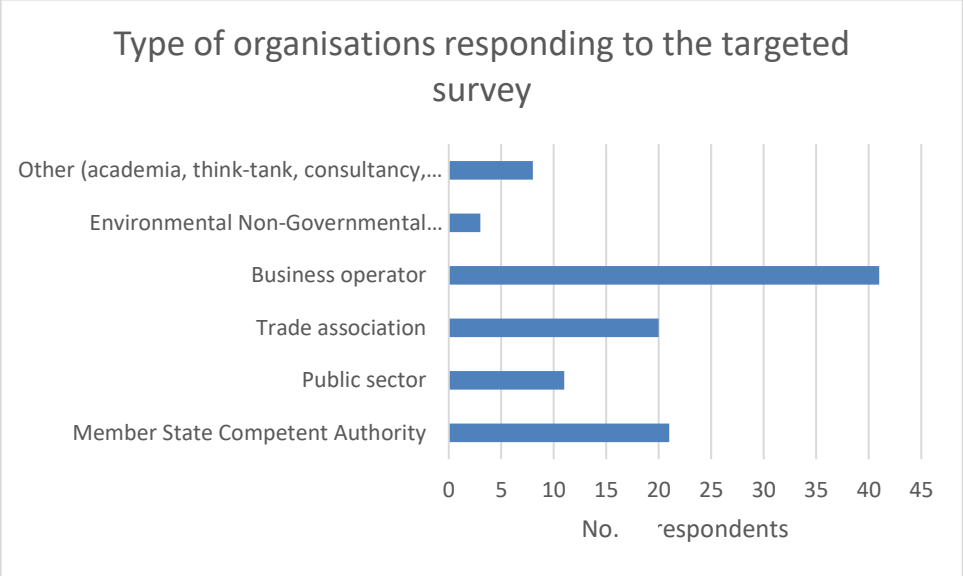
A total of 104 responses to the targeted survey were received across 19 Member States. The survey was designed to allow stakeholders to be selective in the questions that they answered, albeit 59 percent of responses provided answers to all questions.

Figure 0-3 Number of consultation responses by Member State



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 0-4 Type of organisations responded to the targeted survey



Member State Competent Authority and other stakeholder targeted interviews

In order to follow-up to the targeted online survey, and 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. Attendees from all targeted stakeholder groups participated in both of the workshops.

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 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.

Feedback received on the evaluation roadmap

Feedback from 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, Anonymous 1, Anonymous 2, Fabrice Sancho (citizen), Arsi Saukkola (organisations other than business/companies/NGOs) and 2 anonymous respondents was provided against the evaluation roadmap. The opinions raised and evidence provided in this feedback was used in evaluative study directly, with a number of the respondents providing further materials as part of the other consultation activities undertaken as described above.

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.

Appendix E - Literature Review

A full list of the literature reviewed as part of this evaluation is provided below. Please note that in some cases additional written materials were provided by stakeholders in some of the latter rounds of consultation. Such sources are not referenced in the table below as they are not considered as literature but rather data stemming from the application of the consultation strategy detailed in Appendix A.

Name of document	Type of source	Publishing body/ author
Annex to the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: *Closing the loop- An EU action plan for the Circular Economy*	Annex to Report	European Commission
OECD Council Decision concerning the control of transboundary movement of wastes destined for recovery operations	Decision	OECD
The Feasibility of Introducing a Certification Scheme/Standard for Recycling Treatment Facilities	Report	European Commission (RPA)
Environmental, Social and Economic Impact Assessment of Possible Requirements and Criteria for Waste Shipment, Inspections, Controls and On-The-Spot Checks	Report	European Commission
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	Journal article	European Commission
Reports on the implementation of WSR	Reports	European Commission
OECD Council Recommendation C(2004)100 on Environmentally Sound Management of Waste	Regulation	OECD
OECD Guidance Manual for the Control of Transboundary Movements of Recoverable Waste	Guidance	OECD
Recommandation on Minimum Criteria on Environmental Inspections (RMCEI)	European Commission Recommendations	European Commission
Council Directive 95/21/ European Commission =Maritime Safety and the Prevention of Pollution from Ships (Port State Control) & the Paris MoU	EU Directive	European Commission
Data availability on transboundary shipments of waste based on the European Waste List	Report	EEA
Illegal Trade in Environmentally Sensitive Goods	Report	OECD
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 /* SWD/2013/0268 final *	Working paper	EC
STUDY ON THE ROLE OF CUSTOMS IN ENFORCEMENT OF EUROPEAN COMMUNITY LEGISLATION GOVERNING THE PROTECTION OF THE ENVIRONMENT AND ITS BEST PRACTICE	Report	European Commission Olaoire Russel Associates
Correspondents' Guidelines and other guidance documents (excluding the one in support to IMPEL which is under Trinomics)	Guidelines	European Commission
BIOIS et al. (2012). Use of economic instruments and waste management performances. Final report to DG Environment	Report	European Commission
BIOIS et al. (2014a). Development of Guidance on Extended Producer Responsibility. Final report to DG Environment	Report	European Commission
BIOIS et al. (2014b). Ex-post evaluation of certain waste stream Directives. Final report to DG Environment	Report	European Commission
European Commission. (2010). Member States implementation reports of waste legislation	Report	European Commission
European Commission. (2012). Commission report on the implementation of the Shipments of waste regulations for the period 2007-2009, COM(2012), 448 final.	Report	European Commission
European Commission. (2013). Commission report on the implementation of the EU waste legislation for the period 2007 – 2009. COM(2013) 6 final	Report	Data

Name of document	Type of source	Publishing body/ author
OECD. (2001). Extended Producer Responsibility, A GUIDANCE MANUAL FOR GOVERNMENTS	Guidance	OECD
Study on Inspection Requirements for Waste Shipments	Report	EUROPEAN COMMISSION (by IEEP, Bio Intelligence Service, Ecologic)
Feasibility Study for the Establishment of an Electronic Data Interchange for Waste Shipments (Project Charter)	Report	European Commission (by TRASYS)
Feasibility Study for the Establishment of an Electronic Data Interchange for Waste Shipments (Architecture Overview)	Report	European Commission (by TRASYS)
Assessment and guidance for the implementation of EU waste legislation in Member States (D 2.1.1)	Report	BiPRO
Assessment and guidance for the implementation of EU waste legislation in Member States (D 2.1.2)	Report	BiPRO
Assessment and guidance for the implementation of EU waste legislation in Member States (D 2.1.4)	Report	BiPRO
THE ORGANISATION OF AWARENESS-RAISING EVENTS ON THE APPLICATION OF COMMUNITY LEGISLATION ON SHIPMENTS OF WASTE, ON LANDFILLS, ON WASTE MANAGEMENT PLANS AND ON WASTE PREVENTION PROGRAMMES	Report	BiPRO
Final report for an administrative burden reduction action programme ABR Plus 2015- Final Report	Report	European Commission
Action Programme for Reducing Administrative Burdens in the EU Final Report	Report	European Commission
Data on transboundary shipments	Website	European Commission
EU Project on Baseline Measurement and Reduction of Administrative Costs: Final Report, incorporating report on Module 5.2 – Development of Reduction Recommendations	Report	CapGemini, Deloitte, Ramboll Management
Study to Support the Review of Environmental Monitoring and Reporting Obligations	Report	ICF
Transboundary shipments of waste in the European Union — Reflections on data, environmental impacts and drivers	Report	EEA
Consultation Inputs from: BDE, EERA, EuRIC, EURITS, ERP, FEAD, RISG, Subdireccion General De Residuos, Finnish Environmental Industries YTP, Anonymous 1, Anonymous 2, Fabrice Sancho (citizen), Arsi Saukkola (organizations other than business/companies/NGOs)	Consultation	Public consultation on Roadmap
Eurostat. (2015a). Database, datasets env_waselee and DS-016894, consulted on 7/10/2015, http://ec.europa.eu/eurostat/data/database	Data	Eurostat
Eurostat. (2015b). Environmental Data Centre on Waste, consulted on 7/10/2015, http://ec.europa.eu/eurostat/web/waste/transboundary-waste-shipments	Data	Eurostat
EUROSTAT. (2015c). Waste shipment reported by ember State to Basel Convention secretariat in 2012 & Transit waste shipment reported by Member Stateto Basel Convention secretariat in 2012	Data	Eurostat
Eurostat. (2015d). OECD/Eurostat Joint Questionnaire, section waste	Data	Eurostat
Eurostat 2016, Structural Business Statistics, Annuel Enterprise statistics for special aggregates of activities (NACE Rev.2), Waste Collection, Treatment and Disposal activities, materials recovery	Data	Eurostat
Regulatory Obstacles to Circular Economy on Selected High Potential Markets - final report (2016) - to be published.	Report	European Commission (by Technopolis Group)
Reducing regulatory burdens - Priority area	Report	European Commission
Commission study: The efficient functioning of waste markets in the European Union - legislative and policy options - final report (2016)	Report	European Commission
Movement of Waste Across the EU's Internal and External Borders	Report	EEA
Electronic Data Exchange for Waste Shipment Regulation	Report	ABAROA
Reports on waste shipments and enforcement actions published by the EU Network for IMPEL	Reports	European Network
North-American Agreement on Transboundary Waste	Agreement	EPA
The Bamako (Africa) Conventions	Convention	African Union
The Convention to Ban the importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary	Convention	SPREP

Name of document	Type of source	Publishing body/ author
Movement of Hazardous wastes within the South Pacific Region (The Waigaini Convention)		
Press release issued by the World Customs Organization (WCO)	Press release	World Customs Organization (WCO)
Guidance to assist Customs officers in their implementation of MEAs	Guidance	WCO and Green Customs
UN Recommendations on the Transport of Dangerous Goods - Model Regulations Fourteenth revised edition	UN Model Regulation	UN
Waste Without Borders in the EU	Report	EEA
ETC/SCP, 2008, Transboundary shipments of waste in the EU — developments 1995–2005 and possible drivers	Report	EEA
Serious and Organised Crime Threat Assessment	Report	Europol
Illegal Shipment of Waste from the EU, A Case Study on Illegal e-waste export from EU to China	Report	IEEP
Coordinated audit on the enforcement of the European Waste Shipment Regulation, Joint report based on eight national audits	Report	EUROSAI
Practicability and enforceability of the Waste Shipment Regulation	Report	IMPEL/IEEP
Smuggling Europe's Waste to Poorer Countries	Newspaper article	New York Times
Basel Convention. (2015). Parties exercising their rights to prohibit import. Online available via http://archive.basel.int/natdef/frsetmain.php,	Convention	Basel Convention
Brinstengel et al. (2011). Treatment capacity and cross-boundary waste flows in Europe, ISWA Beacon Conference on Waste-to-Energy, Malmö, Sweden, November 3, 2011. Online available via http://www.beacon-wte.net/fileadmin/avfallsverige/Documentation_2011/1-3_Prognos_Tolvik.pdf	Report	Prognos
EEA. -European Environment Agency. (2013). Managing municipal solid waste - a review of achievements in 32 European countries	Report	EEA
EEA -European Environment Agency. (2014). Municipal Solid Waste Management Capacities in Europe. Desktop Study. ETC/SCP Working Paper No 8/2014	Report	EEA
Eunomia (2009) International review of waste management policy - exports and imports of waste. Study commissioned by Dept. for environment Ireland	Report	Ireland Department for Environment
Eunomia. (2011). A Comparative Study on Economic Instruments Promoting Waste Prevention.	Report	Bruxelles Environnement
Jofra Sora, M. (2013). Incineration Overcapacity and Waste Shipping in Europe: The End of the Proximity Principle?	Article	GAIA
Kellenberg, D. (2010). Trading Wastes. Journal of Environmental Economics and Management, Vol 64-1, p. 68-87; online available at http://www.webmeets.com/files/papers/WCERE/2010/245/Trading%20Waste5.pdf	Article	Kellenberg
Wante J. (2015). Challenges from a policy perspective. Symposium on international trade of waste: economic research and policy implications, Brussels.	Article	Wante
Guidance on waste shipment inspection planning	Guidance	IMPEL
Services to support the IMPEL network in connection with joint enforcement actions on waste shipment inspections and to co-ordinate such actions.	Guidance	European Commission
EU Research Framework Programme 7 project: Countering WEEE Illegal Trade - final report	Report	Interpol
Stoiber group (Annex 8 on recommendation for e-system for waste shipments)	Report	Stoiber group
Assessment and guidance for the implementation of EU waste legislation in Member States	Guidance	Expert Team for Assessing and Guidance for the Implementation of Waste legislation
Transfrontier Shipment of Waste Regulation (1013/2006)	Website	The Global CCS Institute

Appendix F – Public consultation report

The Public Consultation forms one of several strands of consultation activities for the evaluation and aimed at gathering the opinion of any interested citizen or organisation. It also aimed at engaging with stakeholders that do not take part in the other strands of the consultation activities.

