REPUBLIC of CROATIA
Ministry of Economy and
Sustainable Development
Institute for Environment and Nature Protection

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Improvement of Data on Plastic Waste in Croatia

Gap Analysis Report

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Improvement of Data on Plastic Waste in Croatia

(HRPWD)

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List of abbreviations

ALR – average loss rates

CBS – Croatian Bureau of Statistics

CCE - Croatian Chamber of Economy

CEA – Croatian Employers' Association

Decision 2005/270/EC – Commission Decision of 22 March 2005 establishing the formats relating to the database system pursuant to Directive 94/62/EC of the European Parliament and of the Council on packaging and packaging waste

e-ONTO – electronic register on waste creation and transport

EPEEF – Environmental Protection and Energy Efficiency Fund

EPR scheme – "Extended producer responsibility" scheme

EWC– European waste code (European classification of waste - List of Waste)

Form NO – Form for created waste

Form OZO – Form for amounts of Recovered/Disposed waste

Form SO-1 – Form for amounts of collected waste for Public service providers

HRPWD Project – Project "Improvement of Data on Plastic Waste in Croatia"

Implementing Decision 2018/896 – Commission Implementing Decision (EU) 2018/896 of 19 June 2018 laying down the methodology for the calculation of the annual consumption of lightweight plastic carrier bags and amending Decision 2005/270/EC

Implementing Decision 2021/19 – Commission Implementing Decision (EU) 2021/19 of 18 December 2020 laying down a common methodology and a format for reporting on reuse in accordance with Directive 2008/98/EC of the European Parliament and of the Council

IOR - Institute of Oceanography and Fisheries Split

IRDJU – Report on the work of the public service provider

LSGU – Local Self-government Unit

MESD – Ministry of Economy and Sustainable Development,

MESD Institute – Ministry of Economy and Sustainable Development - Institute for Environment and Nature

MMW – Mixed municipal waste (EWC 20 03 01)

NACE – Statistical classification of economic activities in the European Community

New ZOGO - new Act on Waste Management (OG 84/2021) adopted in July 2021

OG – Official Gazette

OIB – Personal identification number

PBAG Directive - Directive (EU) 2015/720 of the European Parliament and of the Council of 29 April 2015 amending Directive 94/62/EC as regards reducing the consumption of lightweight plastic carrier bags

PPWD Directive – European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste

PPWD Decision 2019/665 – Commission Implementing Decision 2005/270/EC as amended by Implementing Decision (EU) 2019/665 establishing the formats relating to the database system pursuant to European Parliament and Council Directive 94/62/EC on packaging and packaging waste

RDF - refuse-derived fuel

ROO – Environmental Pollution Register

SUP Directive – Directive (EC) 2019/904 on the reduction of the impact of certain plastic products on the environment

Waste Framework Directive - Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directive

WMPRH – Waste Management Plan of the Republic of Croatia for the period 2017-2022 (OG No. 3/17)

WPP – Waste Prevention Programme

WPPortal – Waste Prevention Portal

WSR – Waste Shipment Regulation, REGULATION (EC) No. 1013/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 June 2006 on shipments of waste (OJ L 190, 12. 7. 2006.), as last amended

ZOGO – Act on Sustainable Waste Management (OG 94/13, 73/17, 14/19, 98/19)

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1. INTRODUCTION

Overall objective of the Project "Improvement of Data on Plastic Waste in Croatia" (hereinafter: HRPWD Project) is improvement of data and statistics on plastic and plastic waste. Specific objective is to collect, analyse and prepare data on plastic product and plastic waste according to the provisions prescribed in three Directives:

- Directive 94/62/EC on Packaging and Packaging Waste,
- Directive (EU) 2015/720 of the European Parliament and of the Council of 29 April 2015 amending Directive 94/62/EC as regards reducing the consumption of lightweight plastic carrier bags and
- Directive (EC) 2019/904 on the reduction of the impact of certain plastic products on the environment.

HRPWD Project is implemented by the Ministry of Economy and Sustainable Development, Institute for Environment and Nature (hereinafter: MESD Institute). MESD Institute is, among other, responsible for collecting and integrating waste data and for development of waste management information system. MESD Institute prepares national reports and reports for EC and Eurostat according to the various reporting obligations set in EU waste directives and regulations. By the Agreement with the Croatian Bureau of Statistics, Institute MESD is responsible for preparation of waste statistics (Waste Statistics Regulation report).

This Gap Analysis Report (hereinafter: Report) is foreseen as the Project deliverable "D2.1 Gap Analysis Report," planned under Task number 2.1. Gap analysis:

"On the base of the data available in the Emission Pollution Register database operated by Institute/MESD, data obtained from EPR scheme operated by Environmental Protection and Energy Efficiency Fund and available data obtained from other sources (Croatian Bureau of Statistics, Croatian Chamber of Economy, Customs Administration etc.) analysis of current data and data required by PPWD directive, SUP directive and Plastic Bags Directive (gap analysis) will be made. New implementing acts and guidances recently produced by European Commission will be consulted in the process, in order to prepare datasets which will comply with new calculation rules and formats for reporting."

Data presented in this Report are to be used only as preliminary, initial information for project implementation. Final and detailed data on quantities of plastic waste generation and management will be prepared and published at the end of the project, in the Report on sources, types and quantities of plastic waste generation and management.