The questionnaire developed for the Public Consultation was targeted at a broad range of stakeholder groups including public authorities and bodies responsible for implementing and/or enforcing the Directive, industry and sectorial associations representing companies concerned, environmental and consumer NGOs, universities and research institutes, and any other organisations interested in responding to the questionnaires.

It was made available in all EU languages and uploaded to the EU Survey tool[205]. The consultation period 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,[206] and several organisations were also contacted directly and asked to help disseminate the link to the questionnaire.

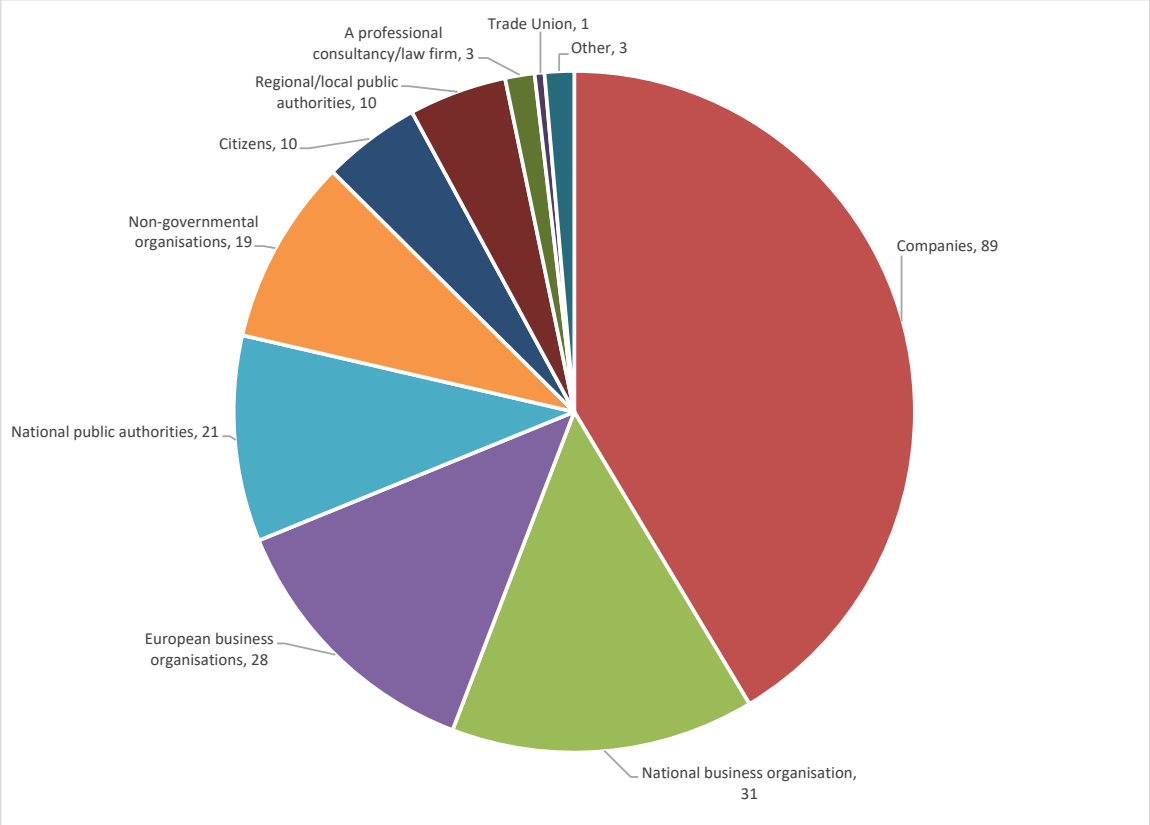
In total 215 respondents filled in the questionnaires during the consultation period. Of the total, 91 requested their contribution to remain anonymous. The rest (57%), agreed to the publication of all personal information of their contribution.

It is also worth noticing that some respondents provided separate Word documents with in-depth feedbacks on the questions asked.

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 below.

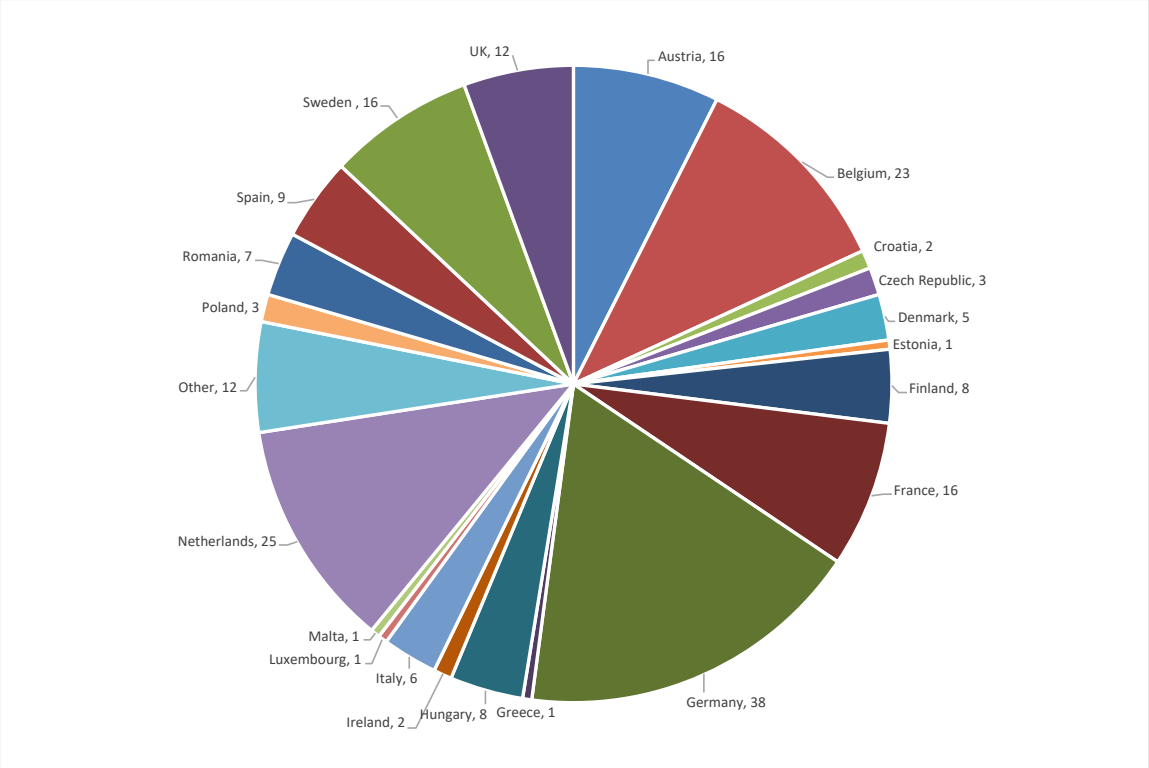
[205] https://ec.europa.eu/eusurvey/home/welcome
[206] https://ec.europa.eu/info/consultations/public-consultation-evaluation-waste-shipment-regulation_en

Figure D-0-1 WRS Evaluation Public Consultation stakeholders type breakdown



On average 10 people per country have answered to the Consultation. 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). It is assumed that the fact that many of the participants are based in Belgium is due to 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 below.

Figure D-0-2 WRS Evaluation Public Consultation country breakdown



Appendix G - Workshop reports

Workshop 1 Report- Verifying the scope and key issues for the WSR evaluation

European Commission, Centre Albert Borschette (CCAB) Room 1.C, Rue Froissart 36, 1040 Brussels
Thursday 11th January 2018, 09H30-17H30

Agenda

Indicative time	Activity
09.00 - 09.30	Registration
09.30 - 10.20	**Introduction** • Background, scene setting and purpose of the day (DG ENV) • Presentation of the WSR evaluation study (Wood) • Other issues • Q&A
10.20 - 11.30	**Session 1 - Overall procedural framework and prior written notification and consent** Short presentation (Wood) and participants' discussion, including on: • Overall procedural framework (Article 3) • Prior written notification and consent (Articles 4-17)
11.30 - 11.40	Coffee/tea break
11.40 - 12.30	**Session 2 - General information requirements** Short presentation (Wood) and participants' discussion, including on: • Article 18 on waste to be accompanied by certain information • Annex VII on information accompanying shipment of waste
12.30 - 13.30	Lunch
13.30 - 14.30	**Session 3 - General issues** Short presentation (Wood) and participants' discussion, including on: • Articles 19-21 on prohibition of mixing, keeping of documents and information and public access to notifications • Articles 22-25 covering take-back • Articles 26-30 on general administrative provisions • Article 33 – Shipments exclusively within Member States
14.30 - 15.30	**Session 4 Enforcement and inspection** Short presentation (Wood) and participants' discussion, addressing Articles 49-56: • Inspection plans • Enforcement gaps • Inspection powers
15.30 - 15.40	Coffee/tea
15.40 - 16.40	**Session 5 Export, import and transit** Short presentation (Wood) and participants' discussion addressing: • Articles 31-32 for shipments within the community with transit via third countries

Indicative time	Activity
	• Articles 34-39 concerning exports to Third Countries • Articles 41-46 concerning imports from Third Countries • Articles 47 and 48 concerning transit from and to Third Parties • Regulation 1418/2007
16.40 - 17.00	Next steps (Wood) Concluding remarks – DG ENV

Workshop summary

Introduction by DG Environment:

DG Environment (DG ENV) gave an introduction on the objectives of the WSR evaluation. It was mentioned that part of the aim of this workshop, and the evaluation, is to identify good and bad practices, and whether the Regulation meets its objectives. The evaluation is an evidence-based exercise, and the workshop will help us collect information to support the evaluation. The evaluation looks at the *status quo but* is not intended to develop or consider amendments of the WSR. If the evaluation concludes that amendments may be beneficial, any amendments would be developed and assessed via an Impact Assessment (IA) of the WSR. This would occur in 2019, followed, if justified by the IA and if appropriate, by a legislative proposal to revise the WSR by 31/12/2020.

Introduction by Wood:

The Project Manager of the evaluation study explained that the agenda has been slightly revised according to the Articles of the WSR. He further presented the project, its objectives, tasks and stakeholder involvement.

The main objective of the project is to perform an evaluation of the application of the WSR in all Member States, including all amendments as well as the existing rules deriving from Regulation (EC) No 1418/2007. The study will analyse the relevance, effectiveness, efficiency, coherence and EU added value of the WSR and aims to collect good as well as bad practices and experiences. The study will cover issues raised by the WSR legislation as well as by its implementation.

First reactions from the stakeholders:

National Reports – A Member State suggested that Member State reports prepared as result of requirement s of the WSR and the Basel Convention may provide relevant information for the evaluation.

Outdated objective of WSR – A waste industry representative discussed how the original objective of the WSR was from a defensive standpoint, i.e. to limit transboundary shipments. However, the waste market has evolved and the focus of the WSR should now shift to trying to better enable cooperation on transboundary shipments. This shift of objective implies changes may be required.

Circular economy – One industrial representative asked if external action by non-EU countries would be assessed. They highlighted that the Chinese decision to limit plastic imports has important links to the circular economy. It highlights the lack of an internal EU market for secondary raw materials. Another waste industry representative suggested the use of the literature and jurisprudence on WSR interpretation as this was relevant for the evaluation. They also mentioned how parts of the WSR are hampering the development of the circular economy. Coherence of the WSR with the circular economy was seen as a positive step forward.

Session 1 – Overall procedural framework and prior written notification and consent

This session covered the overall procedural framework (Art 3) and prior written notification and consent (Art 4-17).

The general perception of the notification procedure is that it requires a lot of effort and cost for the economic operators. For certain stakeholders, the notification procedure (or certain elements of it) is perceived as redundant and as such does not add much value. For example:

- Role of transit countries – tacit consent deadline of 30 days perceived as being burdensome;
- Paper based documentation perceived as burdensome;
- There are also language issues; and
- There is a bureaucratic burden associated with the application procedure for becoming a pre-consented waste treatment facility.

Reactions from stakeholders:

Importance of considering all interested parties in the evaluation – it was pointed out that the evaluation needs to consider the views of industry representatives but also of those of competent authorities.

Constraints imposed by International Law – Many of the stakeholders noted that certain aspects of the WSR are defined by overarching international law (Basel Convention and OECD Decision C(2001)107/final). One Member State outlined the need to explore the possibility of making changes at Basel or OECD level. However, another noted that the OECD decision and the main text of the Basel Convention is difficult to change. It was noted that Annexes I, III, and IV of the latter are under review and could be changed. The Commission (EC) highlighted that the study was not aimed at making amendments, yet, and as regards intra-EU shipments of waste, if certain provisions stemming from the Basel Convention are perceived as not contributing to the efficiency of the WSR and could potentially benefit from adjustment, the possibility for such an adjustment is given in Article 11 of the Basel Convention which enables the conclusion of regional agreements among parties. Examples of such agreements include OECD Decision C(2001)107/final which is already implemented in the WSR.

Notification Issues – Two Member States, an industrial representative, and a waste trade association noted the burdensome nature of the notification procedure for both the Member States and the industry, this burden is mainly administrative. However, they also stated that in general they are happy with having the notification procedure in the WSR, though there are opportunities to improve it. A potential improvement discussed in this regard was to allow the electronic exchange of documents, with one Member State suggesting that it should be made mandatory. Other potential improvements include new notifications with change of transporter, or having a separate procedure for EU shipment only, as 90-95% of shipments are EU based waste. Another industrial expert noted the need for differentiation between first notification and revised notification, as the latter usually has less delays. One Member State pointed out that it is important to keep the notification procedure for unlisted waste in order to know what waste is shipped, and to extend Annex IIIB by adding e.g. composite materials (where these are recoverable in the EU).

A waste industry association mentioned that 99% of notifications are general notifications under Art 13, and due to the original scope of the WSR (transport of waste from A to B), the WSR notification procedure is built on a single movement of waste, but this should be revised to cover multiple loads,

and to cover immediately general notifications and not to treat them as a quasi-derogation, as they are treated today. The stakeholder also pointed out the fact that the "procedure of prior-written notification and consent" (notification procedure) is somehow the default shipment procedure under the WSR with the only exception being the transboundary shipment of 'green'-listed wastes for recovery.

Consent Issues – Some of the stakeholders discussed issues with the deadline of 30 days for tacit consent. The fixed time limit was described as shortening the period for shipments and causing issues for industry, by a Member State and industrial representative, respectively. The Member State commented that the provision regarding tacit consent should be reworded in order to better suit both the authorities and the companies concerned. Another Member State noted that the validity period of one year for a tacit consent would always start after the end of the 30-day period, whereas the validity period of one year for a written consent could also start later, with the consequence that the period in which shipment can take place could be shorter than one year. A Member State representative pointed out that the tacit consent for transit countries 30-day limit was set in the Basel convention, so changing it for the EU would not be simple. An industry representative stated that some Competent Authorities regard the 30-day as the set period, so never do it quicker.
A Member State level trade association highlighted that not all states are willing to register foreign carriers, so having to acquire registration from their home country, each EU country through which they pass, and the destination country is cumbersome. An industrial expert noted that only the home and destination country consents were important.
Overall, the consent procedure was seen as burdensome, with reports that some authorities request up to 100 documents, although this figure was regarded as an exaggeration.

Pre-consented facilities - Pre-consented facilities (Article 14) were described as problematic by some waste industry associations, due to a lack of criteria or consistent interpretation, which allows divergence between Member States and the high burden of becoming a pre-consented facility compared to the benefits obtained, in particular the prolonged period of validity (three years) which stems from a provision in the OECD Decision. An industrial representative suggested increasing the number of years for the validity period (i.e. from the current 3 to 5- 7 years), and another industrial representative favoured a fast-track system for pre-consent. One Member State mentioned that pre-consent facilities seem to work in their country, but that there is a lack of guidelines and a divergence between Member States, which could be improved.

Varying interpretations and implementation of the WSR provisions – Several stakeholders mentioned that one of the issues with the WSR is the different interpretation of the provisions of the Regulation across Member States. This relates to, for example, waste classifications and differing interpretation of elements of other provisions of the WSR, mentioned by a waste industry association; Art 3.5 and Art 12 of the WSR where different interpretations give many grounds for restricting waste flows (and the free market); port hopping; and the requested amount of documentation (some Member States request more than others). According to a waste industry association, these articles need to be reviewed in order to reduce the grounds for objection, to reflect the desire to achieve a more circular economy and an EU waste market which functions better. It was also mentioned by industry that there is a large variation between Member States regarding time of consent of shipments (some could take up to one year). To address varying implementation, which according to one Member State one of the main issues, additional guidance notes would be helpful.

Necessary Additions – An industrial representative noted the need to include certain defined composite aluminium and plastic window frames in Annex IIIB. A Member State also suggested adding certain defined composite materials to Annex III and IIIB, and in general amending Annex III and IIIB. Another industrial representative questioned the lack of a specific code for solid recovered fuel, which is included in Refuse Derived Fuel, thus preventing its shipment outside of Europe.

Financial guarantees – Financial guarantees were seen as laborious by one industrial representative who suggested a small central fund for this. A Member State requested the limiting (in value) of the financial guarantees, stating that they are not often used.

Interim recovery and disposal operations (Article 15) – Two Member States disagreed over the necessity of Article 15 on the additional provisions regarding interim recovery and disposal operations. One stated that it was an unnecessary bureaucratic procedure from the OECD decision. The other stated it favoured the burdensome bureaucracy which protected the state from illegal waste imports.

Session 2 – General information requirements

Art 18 and Annex VII

The procedure is very useful for inspection and enforcement purposes as it shortens the time of control for industry as the authorities already have the information related to the shipment.

The main issues identified were: use of different transport modes within one shipment, control of shipments – as they are mainly controlled during the shipment phase, sensitive to infringements. Different interpretations apply – e.g. what is considered as green listed waste not applied in a consistent way.

Reactions from stakeholders:

Green listed wastes – An industrial stakeholder highlighted their satisfaction with the green list procedure and wanted it to remain in place. Another noted that there could be translation issues. A Member State stated that some types of waste for which the shipment for recovery is subject to the notification procedure could be moved to the 'green'-list. One industrial representative raised the point that the problems are not a regulatory issue but an enforcement issue. He gave the example of four grades of wood: A (green listed) to D (hazardous), problems of implementation (inconsistent interpretation of the gradings) means that there are illegal shipments of grade B and C.

Annex VII – A few Member States noted the benefits of Annex VII (and Art 18 in general) for enforcement and reducing inspection times, which is beneficial to industries, and for traceability - seeing what is in the whole load, i.e. what is loaded and where, and where it ends up – as there are many intermediaries. A few industrial stakeholders and Member States noted that an important issue was the need to make Annex VII documentation electronic, stating that this would reduce the divergent practices in Member States (such as where to place the physical copy of the Annex - An industry representative pointed out that different countries have different practices with regard to, for example, where to physically place Annex VII documentation - some Member States say on container, others say on top of waste). Electronic data would also help with green listed waste (in terms of an electronic form for Annex VII), and help collecting statistics. The risks to confidentiality were pointed out when using paper-based documentation. However, one Member State would not prefer a mandatory electronic system for the case of shipments falling under the Art 18.

There was also confusion over if it was a necessity to have an additional signature on the form. Correspondents' Guidelines are provided but they are still not clear on some points.
It was also pointed out that Article 18 and Annex VII only apply in the EU, while for shipments outside EU there exist over a hundred other regulations and there are also some prohibitions at national level. As such, Annex VII should not be seen in a vacuum.

Illegal traffic – An industry association representative stated that there is not much illegal traffic under notification procedure, but a lot of illegal traffic under the Article 18 procedure. Hence, inspections and controls are necessary. According to the stakeholder, there should be information exchange before the shipment starts. Another industrial representative noted the illegal shipment of woods grade B and C coming down to implementation issues.

Use of multiple transport modes within one shipment – As highlighted in session 1, the WSR has difficulty in addressing a shipment with multiple transport modes. An industrial representative, mentioned that legislation is based on an assumption of a single transport trip, meaning one vehicle and two locations (sending location, and receiving location). This does not work for multiple transport modes (i.e. road, rail, maritime transport). This causes problems with, for example, documentation, as different authorities might have different interpretations of how to deal with the same shipment, and the train and maritime transport companies do not take the annexes of the regulation into account. A recyclers association mentioned that some transport methods are also not considered within Article 18 and Annex VII. One Member State representative also pointed out that the language of the WSR is not clear as regards who should do what at which stage, for example, who should fill in Annex VII in the case of import. This could be solved within the framework of national legislation.

Threshold contamination levels - Another related discussion point was on fixed threshold levels for contamination, which many felt should not be supported as they hinder technical development. A stakeholder pointed out that the threshold levels should be based on the nature of the waste and the contaminant (and their environmental impact). Circular economy goals imply more waste is transported, which requires movement of big volumes to make recycling of some materials viable (as such a need to centralise recycling). This implies more transport. Another Member State representative pointed out that it would be helpful if the EU could set threshold limits of contamination for certain wastes.
On impurity limits – some Member States publish the limits they accept. An industry association representative raised the question of why impurities are refused in case of contamination not having a negative environmental impact, as reducing environmental impact is the main objective of the WSR. In other words, there are some contaminations that can be expected, and which do not have negative environmental impacts because waste operators know how to deal with them (e.g. Glass waste - contamination with wine or metals).

Divergence of practice – it was highlighted that some countries, e.g. France and Slovenia, only allow export for companies established in that country – hence companies need to open a national presence in that country in order to operate. They suggested that consistency between Member States would be useful.

Session 3 – General issues

Covering articles 19- 25, general admin Articles 26-30, and Article 33 on shipments exclusively within Member States.

SMEs were previously surveyed, but they did not highlight major administrative difficulties. The main issues pointed out in the literature were:

- Problems with end of waste – divergent Member State definitions. Different waste / non-waste definition;
- Costs to Member State competent authorities, estimated 2500 illegal shipments between 2000-2012;
- NGO reports mention that large numbers of illegal shipments to developing world;
- Lots of complaints on Article 28 – from countries of dispatch, and transit countries;
- Data reported on illegal shipments – reflects detection not reality – led to strengthening inspections (Impel random inspection give a better estimate of illegal).

Reactions from stakeholders:

Language barriers – an industry association representative pointed out that there are language barriers in some Member States leading to problems with shipments. An example was given with respect to the rules to calculate energy recovery where in some Member States, the published data on R1 is contested but it is very difficult to translate and prove calculations.

Take-back of illegal shipments – One Member State highlighted that having take-back as the first solution for illegal shipment (Art 24) might not be the best solution as it might be better to treat the illegal shipment in the destination country. Furthermore, they noted that under Art 25(2) cost should be paid by the country of destination, but that sometimes it is not possible to know the country of destination, and sometimes the shipment has not yet reached the country of destination. Moreover, there was confusion over which country takes the costs, whether it is the destination country or where the shipment is stopped. Two industry association representatives noted the take-back takes a long time, however, one noted it was not necessarily a negative issue, just time consuming, as take-back procedures are quite normal within a country. The industry association explained that if there are more countries involved in the notification (minimum two), and the shipment is called illegal because of a simple reason, such as for example oversized parts, it still takes time to be organised due to exchange of documents. However, the take-back works well in principle, and the financial guarantee is not used in such cases.