Also, results of analysis and conclusions presented in this Report should not be understood as final, but as a base to other Project activities (development of methodologies for data monitoring, surveys and new datasets development), and will possibly be subject to changes by the end of the Project.

* * *

In 2019, there are new data-reporting and quality-reporting formats (obligatory since 2020 for 2018 reference year) introduced under Commission Decision 2005/270 establishing the formats for reporting as amended by PPWD Decision 2019/665 in April 2019.

Main changes are in the calculation rules. For recycling, input into the recycling process is the rule and the use of the sorting output as a calculation point is no longer allowed, except under strict conditions on the average loss rates.

The production and recycling of plastic packaging waste is the basis of the new plastic own resource in place from 2021, and that related data quality is of great importance (and will be inspected from 2023). Policy measures have an impact on the quantities recycled and thus the contributions to the EU budget due to the own resource. The method of measuring plastic packaging production can also have an impact on the recycling rate.

Due to the own-resource, crosschecks between the quantity of packaging placed on the market (PoM) and the quantity generated as waste will be required on an annual basis.

Commission Implementing Decision (EU) 2018/896[1] requires Member States to calculate and report data on the annual consumption of lightweight plastic carrier bags within their territory.

Therefore, Member States should ensure that their datasets are drawn from sources that represent the fullest possible coverage and representation of the consumption of lightweight plastic carrier bags within their territory, including not only data from economic operators, but also data from other sources as needed.

Member States may report the national consumption of lightweight plastic carrier bags by either number or weight, using one of four reporting tables provided in the Appendix to Commission Implementing Decision (EU) 2018/896. The approaches Member States use to measure consumption of lightweight plastic carrier bags are intrinsically linked to the measures they have in place with the objective of reducing consumption. Therefore, a Member State's choice of reporting table will depend upon the range of reduction measures and measuring approaches that had been implemented.

In 2019, new rules were set to target single-use plastic products most often found on beaches, as well as lost and abandoned fishing gear, which together constitute 70% of all marine litter items. Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment (SUP Directive) introduces new obligations sets of data to be monitored and collected.

Member state should monitor consumption of these single-use products as well as the measures taken and report the progress made to the EC. Also, SUP Directive foresees the

[1] Commission Implementing Decision (EU) 2018/896 of 19 June 2018 laying down the methodology for the calculation of the annual consumption of lightweight plastic carrier bags and amending Decision 2005/270/EC; https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018D0896&from=EN

producers to cover the costs of waste management clean-up, data gathering and awareness raising for certain products.

Member States shall, according to Article 13 of the SUP Directive (on Information systems and reporting), report the data and information electronically within 18 months of the end of the reporting year for which they were collected.

The first reporting period shall be the calendar year 2022, with the exception of points (e) and (f) of the first subparagraph for which the first reporting period shall be the calendar year 2023.

At the time when this Report is prepared, Commission is still in the process of preparation of a number of implementing acts laying down the format for reporting data and information.

At the national level, SUP directive has been transposed by new Act on Waste Management adopted in 2021, but the detailed provisions are to be adopted in following period.

2. REPORTING OBLIGATIONS UNDER 3 DIRECTIVES

Three EU directives prescribe objectives, targets and measures related to packaging, plastic bags and certain single-use plastic products. For monitoring the attainment to the targets and implementation of the measures, it is expected from each member state to transpose provisions of the directives into national legislation and set up monitoring system necessary to provide data, which will be used for reporting and in decision-making process.

Directive and Implementing acts of importance for HRPWD Project are as follows:

- Directive 94/62/EC on packaging and packaging waste (as amended by Directive 2018/852) (hereinafter: PPWD Directive)
    - Commission Implementing Decision 2005/270/EC as amended by Implementing Decision (EU) 2019/665 establishing the formats relating to the database system pursuant to European Parliament and Council Directive 94/62/EC on packaging and packaging waste (hereinafter: PPWD Decision 2019/665)
    - Council Regulation (EU, Euratom) 2021/770 of 30 April 2021 on the calculation of the own resource based on plastic packaging waste that is not recycled, on the methods and procedure for making available that own resource, on the measures to meet cash requirements, and on certain aspects of the own resource based on gross national income
- Directive (EU) 2015/720 of the European Parliament and of the Council of 29 April 2015 amending Directive 94/62/EC as regards reducing the consumption of lightweight plastic carrier bags (hereinafter: PBAG Directive)
    - Commission Implementing Decision (EU) 2018/896 laying down the methodology for the calculation of the annual consumption of lightweight plastic carrier bags (hereinafter: PBAG Decision)
- Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment. (hereinafter: SUP Directive)
    - Commission Implementing Decision (EU) 2021/958 of 31 May 2021 laying down the format for reporting data and information on fishing gear placed on the market and waste fishing gear collected in Member States and the format for the quality check report in accordance with Articles 13(1)(d) and 13(2) of Directive (EU) 2019/904 of the European Parliament and of the Council
    - DRAFT - Commission Implementing Decision (EU) …/… Of Xxx laying down rules for the application of Directive (EU) 2019/904 of the European Parliament and of the Council as regards the format for reporting data on the collected post-consumption waste tobacco products with filters and filters marketed for use in combination with tobacco products

- Commission Implementing Decision (EU) 2021/1752 of 1 October 2021 laying down rules for the application of Directive (EU) 2019/904 of the European Parliament and of the Council as regards the calculation, verification and reporting of data on the separate collection of waste single-use plastic beverage bottles
- DRAFT - Commission Implementing Decision (EU) …/… Of Xxx laying down rules for calculation, verification and reporting of information and data on the consumption of single-use plastic products listed in Part A of the Annex of Directive (EU) 2019/904
- DRAFT - Commission Implementing Decision (EU) …/… Of Xxx laying down the format for reporting information on the measures taken by the Member State for the purposes of Article 4(1) of Directive (EU) 2019/904

Requirements prescribed in Waste Framework Directive and related decisions are also to be considered:

- Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directive (amended by Directive (EU) 2018/851)
  - Commission Implementing Decision (EU) 2021/19 of 18 December 2020 laying down a common methodology and a format for reporting on reuse in accordance with Directive 2008/98/EC of the European Parliament and of the Council
  - DRAFT - Commission Delegated Decision of XXX supplementing Directive 2008/98/EC of the European Parliament and of the Council with regard to rules for the calculation, verification and reporting of the weight of materials or substances which are removed after a sorting operation and which are not subsequently recycled, based on average loss rates (ALR) for sorted waste

Further instructions related to data collection, calculating the recycling rates, reporting formats are prescribed in implementing acts and explained in Guidances prepared by EC/Eurostat:

- Guidance for the compilation and reporting of data on packaging and packaging waste according to Decision 2005/270/EC (May 2021),
- Guidance for reporting annual consumption of lightweight plastic carrier bags according to Commission Implementing Decision (EU) 2018/896 (May 2021),
- Commission guidelines on single-use plastic products in accordance with Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment (May 2021)

2.1 PPWD Directive – Directive 94/62/EC

PPWD Directive[2] aims to harmonize national measures concerning the management of packaging and packaging waste. Article 12 prescribes reporting obligations.

Member States shall take the necessary measures to ensure that databases on packaging and packaging waste are established, where not already in place, on a harmonized basis in order to contribute to enabling Member States and the Commission to monitor the implementation of the objectives set out in the PPWD Directive.

This databases shall include the data based on Annex III PPWD Directive and shall provide in particular information on the magnitude, characteristics and evolution of the packaging and packaging waste flows at the level of individual Member States, including information on the toxicity or danger of packaging materials and components used for their manufacture.

Member States shall report the data concerning the implementation of points (a) to (i) of Article 6(1) (about taking the necessary measures to attain targets) and data on reusable packaging, for each calendar year, electronically within 18 months of the end of the reporting year for which the data are collected.

The data reported by Member States in accordance with this Article shall be accompanied by a quality check report and a report on the measures taken pursuant to Article 6a (3), regarding the establishment of system for quality control and traceability of packaging waste, and Article 6a (8), related to the export of packaging waste, including detailed information about the average loss rates where applicable.

PPWD Directive sets out new recycling targets in Article 6(1) (f) to (i). Directive also sets out new and clearer calculation rules to account for their attainment. These new calculation rules are set, in particular, in provisions of Article 6a of the PPWD Directive as well as in new Articles 6a to 6d and Article 6f of PPWD Decision 2019/665[3].

If Member States had implemented these rules correctly, then the difference between the “old” and the “new” data should not be significant. With regard to the processing of composite materials, this has so far been subject to the "predominant material principle", whereas now any share above 5% will have to be split between the materials in the composite packaging. It is expected that the impact is likely to be fairly small. However, Member States have been encouraged to switch to the new rules from 2021 for ease of verifications regarding the plastic own-resources reporting.

The calculation points for the different washing stages have been clarified, as well as the non-inclusion as recycling of raw material recycling and co-incineration.

[2] European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A01994L0062-20180704

[3] Commission Implementing Decision 2005/270/EC as amended by Implementing Decision (EU) 2019/665 establishing the formats relating to the database system pursuant to European Parliament and Council Directive 94/62/EC on packaging and packaging waste https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02005D0270-20190426&from=EN

There is a need for Croatia to fully apply these new calculation rules from reference year 2020 onwards, for which data must be reported electronically, within 18 months of the end of reporting year for which the data are collected, or at the latest by 30 June 2022 for year 2020.

From reporting year 2020, new format for reporting on packaging and packaging waste set out in PPW Decision 2019/665, should be respected.

Member States must continue showing compliance with the old targets as set out in Article 6(1), points (a) to (e), of the Directive until the moment that they have to show compliance with the new targets as laid down in Article 6(1) points (f) and (g) on 31 December 2025. However, Member States are encouraged to apply the new calculation rules for reporting on both old and new targets.

Completeness, reliability, timeliness and consistency of data should be taken into account. In addition, particular problems of small and medium-sized enterprises in providing detailed data should be taken into account. Further, there should be requirement to all economic operators involved, to provide competent authorities with reliable data on their sector.

The Member States shall report the data on the generation and treatment of packaging waste and on reusable packaging using the formats set out in Annex I - Tables 1, 2 and 3 of the PPWD Decision 2019/665 (Table 1, Table 2, Table 3), accompanied by quality check report prescribed in Annex IV of the PPWD Decision 2019/665**.**

Table 1a is only to be used if reporting under the new rules and measured against the old targets (up to 2025) is desired.