Waste Code – An industrial representative, noted that the waste code – EU list, Basel convention and OECD – was extremely important. They suggested that there needs to be a table of correspondence between the three lists. A Member State questioned this statement by claiming that this is not possible as all three waste code lists are from different systems and cross comparisons are not possible. However, the Commission noted that work is being done to align some of the codes. The EU adopted an implementation table, with alignment between custom codes and waste codes under Regulation 1245/2016. The industry representative also stressed the need to look at the waste hierarchy, which also applies when waste is shipped. In deciding to grant a consent for a transboundary shipment under the notification procedure, competent authorities should consider the waste hierarchy. Currently the WSR (in particular Article 12) does not oblige competent authorities to investigate this aspect.

End-of-Waste criteria and Issue of Classification – An industry association representative stated that national end-of-waste criteria must be notified to the Commission. In this instance, as noted by an industrial representative, if there are no national criteria for end-of-waste, then it can still be shipped and considered as waste in the country of destination. A Member State added to this by noting that if a Member State exports an item as non-waste to a country that defines it as waste it would only be noticed if inspected. An industrial representative provided the example of exports from Czech Republic, where they classified an item as a product, however it was classified as waste in Germany. This has led to the Czech Republic's refusal to accept the return and created a case in the ECJ.

Regarding disagreement on classification issues, Article 28, one Member State representative mentioned it is useful to have this article. Two Member State representatives added that they did not think transit countries should be involved in the decision of whether the shipment is illegal or not as it is an issue mainly between dispatch and destination country. It was also mentioned that a potential solution to the issue of different classification of waste is to agree that the most stringent definition applies (as is already the case under Art 28) or to have an EU wide definition. Another Member State added that classification of materials is a big problem as one country says product material is waste, another that is a product. According to the stakeholder this will not get solved without EU wide standards.

An industry representative queried how to avoid waste-transport to countries with long transition periods to ban landfill according to the forthcoming revised Waste Framework Directive in case Art 28 applies. For some Member States, transition periods to no landfill are in place up to 2040. Furthermore, they cited that some waste destined or labelled for recovery is still shipped to landfills in Member States. However, the Commission highlighted that a ban on the transboundary shipment of waste for disposal is missing from the WSR. An industrial representative outlined that the problem lies in implementation, as a waste notified for landfill can be prohibited by a competent authority. However, another industrial representative stated that in some cases, even landfilling is not solely disposal, for example, this is the case when electricity is produced from the gas produced by the landfill. They stated that if Europe wants to ban certain activities for export within the EU, the definitions must be very clear (and currently they are not). This applies to export outside of the EU as well.

Hazardous Waste –An industrial representative raised the issue, that hazardous waste is not always shipped to the country where it can be best treated, which causes environmental issues. On the issue of port hopping, they pointed out that when waste was transported by ship, the waste notifiers are not directly in contact with the ship as their contact is with the shipping agent. This means that the waste notifiers don't have information on the ship being rerouted, so they can face illegal shipment claims (because of rerouting) even though they are not responsible for the ship rerouting. This situation has led to a reduction in the number of shipping companies willing to accept shipment of hazardous waste.

Sham Recovery – A Member State noted that sham recovery can be countered through national laws and queried whether other provisions are in place to address this. It was discussed that Article 11 and its reasons for objection and proximity principles were the main provision already in place.
Other – according to one Member State, regarding the format of the communication (Art 26), electronic data interchange should be made mandatory.

Session 4 Enforcement and inspection

Covers Art 49-56

The literature review indicates that the WSR has led to increase in inspections because of an increase in joint enforcement activities. This has led to increase in costs for industry. But improved participation of police and customs and more co-operation is seen as a positive development.

- Some say better cooperation between competent authorities (between and within Member States) is needed;
- Language remains an issue, it is not clear which languages are acceptable to each competent authority;
- Illegal exports to third countries still going on – estimated 22-32% non- compliance;
- High frequency of inspection does improve compliance;
- Lack of harmonised inspection criteria;
- Port hopping – still an issue?
- Register of violators;
- Resources for enforcement (At Member States level): more resources = more inspections;
- Sanctions vary between Member States;
- Art 49 – protection of environment – relates to facilities in third countries (being 'broadly equivalent' to EU facilities. (Other routes to block shipment to low quality facilities in the EU).

Reactions from stakeholders

Necessity of Notification System - DG ENV questioned the extent to which the notification procedure is currently required in the case of intra-EU shipments of waste, considering that treatment standards within the EU are supposed to be similar as this is implied by the text of Article 49.2. Some Member State representatives stated that the treatment standards are not the same across the EU and therefore, the notification procedure for intra-EU shipments (including the need for competent authorities to provide consents) should be kept. One Member State suggested that the best option would be to renew and extend the WSR annexes (especially Annex IIIB). A Member State representative also suggested a certification system to ensure waste treatment facilities align their environmental standards. An industrial representative raised the possibility for a 'Schengen area' for waste. However, this was dismissed by two Member States and an industrial representative, on the basis that the EU system lacks uniformity for waste treatment. Another industrial representative further highlighted that the notification procedure is necessary, especially for hazardous waste. Lastly, a Member State noted that notification is vital to ensure implementation of transportation standards (which are different in different Member States), not only of treatment standards. DG ENV responded that the rules on transportation are covered in different legislation and this could in theory continue to exist even if a Schengen area for waste were established. Thus these "other rules" should not be a reason to prevent the idea of a Schengen area but perhaps could co-exist with it.

Enforcement and Inspection – One Member State discussed the 20-32% non-compliance rate and stated that it should be treated with some caution because it was based on inspections usually carried out due to intelligence led suspicion of non-compliance, rather than truly random inspections. If it had been random inspections this figure would be lower. Lastly, another Member State highlighted that IMPEL is not the only source of enforcement action and data. They stated that there are national level examples of cooperation and controls, such as in Germany and Austria.

Session 5 Export, import and transit

This session covered:

- Articles 31-32 for shipments within the community with transit via third countries;
- Articles 34-39 concerning exports to Third Countries;
- Articles 41-46 concerning imports from Third Countries;
- Articles 47 and 48 concerning transit from and to Third Parties;
- Regulation 1418/2007.

The literature review was reported to have indicated the following points in this area:

- There are still issues of illegal exports of waste such as WEEE, batteries and end of life vehicles;
- There are some concerns over waste being moved within the EU before exporting out of the EU, if there are no (or lacking) inspections in the origin country, should the EU transit country be blamed?
- There is a lack of alignment between Basel, OECD and EU waste codes. Though work on the correlation tables should help.

DG ENV raised the following issues relating to Article 37 and Reg. 1418/2007 that they requested stakeholder views on:

- According to Article 37.2 and 37.5, the notification procedure seems to be imposed in certain exports of green-listed waste, but this can be ignored by the country of destination. The result is that exports may get stuck;
- Regulation 1418/2007 may contain incorrect information; however, it would be illegal to apply the correct rules if this Regulation is not amended in a timely way. Is this efficient?
- Article 37 gives the option to some non-OECD countries to prohibit (or prescribe notification) for the import of green-listed wastes for recovery from the EU; however, the same countries may import the same wastes from other third countries without any controls. When compared to the approach taken on the transboundary movement of non-hazardous waste on a global scale, is the approach taken through the provisions of Article 37 rather disproportionate and non-pragmatic?

Reactions from stakeholders:

Regulation (EC) No 1418/2007 – The Commission queried whether the Regulation was the necessary and right instrument for export, or if a simpler system was required. The reason why the Regulation was established, as stated by one Member State, was due to the precautionary principle. They therefore stated that it was still a valid instrument to protect developing countries. However, they took issue with the annual updating of the Regulation up until 2014. Another Member State stated that the Regulation (EC) No 1418/2007 should be kept in place. A third noted that if there are mistakes in the Regulation, and updates are necessary, relevant actors need to wait for an update.

Article 18 and Annex VII – An industrial representative highlighted from their experience the issues involved with getting a third country to sign Annex VII (especially field 5). As they are not bound by Article 18 or the Annex, they do not want to sign it. Clarity on the matter of who fills in what stage regarding annex VII was a pivotal requirement for one of the Member States.

Exports outside EU –One industry representative mentioned how the export of mixed plastic waste to Malaysia should not take place – if this waste cannot be recycled in the EU it should not be sent elsewhere. The problem was said to stem from waste collection systems (mixing plastics with food contamination). This point was expanded by another stakeholder who made the point that Article 34 and Art 49. Call for protecting the environment so exporting of plastic scrap to a third country (when much of the scrap is not recyclable), should not be allowed.

Another industry stakeholder highlighted that the DG Trade website has been good at showing the transparency of the system, (on third countries responses). Thailand accepting plastics from US but not from EU which does not seem correct. Plastic waste is generally classified as non-hazardous, so is generally not covered by Basel. The EU is setting a stricter standard on itself, and this might be being abused by other countries to accept waste from (e.g.) USA but not EU.

Next steps

- Stakeholders can send information (especially any data that confirms the points raised in this paper) to the WSR evaluation email, WSRevaluation@trinomics.eu;
- The Commission evaluation report is expected to be adopted (and published) around spring 2019.

Workshop attendees:

	Organisation
	Invited stakeholder
1	Aurubis AG
2	Austrian Ministry for Agriculture, Forestry Environment and Water Management
3	BDE e.V.
4	Bureau of International Recycling
5-6	CEWEP
7	Czech Ministry of the Environment, Waste management depart.
8	Danish Chamber of Commerce
9-10	Danish Environmental Protection Agency
11	DEFRA (Department for Environment, Food and Rural Affairs
12	Dutch Waste Management Association
13	Environmental Services Association (ESA)
14	Estonian Environmental Inspectorate
15	Estonian Ministry of the Environment
16-17	EUCOPRO
18	Eurometaux
19-20	EURITS
21	European Aluminium Association
22	European Recycling Industries' Confederation (EuRIC)
23-24	FEAD
25	Federal Environment Ministry, Germany
26	FERVER
27	FNADE - French Federation of Waste Management
28	GEMINI CORPORATION NV
29	German Federal Environment Agency
30-32	HAZARDOUS WASTE EUROPE (HWE)
33	Inspectie Leefomgeving en Transport; Ministerie Infrastructuur en Waterstaat
34	Kuehne + Nagel (AG & Co.) KG, Hamburg
35	Leefmilieu Brussel
36	Lithuanian Environmental Protection Agency
37	Miljøstyrelsen, Miljø- og Fødevareministeriet
38	Ministère de l'Environnement/DGPR/PNTTD
39	Ministry of Environment and Energy Hamburg
40	Müller-Guttenbrunn GmbH
41	Norwegian Environment Agency
42	Secretariat of the Basel Convention
43	Stena Metall AB
44-45	SUEZ
46	Suez Trading Europe
47	Umicore

	Organisation
48	UNEP (Secretariat of the Basel Convention)
49	Veolia
50	WirtschaftsVereinigung Metalle
	Consultant
51-52	Wood
53-54	BiPRO (part of Ramboll)
55-56	Technopolis Group
57-58	Trinomics
	Commission representatives
59-60	DG Environment
61	DG TAXUD
62	DG GROW

Workshop 2 Report- Validating the results of the Evaluation

European Commission Centre Albert Borschette (CCAB) Room 4B, Rue Froissart 36, 1040 Brussels. Tuesday 11th September 2018, 09H30-17H30

Agenda

Time	Activity
09.00 – 09.30	**Registration**
09.30 – 10.15	**Introduction and setting the scene** Background and purpose of the day (DG ENV) Presentation of the WSR evaluation study results - including the public and targeted consultations (Wood) Q&A
10.15 – 11.15	**Session 1 – Effectiveness** Short presentation of the key issues that come up under this heading (Wood). Guided discussion around (***for example***): . Achievement of the objectives of the WSR . Factors that influence success and good and bad implementation
11.15 – 11.30	**Coffee/tea break**
11.30 – 12.30	**Session 2 – Efficiency** Short presentation of the key issues that come up under this heading (Technopolis). Guided discussion around (***for example***): . Costs vs benefits . Factors that influence efficiency (positive or negative)
12.30 – 13.30	**Lunch**
13.30 – 14.30	**Session 3 – Coherence** Short presentation of the key issues that come up under this heading (Wood). Guided discussion around (***for example***): . Coherence between the WSR and other EU environmental / climate / trade policies (e.g. circular economy) . Coherence regarding WSR implementation across Member States . Coherence between WSR and relevant international legislation
14.30 – 15.30	**Session 4 – Relevance** Short presentation of the key issues that come up under this heading (Wood). Guided discussion around (***for example***): . Relevance of the WSR objectives . WSR vs Technical and scientific progress and market development
15.30 – 15.45	**Coffee/tea**
15.45 – 16.45	**Session 5 – EU added value** Short presentation of the key issues that come up under this heading (Trinomics). Guided discussion around (***for example***): . Achievements of the EU WSR compared to applying national regulation and Basel Convention and OECD decisions . Need for WSR at EU level and consequences of stopping EU actions
16.45 - 17.00	**Wrap up & closing**

	Draft conclusions – has the WSR achieved its objectives? Next steps (Wood) Concluding remarks – DG ENV

Introduction

This report summarises the proceedings of the second workshop held as part of the evaluation of Regulation (EC) No 1013/2006 on shipments of waste. The second workshop had the primary aim of confirming the draft findings of the evaluation. Attendees were provided with:

i. a summary paper in advance of the workshop; and
ii. presentations at the workshop itself that were further explained by the consultants assisting the Commission in the evaluation process.

This report consolidates the summary paper, the presentations that were made, and a summary of the proceedings. It was issued to workshop attendees for their comments. Comments were received from eight participants plus a consolidated set of comments from Commission attendees. These comments have been taken into account.

The full agenda and list of attendees are provided in Appendix A and Appendix B of this report. The summary follows the order of the agenda. The agenda followed the order of the questions to be answered by the evaluation.

1. Workshop introduction and setting the scene

DG Environment (DG ENV) provided an overview of the objectives and current progress of the evaluation of Regulation (EC) No 1013/2006 on shipments of waste (WSR). Attendees were reminded that the analysis considers the legislation as it stands to date, i.e. it is an ex-post assessment that evaluates the legislation against the criteria of effectiveness, efficiency, relevance, coherence, and EU added-value of the WSR as well as of the Regulation (EC) No 1418/2007 and all their amendments. It was noted that this workshop was planned to assess the progress achieved in the evaluation and the results formulated so far, to allow for stakeholder responses, corrections, and additions into the final report.

The Project Manager of the evaluation study introduced the consortium partners: Wood, Trinomics, Technopolis Group, and Ramboll and summarised the study to date. An overview of the literature review, open public consultation, targeted surveys, targeted interviews, and the previous workshop were presented. It was made clear that these inputs created the foundation of the findings presented in this workshop.

In the first general reactions from stakeholders', further requests for clarity were made. A Member State representative noted that some parts of the summary note, presented in advance of the workshop, were not clear. It was suggested that the wording of the final evaluation report should be carefully considered to ensure that key issues are clearly identified and understandable. An example given was that it should be made clear that the WSR was not intended to foster the Circular Economy but was designed to protect human health and the environment. It was noted by the Project Manager that the briefing paper did not include the level of detail that is presented in the final evaluation

report. Therefore, the issues to be presented would often be provided with more background information and evidence in the final report that would assist in clarity.

2. Session 1: Effectiveness

Attendees were presented with the draft findings of the evaluation in relation to the effectiveness questions. The analysis of 'effectiveness' considers how successful the WSR has been in achieving its objectives or progressing towards them.

- ***To what extent have the objectives been achieved?***

Key findings provided in the presentation to attendees (updated PowerPoint slides):

- Findings from existing literature and consultation activities confirm that the WSR provides an effective legal framework to implement the Basel Convention and OECD Decision C(2001) 107, hence supporting the protection of the environment and human health.
- Recent statistics confirm that, in relation to disposal, hazardous and non-hazardous waste produced in the EU (that requires disposal) was disposed of within the EU. In relation to recovery, hazardous/problematic[207] waste is increasingly shipped for recovery within the Union, due to the establishment of a network of EU recovery installations.
- The WSR has undergone updates, including those designed to ensure that scientific and technical progress are considered. For example, Article 58.1 as amended in 2014 by Regulation No 660/2014 states that the Annexes may be amended by the Commission through delegated acts to take account of changes and decisions agreed inter alia under the OECD decision and Basel Convention agreed changes to the list of waste adopted in accordance with the Waste Framework Directive. The first version of Article 58 mentioned "scientific and technical progress specifically.
- In some cases, it was felt that the impact of the WSR could be acting in a way which is not helpful in facilitating the shift to a more circular economy, which is a wider EC overarching objective relating to protecting the environment and human health (though the circular economy is arguably not an objective of the WSR).
- The WSR notification procedure is not adapted to technical progress, as electronic systems (e.g. for waste movement documents) are used in some Member States to a certain extent, but not at EU level, in all Member States or for all notifications. Generally speaking, all waste shipments (i.e. cross border movements) under the notification procedure of the WSR still require extensive paper use and the posting of administrative material / information. This leads to missed opportunities to save time as well as documents not arriving or being slow to reach their destination. The same applies to the procedure under Article 18 WSR concerning waste to be accompanied by certain information.
- The most challenging objective of the WSR is achieving a consistent and legally compliant application of the WSR across Member States. Inconsistencies in application of the WSR across Member States were highlighted as affecting the effectiveness of the WSR:
    - Non-uniform application and interpretation of Article 28 on disagreement between Competent Authorities on classification issues – although a useful article;
    - Lack of uniform waste shipments inspections, under Article 50, as well as lack of criteria on the number and quality of inspections;

[207] The term is defined later in this note.

- Challenges in consistently classifying "green-listed" waste under the Article 18 procedure (related to the consignment information form in Annex VII);
- Need for guidance on the identification and classification of waste types, given the varying quality of identification and classification as well as different interpretations of waste types between and within Member States;
- Inconsistent classification information and the breadth of coding systems have led to difficulties in making comparisons in how the WSR is applied in practice across Member States.

– Most consultees feel that adjusting how certain issues are dealt with in the legislation, rather than substantially restructuring it would be the most appropriate way forward: accrued guidance and/or more harmonised implementation seem to be considered as better options for addressing these issues.

Reactions from stakeholders to the conclusions presented

WSR and Circular Economy:

The main discussion point under this item was 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 aim. The findings presented to the workshop showed that certain stakeholders thought the WSR impairs or prevents trade and flow of wastes considered as secondary materials, that are crucial to improving the transition towards a more circular economy. In relation to the presentation:

- A stakeholder raised the point that to facilitate the development of technology in treatment plants there is a need to ship more waste across borders, and the resultant treatment capacity could assist in the transition to a more circular economy and the protection of the environment.

- Other stakeholders felt that to facilitate the circular economy, there is a need for non-toxic materials to be circulated to achieve a high quality of secondary materials.

- Another stakeholder agreed that the shipment of waste is critical in protecting the environment, which is also the goal of the circular economy. Effective use of secondary materials reduces the need to use virgin materials, and thus prevents the environmental impacts associated with producing the virgin material e.g. mining and refinery activities. As such, it was felt that the WSR would have a larger potential to help enable a more circular economy if its provisions were more adapted to do so.

- One Member State stated it was not the objective of the WSR to support the circular economy but to protect human health and the environment. To achieve this, procedures are in place and some trade in waste is restricted which might impair the circular economy.

- Several other Member States and other stakeholders stressed that the consistency of the WSR and circular economy objectives should be improved as they both have the same goal of protecting the environment and pointed out that the WSR should not be focussed on one goal, to the detriment of others. An example of one way in which this could be done would be to improve the clarity of the objective of the WSR to ensure that it remains up to date with the latest developments in this area. Doing so would allow for the inclusion of the objective of helping to improving the transition to a more circular economy, in line with the waste hierarchy.

Although it was noted that circular economy was not an objective per se from the WSR, as circular economy rather reflects rising ambitions for environmental protection after 2006, all attendees acknowledged the need for improved consistency between the WSR and the objective of moving towards a more circular economy, even if this is not written as an explicit objective within the legal text of the Regulation itself.

Definitions and language:
Regarding terminology and language presented in the slides, certain points of clarification were requested. For example, it was not clear to some of the audience 'what is meant by problematic waste'. One Member State representative pointed out that, in some cases, a strict definition does not accurately represent an issue. For this Member State "problematic waste", was a term that captured waste that is non-hazardous but is still an issue – e.g. plastic waste. It was agreed that such terms can be used if they are clearly explained in the evaluation report.

WSR discouraging waste shipments (intra- and extra-EU):
A related discussion was on the finding that the WSR was seen by some stakeholders as discouraging waste shipments. In this respect:

- One industry association gave an example that waste is often exported outside of Europe due to the high waste treatment requirements within the EU. One recycling association added that when the WSR was made it was, according to this association, intended to limit transboundary movement (to achieve the situation that movement of waste was an exemption). As a response, another industry association pointed out that this might be true for Basel Convention, but not for the OECD decision and therefore the criticism of the WSR was more a result of the obligations of the EU under Basel Convention that is implemented through the WSR.

- Another industry stakeholder mentioned that a "no waste shipment" future is theoretical. In the European Parliament there would be a majority who would agree with not transporting waste across borders. However, no solutions for an alternative are proposed. According to this stakeholder, in the coming years, we will see that many countries are faced with serious problems because of poor (i.e. lack of availability) waste treatment solutions. Another industry stakeholder agreed and stated that all types of treatment are and should be complementary, as they provide options to the increasing amount of waste generated. Waste shipment allows Member States to be able to minimise waste from residues from recycling processes by using treatment facilities in other Member States.

Article 28 on disagreement on classification issues:
There was discussion on the effectiveness of Article 28 (disagreement on classification issues). Overall, this Article was considered useful.

- According to one Member State representative, Article 28 of the WSR is an effective article helping Member States solve disagreements on the waste/non-waste/end-of-waste question or on classification issues. Another Member State representative agreed that the Article provides a clear rule, and they are not sure on instances where it is interpreted differently.

- One Member State representative considered the issue for industry is how to know in advance when disagreements will arise between competent authorities.
- One Member State representative considered that the coverage of the Article could be expanded to other points of disagreement. An industry association responded that they had submitted their concerns on the Article. However, these concerns relate to the definitions of waste/non-waste and hazardous waste in related waste legislation other than the WSR with the interpretation of these definitions at the Member State level making implementation difficult.

- An industry association stated that differences of interpretation between waste/non-waste, hazardous/non-hazardous waste and recovery/disposal have consequences for the efficient functioning of the shipments and application of the WSR. Although Article 28 considers managing the divergences by applying the stricter regulation, its subparagraph 4 opens the possibility to bring the issues to court. That means that any positions can be put into question, and as the level of interpretation of the different situations may be complex, this uncertainty can push Member States not to take a position. For this reason, in order not to weaken the provisions of article 28, the trade association advocated to limit or better frame the possibility to bring any dispute to a court or a tribunal to situations where no specific national legislation exist. To reach better harmonisation of the waste shipments rules across the EU effort to fix the gaps and overlaps of EU waste legislation and to reduce diverging interpretations and ensure harmonised implementation in the EU should be made. In response, a Member State representative responded that the issue is not with article 28 but with the complexity of the whole system, and therefore the solution lies elsewhere.

Other issues with WSR:

Stakeholders mentioned that:

- Classification of green-listed waste and coherence with the Basel codes is an issue.

- The different interpretation of certain provisions of the WSR across Member States is also an issue, in particularly those related to the Waste Framework Directive.

- Existing end-of-waste criteria are not uniform between Member States as some Member States classify a material as waste, others as a product. When a material is classified as waste, a notification or Annex VII document is required. Therefore, harmonised end-of-waste criteria would be useful.

- Addressing the lack of criteria on the number and quality of inspections was also flagged as an important issue.

- ***What factors influenced the achievements observed?***

Key findings from the presentation (updated PowerPoint slides):

  - Stakeholders identified a range of factors which are perceived to have negatively influenced effectiveness of the WSR:
    - Lack of harmonisation of the application of WSR across Member States.
    - Scope for different interpretations of provisions.
    - Lengthy notification procedures and subsequent administrative and financial burden.
    - Unbalanced enforcement across the EU and, in some cases, within Member States.
    - Current incoherence between the WSR and circular economy objectives.

- External factors.

Reactions from stakeholders

There were no additional comments given that many of these points were discussed under the previous section.