Table 1 Reporting on the recycling target set in Article 6 of the PPWD Directive

ANNEX I

▼M2

TABLE 1

Reporting on the recycling targets set in Article 6 of Directive 94/62/EC

(tonnes)

Packaging waste material	Waste generation	Recycling			Repair of wooden packaging	Energy recovery (1)	Other recovery (2)
		Recycling in the Member State	Recycling in other Member States	Recycling outside the EU			
All							
Plastic							
Wood							
Metal (total)							
Ferrous metal							
Ferrous metal from IBA (3)							
Aluminium							
Aluminium from IBA (4)							
Glass							
Paper and cardboard							
Other							

Notes:

1. Dark shaded boxes: reporting is not applicable.
2. Light shaded boxes: reporting is mandatory only to Member States that include those amounts in the recycling rates. Where Member States report on metals from incineration bottom ash (IBA) they shall complete both the boxes on recycling in and outside the Member State.

(1) This includes incineration with energy recovery and the reprocessing of waste to be used as fuel or other means to generate energy.
(2) This excludes repair of wooden packaging, recycling and energy recovery and includes backfilling.
(3) Ferrous metals recycled after their separation from incineration bottom ash shall be reported separately and shall not be included in the row for reporting ferrous metals.
(4) Aluminium recycled after separation from incineration bottom ash shall be reported separately and shall not be included in the row for reporting aluminium.

Table 2 Format for reporting for the purposes of adjusting the recycling rates in accordance with Article 5(2) of PPWD Directive

TABLE 2

Format for reporting for the purposes of adjusting the recycling rates in accordance with Article 5(2) of Directive 94/62/EC

(%)

1	2	3	4	5
Packaging waste material	Share of reusable sales packaging in all sales packaging year n-3	Share of reusable sales packaging in all sales packaging year n-2	Share of reusable sales packaging in all sales packaging year n-1	Average share of reusable sales packaging in the three years preceding year n
Plastic				
Wood				
Ferrous metal				
Aluminium				
Glass				
Paper and cardboard				
All				

Notes:

1. Light shaded boxes: Data is obligatory only for the material for which the Member State has decided to achieve an adjusted target.
2. Dark shaded boxes: the calculation of data is automatic and represents the simple average of columns 2, 3 and 4.

Table 3 Format for reporting on reusable packaging

TABLE 3

Format for reporting on reusable packaging

1	2	3	4	5	6	7	8	9	10	11
Packaging material	Packaging placed on the market for the first time				Reusable packaging placed on the market for first time		Rotations (3)			
	All packaging (1)		Sales packaging (2)		All reusable packaging (t)	Reusable sales packaging (t)	All reusable packaging		Reusable sales packaging	
	(t)	(units)	(t)	(units)			(t) (4)	(number)	(t) (4)	(number)
Plastic										
Wood										
Ferrous metal										
Aluminium										
Glass										

1	2	3	4	5	6	7	8	9	10	11
Packaging material	Packaging placed on the market for the first time				Reusable packaging placed on the market for first time		Rotations (3)			
	All packaging (1)		Sales packaging (2)		All reusable packaging (t)	Reusable sales packaging (t)	All reusable packaging		Reusable sales packaging	
	(t)	(units)	(t)	(units)			(t) (4)	(number)	(t) (4)	(number)
Paper and cardboard										
Other										
All										

Note: Light shaded boxes: provision of data is voluntary.

(1) This means all reusable and single-use packaging comprising sales, transport and grouped packaging.
(2) This means reusable and single-use sales packaging.
(3) This means the number of rotations that reusable packaging completes in a given year.
(4) This means the number of rotations that reusable packaging completes in a given year multiplied by their mass.

2.2 PBAG Directive – Directive (EU) 2015/720

PBAG Directive[4] requires Member States to take measures to achieve a sustained reduction in the consumption of lightweight plastic carrier bags in their territory. PBAG Directive defines lightweight plastic carrier bags as carrier bags, with or without a handle, that are made of plastic, that are supplied to customers at the point of sale of goods or products, and that have a wall thickness below 50 microns. Very lightweight plastic carrier bags are defined as carrier bags, with or without a handle, that are made of plastic, that are supplied to customers at the point of sale of goods or products, and that have a wall thickness below 15 microns.

To monitor progress in reducing the consumption of lightweight plastic carrier bags, it is necessary that national authorities provide data on their consumption in accordance with Article 12 of PPWD Directive.

Member States should ensure that their calculation methodologies account for the annual consumption of very lightweight plastic carrier bags, regardless of whether these bags are targeted by their reduction measures.

For completeness, it is expected that Member States that have excluded very lightweight plastic carrier bags from their reduction measures / consumption objectives will complete the voluntary data boxes in the reporting table for their chosen reporting method. This will ensure that their true consumption reduction performance is reflected in the data.

The due date for reporting on lightweight plastic carrier bags is within 18 months from the end of the reference year.