- *Conclusion*
  - There is a body of evidence from both the literature and the consultation which suggests that certain objectives of the WSR are being achieved, i.e. objectives to minimise the impact of shipments of hazardous waste on the environment and to respect the principle of proximity and self-sufficiency at EU level.
  - However, certain obstacles which have potentially hindered the complete achievement of WSR objective were recognised, in particular because of non-uniform application across Member States.

Reactions from stakeholders

A concluding comment from one Member State representative was that the WSR should be updated for plastic waste streams as currently the way in which such waste should be classified is not well captured by the Regulation. Another Member State representative mentioned that the issue of plastic waste is currently being considered under the Basel Convention, which may result in the need for changes of the WSR implementation into EU law.

3. Session 2: Efficiency

Attendees were presented with the draft findings of the evaluation in relation to the efficiency questions. Efficiency examines costs and benefits of the EU intervention as they accrue to different stakeholders, identifying what factors are driving these costs/benefits and how these factors relate to the EU intervention.

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

Key findings from the presentation (updated PowerPoint slides):

- Costs to Member States identified in relation to the WSR
  - Inspection resources and infrastructure including law enforcement and customs.
  - Human resource costs for intercepting and dealing with illegal shipments.
  - Cost for intercepting and taking back illegal shipments when there is no company to charge it to.
- Costs to companies identified in relation to the WSR
  - Human resource costs for administration.
  - Opportunity costs (delays in notification, etc.)
  - Financial guarantees.
  - Translation of documents.
  - Disclosing of company info is potentially damaging.
- Benefits identified in relation to the WSR
  - To society: improved environment; employment.
  - To Member States: WSR as an efficient tool for monitoring waste shipments.

Reactions from stakeholders

Missing costs:

- Two Member State representatives noted that there were some costs to Member States missing that they deemed important to include. These included human resource costs for the daily administration of the WSR, i.e. the notification procedure.

- Additionally, it was clarified that the costs for taking back illegal shipments also covered cases where there is no company to charge the costs to and, effectively, the state then has to bear the costs.

Digitisation to reduce costs:

- A Member State representative stated that there should be a focus in the evaluation on means to reduce costs, i.e. notifying via electronic means. Any such promotion/use of modern techniques, wherever possible, could help to reduce costs, and therefore should be mentioned in the evaluation. A preferred way to successfully introduce electronic notifications is to develop and consequently prescribe the protocol and formats necessary to implement the exchange of the relevant information between computer systems. Consequently, software companies can incorporate this protocol as an add-on into existing products. This facilitates the introduction, as authorities and stakeholders can continue to use administrative systems already in place.

- A trade association added that the implementation of an electronic data interchange would be a great tool to ensure traceability and the sharing of information between authorities. Not only would it make the administrative process easier, but the environmental benefits of greater control of waste shipments would also include less illegal shipments, and more environmentally sound treatment in Europe, including high quality recycling within the EU. Better waste shipment controls would also avoid major environmental accidents, especially in developing countries. This would require changes to Article 26 on the format of the communications.

Employment:

- A Member State questioned whether employment should be a benefit of WSR. They noted that it should be regarded as development of skills and expertise also to the benefit of foreign countries, rather than employment.

- It was suggested by the Project Manager that it was classified as an employment benefit due to the WSR creating jobs in notifications and in the environmental sector (which in itself is also a cost), as well as the potential to export such skills to third countries beyond the EU.

Financial guarantees:

- An industry association noted that financial guarantees have a high cost in certain countries, with multipliers that do not resemble the actual costs of waste recovery or disposal, and as such are not efficient.

- A Member State representative agreed stating that financial guarantees have merits, but the non-harmonised approach by Member States causes issues and should be dealt with. A financial guarantee can provide an effective barrier against free riders, but usually will not cover all costs in the event of a major incident.

- Another Member State representative noted that financial guarantees are not likely to be used and questioned whether they should be replaced by a liability regime instead.
- An industry association added that a simplification could be to introduce the possibility of single rolling yearly financial guarantees instead of one for each notification. It would be based on the number of shipments/active volumes that would not only facilitate negotiations with banks in their set-up but also reduce red tape. Furthermore, the financial guarantees in favour of non-EU exporting state are sometimes difficult to recover or cancel. The financial guarantee should automatically be released once the certificate of recovery or disposal has been received by the competent authority, which is not the case today.

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

Key findings from the presentation (updated PowerPoint slides):

- Generally, businesses do not consider that the costs of the WSR are proportionate to the benefits achieved.
- Industry stakeholders appear to disagree as to whether benefits in the long term will outweigh the costs of compliance with the WSR.

Reactions from stakeholders

Businesses are also interested in environmental issues:

- It was highlighted by many of the stakeholders that the comments stating businesses "do not consider the costs of WSR […] proportionate to the benefits" were misleading. Many highlighted that businesses today are interested in more than just monetary benefits (i.e. also protecting the environment).

- A business association noted that the largest issue is the proportionate nature of the costs. For example, agricultural plastic collected from soil loses its green waste status, causing excessive costs for what is perceived a minor issue.

Proportionality of costs to the benefits:

- It was noted by a few stakeholders that their organisations profited (and therefore benefited) from WSR. Another industry association stated several waste management companies would not exist without WSR.

- The costs of the WSR were acknowledged. However, for certain recycling groups it allows for more efficient business, as noted by another industry association.

- A third industry association stated the proportionality of costs to the benefits depend upon what waste is discussed. For hazardous waste they considered the WSR to be proportionate. However, for waste to which the Article 18 procedure applies, the costs are considered not be commensurate to the benefits.

- Another industry organisation noted that the notification is costly for them. However, above and beyond such costs, they still earn money because of their role in the implementation of the WSR.

Differentiation between industry sectors:

A nuanced approached to these conclusions in the report was requested by some of the workshop participants, to factor in businesses' actual perceptions of WSR.

- A Member State representative stated that the issue could be solved by distinguishing stakeholders' reactions by type of company. Notifiers/transporters would understandably have more disproportionate costs; however, this would not be so for other companies. It would allow for clearer conclusions.

How have costs and benefits varied by size of enterprises (micro/SMEs)

Key findings from the presentation (updated PowerPoint slides):

- There is little information (quite contradictory).
- SMEs in the countries involved in the survey did not face major difficulties linked with compliance with the WSR (Administrative Burden Report (ICF, 2015)).
- One Member State Competent authority highlighted that SMEs administrative burden under the WSR does not necessarily scale down based on revenue and thus, SMEs are at a disadvantage compared to larger firms. Larger companies can easily allocate administrative resources to address the administrative procedures required under the WSR, including notifications. This statement was supported by the survey.
- Within the Online Public Consultation, there were no substantial differences in answers between large firms and smaller firms on the question about benefits versus costs.

Reactions from stakeholders

This section had no responses from the stakeholders.

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

Key findings from the presentation (updated PowerPoint slides):

- Good practices
  - Some Member States have implemented electronic platforms for the notification of waste shipments.
  - Some Member States have inter-operable systems i.e. customs and waste shipment systems that can communicate with one another, thereby minimising duplication of data needs and requests.
- Bad practices
  - At the same time, the development of national online notification systems might render the development of similar EU-wide initiatives more difficult.
  - Lack of a common interpretation of the WSR (and other pieces of related EU legislation).
  - Differing requirements concerning insurance documents of transport.
  - Member State Competent Authorities experience problems with operators not using the EU List of Wastes (LOW) in addition to the codes listed in the Annexes of the Basel Convention or the OECD Decision. This makes it difficult to cross-compare and categorise waste shipments harmoniously, illustrating the lack of common interpretation of the WSR across Member States.

Reactions from stakeholders

Not reflecting legislation:

- A Member State representative stated that according to WSR Annex IC (para. 25), the Basel or OECD codes are included, as well as the EU LOW codes are required to be provided in the notification.

What evidence is there that the WSR and Regulation No 1418/2007 have caused unnecessary burden or complexity.

Key findings from the presentation (updated PowerPoint slides):

- Processing time for notification procedures is considered too long in some Member States: a maximum time limit (i.e. of 30 days) for competent authorities to process the notification was suggested.

  In addition, there is a 3-day deadline for requesting additional information (Art. 8.1). There is also a deadline of 3 days in Art. 8.2. Art. 9 contains a 30-day deadline for taking a decision.
- This issue in practice is that CAs do not always comply with Art. 8 deadlines
- A three-day notification prior to each transport under Article 16(b) is not realistic.
- The bureaucratic burden associated with becoming a pre-consented facility in some Member States (does not concern all) is too high.
- Validity of pre-consented facility status for these facilities is limited to a period of three years (OECD limit), which was deemed too short.
- Difficulty when looking to add a transit country to a notification after a consent has been provided.
- Often, Member State Competent Authorities look for small discrepancies in the notification and send it to companies for correction such as waste sample analysis which is costly and difficult. In some cases, companies are only asked if they agree with the correction.
- Specifying provisions for the entirety of the route is also deemed unnecessary – focus should realistically be on the start and end point from an environmental perspective.
- The issue of end-of-waste criteria and their application by Member States has created another layer of complexity as certain material can either be considered as waste or as product depending on the Member State assessing the status. This creates uncertainty.
- Classification is further complicated by a lack of consistency between the lists of waste. There is a need for alignment of OECD and Basel lists with the EU list.

Reactions from stakeholders

Pre-consented facilities:

- An industrial stakeholder noted that the burden of applying for a pre-consent is too high when compared to the limited benefits received once the pre-consent is issued.
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- A Member State representative highlighted that in Denmark, and potentially Sweden, the bureaucratic burden associated with becoming a pre-consented facility is only true for the first application. For a renewal the process is not as burdensome.
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- A Member State representative noted that regarding the three-year validity of pre-consents, these are not debatable within the EU as they come from the OECD Decision limit. Another Member State representative stated that the conclusion on the efficiency of pre-consented

facilities could potentially be split into two: one focusing on the issue of applying for a pre-consent status, and one focusing on the issue of the period of validity of a pre-consent.

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- A trade association referred to a solution within Article 14 of the WSR: The North Sea Resources Roundabout /green deals is a project which started: NSRR -Fast Track Notifications. Competent authorities may issue pre-consents. The project includes a harmonised set of minimum rules for pre-consents and how to shorten the list of requirements for notifications within EU (for pre-consents). Details have been sent to the WSR evaluation team.

Time limit for notification:

- A Member State representative stated that time limits on the notification procedure were not accurately applied by the Competent Authorities. Another Member State representative stated that the 3-day time limit was unrealistic for competent authorities and should be changed.

Interpretation of end-of-waste:

- Two industry associations made the statement that end of waste status was not interpreted uniformly across Member States. It was also noted that the solution to the issue was in Article 28.1, where if there is disagreement on whether a shipment is classified as waste or not, between two Member States, it will legally be accepted as waste (in line with the precautionary principle). For the other industrial association, they noted that to define something as end-of-waste, all that is required is a declaration. This means that members of their association often receive items that are not end-of-waste.

Provisions for the route to be followed by shipments:

- A Member State representative stated that provisions for the route could be investigated as a point of interest for efficiency in the notification procedure.

Differences in waste lists:

- Some differences in the Basel and OECD waste lists were noted as a concession to accommodate for the US not being a Party to the Basel convention but being a member of the OECD. Therefore, the EU list must try and align with both waste lists to be able to deal with all relevant third parties. However, there should be a closer inspection of the complexities that arise here in actual application.

How have the costs and benefits of the WSR varied at local, national, and EU level? And IF there are significant cost/benefit differences between Member States, what is causing them?

Key findings from the presentation (updated PowerPoint slides):

- Enforcement regimes and associated costs are different from one Member State to another - quality, stringency, and intensity of inspections.
- Stringent (in depth and, therefore, generally more time consuming) inspection regimes entail higher costs for businesses and Member State Competent Authorities but is considered to lead to higher levels of environmental protection.
- Differences in the number of infringements brought before courts - means less costs for those Member State's legal systems where fewer infringement are addressed by legal proceedings but on the other hand it means that such Member States would receive less revenue penalties that may be used to further support compliance activities in the Member State concerned.

- Different demands regarding the number of requested documents, contents of contract and phrasing under the notification procedure.
- Certain countries do not recognise the national consents or registration for transportation of waste of other countries and their respective transport registers / databases, which can generate varying costs in the Member States.
- Further differences between Member States application of the WSR include interpretation of what constitutes impurities within green-listed waste;
- Differences in the notification fees applied by Member States.

Reactions from stakeholders

The only comment on this section concerned the terminology used in the presentation. This has been considered in the key findings.

Could the process of WSR notification and the Regulation No 1418/2007 be more efficient?

Key findings from the presentation (updated PowerPoint slides):

- Pre-consenting should be made easier and notification procedures faster, especially for renewals and for pre-consented facilities;
- Increased cooperation between Member State Competent Authorities to increase consistency of approach is desirable.
- Effective use of pre-consented facilities and clarification on the period, a harmonised timeframe and clear enforcement deadlines.
- Harmonised and longer duration of the validity period of consents for waste shipments (although there are legal restrictions in the Basel Convention and OECD decisions in relation to these matters).
- Administrative procedures and fees should be less burdensome to ship waste for recycling than for other recovery such as energy recovery. However, fees should reflect the efforts involved for authorities in implementing the WSR.
- Introduction of an internationally coordinated electronic data interchange system for the notification procedure presuming a greater use of electronic documentation. While electronic procedures would reduce the administrative fees, these fees must remain proportional to the work undertaken by the authorities
- Streamline EU, OECD and Basel convention waste codes and procedures.
- Reduce discrepancies in Member State classification of waste and use of R/D codes by issuing guidelines for Member States and Member State Competent Authorities.
- Allow mutual recognition of national consents or registrations for transportation of waste.
- Publishing interpretative documents such as guidelines for Member State Competent Authorities where additional needs beyond existing guidance is identified.
- There is a need for greater consistency in the type of documents requested by different Member States under the notification procedure.

Reactions from stakeholders

Interim treatment operations:

- A Member State representative stated that it might not be relevant for an authority to receive information regarding the interim treatment of a shipment of waste if the non-interim treatment is carried out within the EU, as the same provisions regarding treatment apply in the Union.

- A trade association stressed the importance of traceability for hazardous waste (Article 17 of the Waste Framework Directive on control of hazardous waste). Information on interim facilities is even more important as identified in the conclusions of the BIPRO study on hazardous management that made clear that there is still room for improvement in the application of the hazardous waste provisions of the Waste Framework Directive in some EU Member States.

Notification procedures for pre-consented facilities:

- An industrial representative argued that the notification procedures for shipment of waste to pre-consented facilities needs to be drastically streamlined. Operators should be able to ship waste to pre-consented facilities without waiting for competent authority approval for every notification. The proposed simplification would reduce the procedure from the current seven to three steps and would allow shortening the time from 1-3 months down to a week. This solution would facilitate shipments to proven high-quality recyclers, without jeopardising WSR objectives. Regular auditing could be used to guarantee high quality standards.

Fees to reflect administrative burden:

- One Member State representative stated that the fees in its Member State need to be reflective and consistent with the effort the authority needs to take. WSR obliges Member States to meet administrative costs (Article 29). Fees should try to be reduced by using electronic procedures to reduce administrative load.

4. Session 3: Relevance

Attendees were presented with the draft findings of the evaluation in relation to the relevance questions. Relevance' examines the relationship between needs and problems of society and the objectives of the WSR. Hence, relevance touches on certain aspects of the WSR´s design and whether it continues to address current needs and problems. It is linked to the criteria of EU added value as relevance is assessed in the context of action at EU level.

How well do the original objectives correspond to the objectives of the EU (and its global partners)?

Key findings from the presentation (updated PowerPoint slides):

- There remains the need to protect the environment and human health during the shipment of waste, including its recovery or disposal, both within the EU as well as third countries, particularly regarding waste shipments for disposal outside of the EU/EFTA area and shipments of hazardous waste to non-OECD countries. The WSR objectives continue to match this need.

Reactions from stakeholders

Plastic waste as a priority:

- A Member State representative highlighted the need to discuss plastic waste. They asked for it to be included in the evaluation as a main concern. It is an issue of the Basel convention – but they also believe it is important here. They were particularly interested in how WSR will facilitate the Circular Economy Action Plan and Plastics Strategy.

- A second Member State representative stated that new waste codes, particularly focused on plastics are currently under discussion within the context of the Basel convention.

- A third Member State representative stated that Norway is currently proposing revising Annex IX of the Basel Convention (List B of waste classification). In addition, they will send an official proposal for Annex II (Categories of Wastes Requiring Special Consideration).

- A fourth Member State representative stated that it was difficult to set the levels of contamination allowed for all types of waste, including for plastic waste.

Non-harmonised international codes:

- An industrial stakeholder argued that the WSR is effectively the European Union's interpretation of the Basel Convention and is not a one-to-one transposition. This is not a negative aspect, as it allows the Union to be more ambitious. However, if this means that the WSR does not work as harmoniously with the Basel Convention as it should, and changes are required at the global level then this should be taken up at the international level.

How well adapted is WSR to technical and scientific progress (after 2006) and EU global market developments

Key findings from the presentation (updated PowerPoint slides):

- Despite its clear links with the circular economy, the WSR appears less well designed in relation to developing waste markets and to help enable a more circular economy. This was a universal finding across all platforms of stakeholder consultation used in this study. However, the circular economy is a much larger concept that does not only concern shipments of waste but a whole raft of waste measures that are beyond the scope of the WSR.
- There are issues regarding the time taken for notification procedures and take-back obligations of countries which have disparate interpretations of waste types that hinder the promotion of a market for secondary raw materials.

Reactions from stakeholders

Focus on the Circular Economy:

- An industry association requested that the WSR should be made more consistent with the Circular Economy and to facilitate and improve the quality of waste streams. To achieve this the language of the WSR needs to address such issues.

- One Member State noted that it could be necessary to provide competent authorities with discretionary powers to more easily facilitate secondary material use.

- An industry association added the need for caution given the ongoing discussions on the interface between waste product and chemical legislation.

- An issue was highlighted regarding when certain industries wish to test new waste treatment equipment or processes, and these are located in a different Member State to where the waste was generated. In such cases waste must be shipped across borders in large enough quantities to generate meaningful test results. Such "test batches" require notification. However, the manufacturer of this technology may not have a permit for receiving such quantities of waste. This inhibits any action. A Member State noted that the Basel Convention and the OECD Decision do not foresee these situations.

- Another Member State reiterated an earlier point, highlighting that the WSR is not designed to facilitate the Circular Economy.

Problems with notifications procedures and take-back obligations:

- It was noted by one industrial association that the timing established in Article 7(1) was a key area of concern to discuss. According to this association, from a technical point of view, 3 days is insufficient time to allow the processing required by the competent authority. The issue of long-lasting notification procedures is a problem sometimes caused by the different enforcement regimes employed by competent authorities, but in some cases, it is also caused by notifiers not supplying the complete documentation from the beginning.

- A Member State authority stated that time limits are fixed in the WSR but that they were not being met and this was a problem. Other Member States stated that although this is true, the WSR has clear about this procedure and the fact that Member States do not meet time limits is not an issue of the Regulation itself.

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?

Key findings from the presentation (updated PowerPoint slides):

- The relevance of the WSR to multilateral agreements like the Basel Convention and the OECD Decision was recognised across all means of stakeholder consultation and there is no question that they are transposed by the WSR.

Reactions from stakeholders

This section had no responses from the stakeholders.

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

Key findings from the presentation (updated PowerPoint slides):

- Mixed opinions of stakeholders.
- The financial guarantees required under the notification procedure was presented by stakeholders as a significant administrative burden that could be obsolete for certain waste streams that are low risk and contribute to the circular economy.
- Stakeholders highlighted the need of adapting the WSR to the Circular Economy, which aims at promoting a market for secondary raw materials.
- Stakeholders prioritised increasing overall efficiency of the administrative process as a means of adapting the WSR. Examples:
    - Establishment of an electronic data interchange system.
    - More standardised waste classification and enabling fast track procedures for certain waste streams.

Reactions from stakeholders

Documentation requirements for interim treatment:

- A Member State authority noted that there should be a more lenient approach within the EU for interim operations under the WSR, as it is very relevant for recovery operations and the

Circular Economy. Currently, the notifier must document the whole chain of events even in an EU Member State. This is to facilitate the export ban of hazardous waste to third countries; however, this should not then make internal EU shipments more burdensome.

- An industry representative disagreed, stating that when dealing with hazardous waste, the interim operations are often just diluting the waste. Therefore, documentation is necessary until the end of waste recovery or disposal to ensure proper recovery or disposal, respectively.

- A second Member State noted that it is necessary for hazardous waste, however documentation may not be necessary for non-hazardous waste.

Financial guarantees:

- An Industrial representative believed that alternatives to financial guarantees should be considered. This was agreed by a second industrial association, who noted that for the shipment of non-hazardous (yet unlisted) waste, the financial guarantees can sometimes be high (100s of thousands of Euros). This is too much of a financial risk.

- About the administrative burdens from financial guarantees on low-risk waste streams, a Member State highlighted that green-listed waste has no notification procedure.

Waste codes:

- A Member State representative stated that currently in Basel Annexes I and III (categories of waste to be controlled and list of hazardous characteristics) are under review. After these are reviewed, Annexes VIII (list A) and Annex IX (List B) are likely to be the next to be reviewed. For the future this will help with the proper listing/alignment of wastes.

5. Session 4: Coherence

Attendees were presented with the draft findings of the evaluation in relation to the criteria coherence. The analysis of 'coherence' should look at how well the WSR has worked internally and with other relevant EU/international obligations or regulations.

To what extent is the WSR (and Reg No 1418/2007) coherent with other EU policies? How do different policies positively or negatively affect the implementation of the WSR?

Key findings from the presentation (updated PowerPoint slides):

- There are synergies between the WSR and other waste legislation, especially those Directives covering specific waste streams such as end of life vehicles, batteries, packaging and packaging waste and waste electrical and electronic equipment. The WSR is coherently linked with those Directives in dealing with exports of such materials.
- There are continuing illegal shipments of waste that leads to incoherence between the Treaties, the WSR and the ongoing work of the Commission on governance.
- The definitions of hazardous and non-hazardous waste and their differing interpretation in different Member States make the shipments of certain waste streams such as batteries difficult, albeit the waste definitions are taken from the Waste Framework Directive rather than the WSR.
- There are different interpretations of the definition of waste and the end-of-waste criteria. This can be an issue of coherence between the WSR and the Waste Framework Directive

(WFD). Some Member States may consider certain material to be non-waste whereas other Member States may consider it waste according to the definition in Article 3 of the WFD.

- The various definitions, inconsistencies, different interpretations and complex procedures within the WSR (and other related EU waste legislation) may pose difficulties to the objective of the circular economy, e.g. for establishing a market for secondary materials. This was highlighted by a significant proportion of stakeholders, although the greater concern is among business operators and trade associations. This was addressed in more detail under Session 1.
- The different interpretations of the classification codes of the EU customs legislation and the WSR leads to some countries having to pay customs fees for exporting waste due to it being considered a "product" in the destination country.
- Most stakeholders consider the WSR interaction with the EU internal market as negative. The WSR is considered to hinder the creation and promotion of a market for secondary materials with differences in interpretation of the Regulation meaning that the single market is not well integrated in relation to the operation of the WSR.

Reactions from stakeholders

How to deal with return flows of waste due to take-back obligations according to extended producer responsibility:

- A Member State representative requested that it should be made explicit how to deal with take-back **according to extended producer responsibility** (particularly for the take-back of chemicals or for used refillable printer cartridges). It would be beneficial for them to have explicit provisions for this as the existing provisions were considered unclear.

Additional legislation to clarify:

- Regulation (EC) No 1069/2009 on animal by-products was an additional piece of legislation that a Member State mentioned regarding checking its coherence with the WSR. It was also suggested that a link should be made between WSR and Directive 2008/99/EC, on the protection of the environment through criminal law, which deals with illegal shipments.

- With the WSR there was an issue for filling in papers in the wrong way. If papers are filled in incorrectly, it is deemed a matter of criminal law - however one Member State noted it is not normally deemed a criminal offence under their national law - which causes issues.