[4] Directive (EU) 2015/720 of the European Parliament and of the Council of 29 April 2015 amending Directive 94/62/EC as regarding reducing the consumption of lightweight plastic carrier bags https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32015L0720

PBAG Decision 2018/896 requires Member States to calculate and report data on the annual consumption of lightweight plastic carrier bags within their territory, for monitoring their performance against the reduction requirement

Member States should ensure that their datasets are drawn from sources that represent the fullest possible coverage and representation of the consumption of lightweight plastic carrier bags within their territory, including not only data from economic operators, but also data from other sources as needed.

The annual consumption of lightweight plastic carrier bags per person shall be calculated and reported using either the methodology for reporting by numbers or the methodology for reporting by weight, using one of four reporting tables provided in PBAG Decision 2018/896 (depending upon the range of reduction measures and measuring approaches implemented).

The types of data on lightweight plastic carrier bag consumption captured by the four reporting tables are as follows:

- Table 4 – The number of lightweight plastic carrier bags placed on the market
- Table 5 – The number of lightweight plastic carrier bags calculated from mandatory taxes, charges or levies
- Table 6 – The weight of lightweight plastic carrier bags placed on the market
- Table 7 – The weight of lightweight plastic carrier bags calculated from mandatory taxes, charges or levies

Member States must complete at least one of these tables for their primary (mandatory) reporting, but they are encouraged to also voluntarily complete the other tables.

The Member States shall report the data using the formats set out in Annex of the PBAG Decision 2018/896 (below), accompanied by quality check report prescribed in Annex IV of the PPWD Decision 2019/665**.**

Table 4 The annual consumption of lightweight plastic carrier bags calculated in accordance with the methodology laid down in Article 2(1) (a) of Implementing Decision (EU) 2018/896

TABLE 4

The annual consumption of lightweight plastic carrier bags calculated in accordance with the methodology laid down in Article 2(1)(a) of Commission Implementing Decision (EU) 2018/896 (*)

Number of lightweight plastic carrier bags placed on the market	
Of which bags having a wall thickness of	
< 15 micron	15 < 50 micron

(*) Commission Implementing Decision (EU) 2018/896 of 19 June 2018 laying down the methodology for the calculation of the annual consumption of lightweight plastic carrier bags and amending Decision 2005/270/EC (OJ L 160, 25.6.2018, p. 6).

Notes:

1. White box: Provision of data is mandatory

2. Shaded boxes: Provision of data is voluntary

Table 5 The annual consumption of lightweight plastic carrier bags calculated in accordance with the methodology laid down in Article 2(1) (b) of Implementing Decision (EU) 2018/896

TABLE 5

The annual consumption of lightweight plastic carrier bags calculated in accordance with the methodology laid down in Article 2(1)(b) of Implementing Decision (EU) 2018/896

Number of lightweight plastic carrier bags calculated from mandatory taxes, charges or levies			
Number of lightweight plastic carrier bags calculated from mandatory taxes, charges or levies as declared or reported by economic operators		Number of lightweight plastic carrier bags exempt from mandatory taxes, charges or levies as reported by economic operators	
(a)		(b)	
(a) + (b)			
Of which bags having a wall thickness of			
< 15 micron	15 < 50 micron	< 15 micron	15 < 50 micron

Notes:

1. White box: Provision of data is mandatory

2. Shaded boxes: Provision of data is voluntary

3. Where no exemption is in place, the value for (b) shall be indicated as 0.

Table 6 The annual consumption of lightweight plastic carrier bags calculated in accordance with the methodology laid down in Article 3(1) (a) of Implementing Decision (EU) 2018/896

TABLE 6

The annual consumption of lightweight plastic carrier bags calculated in accordance with the methodology laid down in Article 3(1)(a) of Implementing Decision (EU) 2018/896

Weight of lightweight plastic carrier bags placed on the market			
Weight of lightweight plastic carrier bags placed on the market		Weighted average weight per lightweight plastic carrier bag as reported by economic operators	
Of which bags having a wall thickness of		Having a wall thickness of	
< 15 micron	15 < 50 micron	< 15 micron	15 < 50 micron

Notes:

1. White box: Provision of data is mandatory

2. Shaded boxes: Provision of data is voluntary

Table 7 The annual consumption of lightweight plastic carrier bags calculated in accordance with the methodology laid down in Article 3(1) (b) of Implementing Decision (EU) 2018/896

TABLE 7

The annual consumption of lightweight plastic carrier bags calculated in accordance with the methodology laid down in Article 3(1)(b) of Implementing Decision (EU) 2018/896

Weight of lightweight plastic carrier bags calculated from mandatory taxes, charges or levies					
Weight of lightweight plastic carrier bags calculated from mandatory taxes, charges or levies as declared or reported by economic operators		Weight of lightweight plastic carrier bags exempt from mandatory taxes, charge or levies as reported by economic operators		Average weight per lightweight plastic carrier bag as reported by economic operators	
a		b			
a + b					
Of which bags having a wall thickness					
< 15 micron	15 < 50 micron	< 15 micron	15 < 50 micron	(a) 15 < 50 micron	(b) 15 < 50 micron

Notes:

1. White box: Provision of data is mandatory

2. Shaded boxes: Provision of data is voluntary

3. Where no exemption is in place, the value for (b) equals 0

2.3 SUP Directive – Directive (EU) 2019/904

In 2019, new rules were set to target single-plastic products most often found on beaches, as well as lost and abandoned fishing gear, which together constitute 70% of all marine litter items. Directive (EU) 2019/904 — on the reduction of the impact of certain plastic products on the environment Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the

environment (SUP Directive) introduces new obligations sets of data to be monitored and collected.

SUP Directive sets consumption reductions requirements, to take measures to reduce the consumption of certain single-use plastics for which there is no alternative (drinking cups including covers and lids, and containers of prepared food for immediate consumption).

The SUP Directive requires an ambitious and sustained quantitative reduction in consumption of these products by 2026 (compared to a 2022 baseline), separate collection and design requirements for plastic bottles, sets a collection target of 90% recycling for plastic bottles by 2029 (with an interim target of 77% by 2025).

These bottles should contain at least 25% recycled plastic in their manufacture by 2025 (for PET bottles), and 30% by 2030 (for all bottles).

Member state should monitor consumption of single-use products as well as the measures taken and report the progress made to the EC. Also, SUP Directive foresees the producers to cover the costs of waste management clean-up, data gathering and awareness raising for certain products.

Further, SUP Directive requests member state to monitor and assess plastic fishing gear with a view to establishing EU-wide collection targets.

The following SUP products (presented in alphabetical order) are listed in the Annex of the SUP Directive:

Balloon sticks;
Beverage containers with a capacity of up to three litres, including their caps and lids;
o ***Beverage containers made of expanded polystyrene, including their caps and lids;***
o ***Beverage bottles with a capacity of up to three litres, including their caps and lids;***
Beverage stirrers;
Cotton bud sticks;
Cups for beverages;
o ***Cups for beverages made of expanded polystyrene, including their covers and lids;***
o ***Cups for beverages, including their covers and lids;***
Cutlery (forks, knives, spoons, chopsticks);
Food containers;
o ***Food containers made of expanded polystyrene;***
Lightweight plastic carrier bags;
Packets and wrappers;
Plates;
Sanitary towels (pads), tampons and tampon applicators;
Straws;
Tobacco products with filters and filters marketed for use in combination with tobacco products;
Wet wipes.

Groups of products for which certain obligations have been set (PART A – PART G) are listed in Annex 2.1.

According to the Article 13 of the SUP Directive (on Information systems and reporting), Member States shall report, for each calendar year, to the Commission the following:

(a) Data on single-use plastic products listed in Part A of the Annex that have been placed on the market of the Member State each year, to demonstrate the consumption reduction in accordance with Article 4(1);

(b) Information on the measures taken by the Member State for the purposes of Article 4(1);

(c) Data on single-use plastic products listed in Part F of the Annex that have been separately collected in the Member State each year, to demonstrate the attainment of the separate collection targets in accordance with Article 9(1);

(d) Data on fishing gear containing plastic placed on the market and on waste fishing gear collected in the Member State each year;

(e) Information on recycled content in beverage bottles listed in Part F of the Annex to demonstrate the attainment of the targets laid down in Article 6(5); and

(f) Data on the post-consumption waste of single-use plastic products listed in Section III of Part E of the Annex that has been collected in accordance with Article 8(3).

Member States shall report the data and information electronically within 18 months of the end of the reporting year for which they were collected.

The first reporting period shall be the calendar year 2022, with the exception of points (e) and (f) of the first subparagraph for which the first reporting period shall be the calendar year 2023.

The data and information reported, shall be accompanied by a quality check report.

At the time when this Report is prepared, Commission is still in the process of preparation of a number of implementing acts laying down the format for reporting data and information.

Formats prescribed for certain reporting obligations are listed below.

- Commission Implementing Decision (EU) of 31.5.2021 laying down the format for reporting data and information on fishing gear placed on the market and waste fishing gear collected in Member States and the format for the quality check report in accordance with Articles 13(1)(d) and 13(2) of Directive (EU) 2019/904 of the European Parliament and of the Council

Table 8 (A and B): Fishing gear- format for reporting data and information on fishing gear placed on the market and waste fishing gear collected in Member States

ANNEX 1

Format for the reporting of data on fishing gear containing plastic placed on the market and waste fishing gear collected, in accordance with Article 13(1)(d) of Directive (EU) 2019/904 of the European Parliament and of the Council

A. Format for the reporting of data on fishing gear containing plastic placed on the market[1]

		Net panels made of thick twine[2] (Ø >1mm)	Net panels made of thin twine (Ø≤1mm)	Other plastic-based gear or parts thereof	Non-plastic parts of gear[3]	Buoys, floats, ropes
Total* = (tonnes)	A+B+C+D+E	A	B	C	D = I+K	E = F+J+L
Plastics total=	A+B+C+F	A	B	C		F
- Polypropylene (PP)						
- Polyethylene (PE)						
- High molecular polyethylene (HMPE)						
- Nylon						
- Other (PET, PVC, HDPE, EVA etc..)						
- Mix of polymers						
Metals total	G = I+J				I	J
- Steel						
- Aluminium						
- Lead						
- Other metal or mixed metal						
Rubber total	H = K+L				K	L

* Only the total amounts (in white cell) of fishing gear and its components are mandatory for reporting.
Black shaded cells are not relevant.

[1] Data is to be reported in weight (tonnes) – the quality check report must specify whether conversion factors have been used (e.g. from volume to mass).