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

Key findings from the presentation (updated PowerPoint slides):

- The WSR is generally coherent internally. A Member State noted that there appeared to be two possible areas where this could be the case and will provide more information to this effect.
- The WSR is generally coherent with Regulation (EC) No 1418/2007. A few issues remain:
  - A possible inconsistency or contradiction between Article 36.1(f) and how it is understood and applied in practice as per Regulation (EC) 1418/2007. Article 36.1(f) applies to the exports from the EU to countries to which the OECD Decision does not apply. Some stakeholders highlighted that the scope of the article is not clear, and that the regime or system established is also unclear.
  - Delays in updating the Regulation (EC) No 1418/2007 with the most recent bans in the national legislation of importing countries.

Reactions from stakeholders

This section had no responses from the stakeholders.

To what extent are strategies/legislation at Member State level coherent with the WSR, in particular Article 33?

Key findings from the presentation (updated PowerPoint slides):

- In general, the Member State internal policies and strategies on waste shipments appear to be coherent with the WSR.
- However, stakeholders expressed their concerns with the interpretation of the Regulation in each country, even at regional level. This means that there are differences in implementation of the WSR between Member States that are hindering the functioning of the Regulation. This is more an issue of application rather than the coherence of the legislation itself.

Reactions from stakeholders

This section had no responses from the stakeholders.

To what extent is WSR coherent with international commitments on waste?

Key findings from the presentation (updated PowerPoint slides):

- The WSR is generally coherent with the Basel Convention and OECD Decision C(2001) 107. A small number of issues remain:
  - Differences in the waste classification systems (Basel Convention and OECD decision): The codes used in the Basel Convention, the OECD and the European List of Waste (LoW) are not aligned.
  - Financial guarantees (Basel Convention and OECD decision): The WSR develops the concept of financial guarantees more precisely and in a way that several stakeholders consider contradicts the Basel Convention and the OECD decision.
  - Differences in the requirements for green-listed waste (Basel Convention): The Basel Convention does not have requirements for green-listed waste, but the WSR does. Although some may consider this an inconsistency, it can also be argued that the Convention does not preclude measures to regulate trade in waste not covered by Basel. The OECD decision requires green-listed waste to be subject to certain information requirements ('Green control procedures').
  - Differences in the period determined under the Basel convention and the WSR respectively for competent authorities to respond to notifications.

Reactions from stakeholders

Issue of Correspondent's guidelines No 4:

- A Member State representative flagged the issue of Annex IV and the fact that A1180 of the Basel convention does not always apply, and OECD entries GC010 and GC020 in Part II apply instead (green-listed waste).

- A Member State representative stated that there are Correspondent's guidelines No 4 on this issue. These were noted as a useful tool, but they do not always resolve legislative issues.

6. Session 5: EU added value

Attendees were presented with the draft findings of the evaluation in relation to the criteria EU added value. Assessing the added value of the EU-wide harmonised regime established by the WSR (together with Regulation (EC) No 1418/2007) as compared to what would be achieved by Member States at national, regional and international levels alone.

- ***Compared to applying national rules or international agreements***

Key findings from the presentation (updated PowerPoint slides):

- Without the WSR, the following would have been expected:
  - ✓ More bilateral agreements between Member States.
  - ✓ Difficult transboundary movement of waste.
  - ✓ Reduced availability of waste treatment options and the ability to recycle/ recover materials.
  - ✓ The principle of waste hierarchy could be harder to achieve.
  - ✓ More local variation of rules, WSR reduces these variations.
  - ✓ Some Member States might not have developed as detailed rules as the WSR.
  - ✓ Some Member States might have developed rules favouring their own facilities and situations.
- WSR created a multilateral agreement with a clear framework and boundaries between hazardous and non-hazardous waste.
- WSR contributes to more consistent and harmonised procedures, this decreases the administrative burden of moving waste.
- WSR builds on the Basel Convention, creates additional provisions, adds detail and clearer legal implications, flexibility in shipping green listed waste, improved clarity.

Reactions from stakeholders

Clear framework and boundaries for waste types:

- It was noted by one Member State representative that the framework and boundaries for hazardous and non-hazardous waste needs to be clearly defined as they still have issues with the current system.

- An industry association agreed with this point emphasising the importance of maintaining the distinction between the requirements needed for shipment of hazardous and those for non-hazardous waste in the WSR. For hazardous waste, provisions should remain as strict as they currently are to ensure traceability and safe treatment.

- ***Do the issues addressed by the WSR continue to require action at EU level?***

Key findings from the presentation (updated PowerPoint slides):

- All competent authorities interviewed feel the issue of waste shipments still requires EU-level action.
- There is a need for adaptation to new developments, e.g. the circular economy (as mentioned in effectiveness/coherence/relevance).
- A clear majority of waste companies/ trade associations still believe there is a need for EU-level action.
- The WSR needs to be kept up to date (e.g. enabling the circular economy).
- One benefit of WSR has been in helping cooperation between Member States through WSR correspondent meetings.

- The WSR should help in the creation of waste markets (e.g. circular economy) as well as control waste shipments.

Reactions from stakeholders

This section had no responses from the stakeholders.

- ***Added value of the Reg 1418/2007 on the export for recovery of certain non-hazardous waste to non-OECD countries***

Key findings from the presentation (updated PowerPoint slides):

- Some competent authorities believe Regulation 1418/2007 adds value, but the relative infrequency and the slow pace of updates creates problems.
- The Regulation is generally seen as positive e.g. it puts in place the need for financial guarantees for waste shipped outside Europe, but there are mixed feelings from stakeholders about the effectiveness of these guarantees – e.g. too low sometimes.
- When asked the question: Without this Regulation, do you think Member States would find a way to organise themselves to achieve what the WSR does? The answer was that the situation would be less consistent, and therefore probably worse.

Reactions from stakeholders

Useful nature of Regulation 1418/2007:

- DG ENV highlighted that they often receive complaints and negative comments regarding the Regulation 1418/2007, especially since China's ban of waste.
- However, many of the workshop participants noted that the Regulation was useful for them.
- A Member State noted it creates a level playing field in the EU.
- An industrial stakeholder highlighted that is sets the framework for what is allowed and what is not.
- A second Member State noted that without the regulation 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 such information and reduces the burden for them.

Not enough to only view Regulation 1418/2007:

Although many stakeholders agreed that the regulation was useful, they further stated there were other issues to be addressed:

- One Member State representative noted that it is not enough to view Regulation 1418/2007 in isolation. The provision on the precautionary principle needs to be examined as well (especially as non-OECD countries do not have the capacity to deal with certain wastes).
- An industrial stakeholder further mentioned that the issue is more with the slow pace of updates to the Regulation that causes problems – however, an information paper from the German Federal Environment Agency makes it functional for their use.

- A suggestion was made by a Member State authority that it would be more lenient to use Article 18 by default for prior notification. However, a second Member State noted that the reason for using Article 37 was to ensure the precautionary principle was being applied in practice.

Acceptance of dirty plastic, but not clean:

- It was noted by an industrial stakeholder that some countries will only accept dirty plastic and not cleaned plastic (e.g. Bangladesh – only accept mixed plastic scrap but not clean plastic scrap). However, in other countries, like the UAE it is prohibited to import waste from Europe – but they accept waste from the U.S. This was something they recommended to be considered further in the future.

- A second industrial stakeholder suggested this was likely due to the value they can generate from buying cheap unprocessed waste, processing it for a low price, and then selling it for a much higher value as clean waste.

China import ban and descriptors:

- A Member State representative highlighted that the Chinese import ban only affects the fourth column in the annex to Regulation 1418/2007 ("other control procedures will be followed in the country of destination"). This is not necessarily up to date, as it is always required to check national import legislation of the import country. There needs to be a focus on the other three columns.

- An industrial association noted that for Chinese descriptors, they use ones that do not fit comfortably with the Basel codes. This makes it difficult to correlate with what they require in practice.

- ***Most likely consequence of stopping EU action?***

Key findings from the presentation (updated PowerPoint slides):

- Like Question 5.3, therefore, similar answers.
- Competent authorities: The situation would fall back on the Basel Convention and the OECD Decisions along with bi- and multi-lateral arrangements between Member States increasing the risk of discrepancies between Member States and of waste transport to the least regulated Member States.
- We would lose the helpful learning from Member States that happens during the WSR correspondents' meetings.
- Other stakeholders agreed that the situation would fall back to the national rules, Basel Convention and OECD Decision, some of which have much less detail than the WSR. This would lead to a worse situation than with the WSR despite its issues.
- Some negative environmental impacts would be expected – e.g. decrease of recycling, less resource efficiency, less trade in green list waste, etc.
- Other negative impacts would likely include increases in illegal shipping, a decrease in competition, reduction of waste trade, a drive towards the least cost solution and less harmonised legislation across Member States.

Reactions from stakeholders

WSR stricter than Basel:

- It was noted by two Member State authorities that they did not agree with the statement that trade of green-listed waste would decrease without WSR. As WSR is stricter with its definitions than Basel, therefore it seems unlikely that trade of such waste would decrease if restrictions were lifted.

- *Conclusion*
  - EU without the WSR?
    - Less harmonisation/ consistency of national rules, application of Basel and OECD for transboundary movements.
    - Lack of a 'level playing field' for waste companies (e.g. due to potential protectionist measures) - result in waste market distortions.
  - Benefits of the WSR?
    - More harmonisation.
    - More waste trades.
    - Helping to implementing the waste hierarchy through increased cross border transport, which leads to more recycling and preparing for reuse, reduced landfill.
  - Need for continued EU action?
    - YES!
    - Increased role in enabling the circular economy.
  - Reg 1418/2007 benefits
    - Adds clarity but the review process and updates need to be faster.

Reactions from stakeholders

This section had no responses from the stakeholders.

7. Next Steps: Wood Plc.

- The Report will be provided as a consolidation of the briefing paper with comments from the workshop.
- Comments were requested by Tuesday 9th of October (two weeks after receipt of this workshop report). The same deadline applies for any additional comments and data. This paper addresses the comments received by that deadline.

List of Attendees

Please note, only those that signed the participants list are included in this table. This might include those that did attend but did not sign.

Organisation
Administration de l'environnement (LU)
Apple
Austrian Ministry Sustainability and Tourism (AT)
Bundesverband der Deutschen Entsorgungs-, Wasser- und Rohstoffwirtschaft e. V. (BDE)
Service public de Wallonie (BE)
Bureau of International Recycling (BIR)

Organisation
Danish Chamber of Commerce
Danish Environmental Protection Agency (DK)
Department for Environment. Food and Rural Affairs (UK)
DigitalEurope
Ecodom
European Electronics Recyclers Association (EERA)
Environment and Resources Authority (MT)
European Association for Co-processing (EUCOPRO)
European Recycling Industries' Confederation (EuRIC) / Curef
European Recycling Industries' Confederation (EuRIC)
European Union for Responsible Incineration and Treatment of Special Waste (EURITS)
Association of European Automotive and Industrial Battery Manufacturers (EUROBAT)
Eurometaux
European Aluminium
European Federation of Waste Management and Environmental Services (FEAD)
Federal Environment Ministry (DE)
European Federation of Glass Recyclers (FERVER)
French Federation of Waste Management (FNADE)
Hazardous Waste Europe
ILenT - Europese Verordening Overbrenging Afvalstoffen (EVOA) (NL)
Indaver nv
Kuehne + Nagel
Leefmilieu Brussel (BE)
Ministerio para la transición ecológica (ES)
Ministry of Environment and Food (DK)
Ministry of Environment and Energy (HR)
Ministry of Environment and Energy Hamburg (DE)
Ministry of Infrastructure and Water Management (NL)
Ministry of the Environment (CZ)
Norwegian Environment Agency (NO)
Plastic Recyclers Europe (PRE)
Pôle national des transferts transfrontaliers de déchets (FR)
Public Waste Agency of Flanders (OVAM) (BE)
Ramboll
Renewi
Sony
Stena Metall AB
SUEZ
Swedish Ministry of Environment and Energy (SE)
Technopolis Group
Trinomics
Umicore
Veolia

Organisation
Wirtschafts Vereinigung Metalle
Wood Plc
DG Environment, European Commission
DG Trade, European Commission

Trinomics B.V.
Westersingel 34
3014 GS Rotterdam
the Netherlands

T +31 (0) 10 3414 592
www.trinomics.eu

KvK n°: 56028016
VAT n°: NL8519.48.662.B01

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