[2] 'Twine' covers all twines, strings, lightweight ropes etc. whether they consist of one filament (monofilament) or multiple filaments that are twisted or braided together to form a single multi stranded twine.

[3] This may include metal weights, rubber rollers, escape devices/grids, etc.

B. Format for the reporting of data on waste fishing gear collected[4]

	Total	Net panels made of thick twine[5] (Ø >1mm)	Net panels made of thin twine (Ø≤1mm)	Other plastic-based gear or parts thereof	Non-plastic parts of gear[6]	Buoys, floats, ropes
Total* = (tonnes)	A+B+C+D+E	A	B	C	D = I+K	E = F+J+L
Plastics total =	A+B+C+F	A	B	C		F
- Polypropylene (PP)						
- Polyethylene (PE)						
- High molecular polyethylene (HMPE)						
- Nylon						
- Other (PET, PVC, HDPE, EVA etc..)						
- Mix of polymers						
Metals total	G = I+J				I	J
- Steel						
- Aluminium						
- Lead						
- Other metal or mixed metal						
Rubber total	H = K+L				K	L

* Only the total amounts (in white cell) of fishing gear and its components are mandatory for reporting. This includes any fishing gear containing plastics, as well as any separate components, substances or materials that were part of or attached to such fishing gear when it was discarded, including when it was abandoned or lost. Black shaded cells are not relevant.

[4] Data is to be reported in weight (tonnes) – the quality check report must specify whether conversion factors have been used (e.g. from volume to mass).

[5] 'Twine' covers all twines, strings, lightweight ropes etc. whether they consist of one filament (monofilament) or multiple filaments that are twisted or braided together to form a single multi stranded twine.

[6] This may include metal weights, rubber rollers, escape devices/grids, etc.

- DRAFT - Commission Implementing Decision (EU) …/… Of Xxx laying down rules for the application of Directive (EU) 2019/904 of the European Parliament and of the Council as regards the format for reporting data on the collected post-consumption waste tobacco products with filters and filters marketed for use in combination with tobacco products

  - *Table on Tobacco products – format for reporting data on the collected post-consumption waste tobacco products with filters and filters marketed for use in combination with tobacco products*
    (table will be published upon adoption of the Commission Implementing Decision)

- Commission Implementing Decision (EU) 2021/1752 of 1 October 2021 laying down rules for the application of Directive (EU) 2019/904 of the European Parliament and of the Council as regards the calculation, verification and reporting of data on the separate collection of waste single-use plastic beverage bottles

Table 9 Format for reporting of data calculated based on the methodology set out in Article 3

Weight of single-use bottles placed on the market calculated in accordance with Article 3 (in tonnes)

COUNTRY:	
REFERENCE YEAR:	
Weight of single-use bottles in tonnes calculated in accordance with Article 3(1)	
Weight of single use bottles placed on the market (1)	
Adjustment of the weight of single-use bottles calculated in accordance with Article 3(2)	
Weight of single use bottles placed on the market that have been imported by operators (2)	
Weight of single use bottles placed on the market that have been received from other Member States by operators (3)	
Weight of single use bottles placed on the market that have been exported by operators (4)	
Weight of single use bottles placed on the market that have been moved to other Member States by operators (5)	
Estimated weight of single use bottles placed on the market that have been exported by natural persons for their own personal use (6)	
Estimated weight of single use bottles placed on the market that have been imported by natural persons for their own personal use (7)	
Estimated weight of single use bottles placed on the market that have been moved to other Member State by natural persons for their own personal use (8)	
Estimated weight of single use bottles placed on the market that have been moved from other Member State by natural persons for their own personal use (9)	
Weight of single use bottles placed on the market adjusted (10)	
Weight of single-use bottles placed on the market determined on the basis of the weight of waste generated from such products calculated in accordance with Art 3(3)	

Weight of waste single-use bottles collected separately for recycling in accordance with the requirements set out in Article 2(4)(a) and (b) ([11])	
Weight of waste single use bottles collected separately not in accordance with the requirements set out in Article 2(4)(a) and (b) ([12])	
Weight of waste single-use bottles collected as mixed municipal waste ([13])	
Weight of littered waste single-use bottles ([14])	

Notes:
Dark shaded boxes: Reporting is voluntary
([1]) Calculated in accordance with Article 3(1). ($W_{BPM\ gross}$)
([2]) Calculated in accordance with Article 3(2). ($W_{B\ in\ imported}$)
([3]) Calculated in accordance with Article 3(2). ($W_{B\ in\ from\ other\ MS}$)
([4]) Calculated in accordance with Article 3(2). ($W_{B\ out\ exp}$)
([5]) Calculated in accordance with Article 3(2). ($W_{B\ out\ moved\ to\ other\ MS}$)
([6]) Calculated in accordance with Article 3(2). ($W_{B\ out\ by\ natural\ persons}$)
([7]) Calculated in accordance with Article 3(2). ($W_{B\ in\ by\ natural\ persons}$)
([8]) Calculated in accordance with Article 3(2). ($W_{B\ out\ moved\ to\ other\ MS\ by\ natural\ persons}$)
([9]) Calculated in accordance with Article 3(2). ($W_{B\ in\ moved\ from\ other\ MS\ by\ natural\ persons}$)
([10]) Calculated in accordance with Article 3(2). (W_{BPM})
([11]) Calculated in accordance with Article 3(3), point (a). (TW_{SCB})
([12]) Calculated in accordance with Article 3(3), point (a). ($W_{other\ SCB}$)
([13]) Calculated in accordance with Article 3(3), point (b). (W_{MSW})
([14]) Calculated in accordance with Article 3(3), point (c). (W_{litter})

Table 10 Format for reporting of data calculated based on the methodology set out in Article 2(4)

Weight of separately collected for recycling waste single-use bottles calculated in accordance with Article 2(4) (in tonnes)

COUNTRY:	
REFERENCE YEAR:	
a) Weight of waste single use bottles collected separately from any other waste ([1])	
b) Weight of waste single use bottles collected together with other wastes ([2])	

Notes:
([1]) Calculated in accordance with Article 2(4), point (a). ($W_{SCB\ apart}$)
([2]) Collected together with other waste packaging fractions of municipal waste or with other non-hazardous, non-packaging plastic, metal, paper or glass fractions of municipal waste collected separately for recycling and calculated in accordance with Article 2(4), point (b). ($W_{SCB\ blended}$)

- DRAFT - Commission Implementing Decision (EU) …/… Of Xxx laying down rules for calculation, verification and reporting of information and data on the consumption of single-use plastic products listed in Part A of the Annex of Directive (EU) 2019/904

According to the Draft Implementing Decision laying down rules for calculation, verification and reporting of information and data on the consumption of single-use plastic products listed in Part A of the Annex of SUP Directive. Data on, weight of the SUP products placed on the marked (Part A), adopted measures, should be collected and reported annually, in accordance with methodology and format described in annexes prescribed in implementing act.

- *Table – Format for reporting of data calculated based on the methodology set out in Article 1 of SUP Directive*
  (table will be published upon adoption of the Commission Implementing Decision)

- DRAFT - Commission Implementing Decision (EU) …/… Of Xxx laying down the format for reporting information on the measures taken by the Member State for the purposes of Article 4(1) of Directive (EU) 2019/904

- *Table – Format for reporting consumption reduction measures – Measures to achieve consumption reduction of single-use plastic cups for beverages (CfB)*
- *Table – Format for reporting consumption reduction measures – Measures to achieve consumption reductions of SUP food containers (FC)*
  (tables will be published upon adoption of the Commission Implementing Decision)

2.4. Waste Framework Directive 2008/98/EC

The Waste Framework Directive[5] provides framework and lays down measures to protect the environment and human health by preventing or reducing the generation of waste, the adverse impacts of the generation and management of waste. Below are issues important for HRPWD Project.

Where extended producer responsibility schemes (such as beverage bottles) are established in accordance with Article 8(1), including pursuant to other legislative acts of the Union, Member States shall ensure that a reporting system is in place. Reporting system gathers data on the products placed on the market of the Member State by the producers of products subject to extended producer responsibility and data on the collection and treatment of waste resulting from those products specifying, where appropriate, the waste material flows, as well as other relevant data.

The data on re-use or recycling (weather it is municipal waste or packaging waste), shall be accompanied by a quality check report and a report on the measures taken to establish an effective system of quality control and traceability of municipal waste and waste exported from the Union for preparing for re-use or recycling, including detailed information about the average loss rates (ALR) where applicable.

Further, Waste Framework Directive sets reporting obligations on the implementation of monitoring and assessing their measures on re-use by measuring re-use based on the common methodology established by the Implementing Decision on reuse 2021/19 to the Commission every year. The first reporting period shall start in the first full calendar year after the adoption of the implementing act that establishes the format for reporting.

2.4.1. Implementing Decision on Re-use (EU) 2021/19 [6]

Re-use of packaging or SUP products could be of importance for reporting, therefore should be considered within the Project activities. Member States shall measure re-use by carrying out a qualitative and a quantitative monitoring of measures on re-use.

[5] Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directive: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02008L0098-20180705

[6] Commission Implementing Decision (EU) 2021/19 of 18 December 2020 laying down a common methodology and a format for reporting on reuse in accordance with Directive 2008/98/EC of the European Parliament and of the Council : https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021D0019&from=EN

The qualitative monitoring shall include an identification and description of measures on re-use and an assessment of their impacts or expected impacts, based on the available data, and shall be carried out each year.

The quantitative monitoring shall be carried out at least once every three years by measuring re-use generated by re-use operators or households in accordance with any of the following methods or a combination of those methods or any other method equivalent in terms of relevance, representativeness and reliability:

(a) Direct measurement of re-use by using a measuring device to determine the mass of reused products;

(b) Mass balance calculation of re-use based on the mass of inputs and outputs of products in reuse operations;

(c) Questionnaires and interviews of re-use operators or households;

(d) Diaries of individuals keeping a record or log of information on re-use on a regular basis.

Formats for reporting on re-use are given in Annex of the Implementing Decision 2021/19 (Table 11).

Table 11 Formats for reporting on re-use

A. **FORMAT FOR THE REPORTING ON THE QUALITATIVE DATA ON REUSE**

		Identification and description of measures and, for row 4, qualitative assessment of their impacts or expected impacts
1	Public authorities mainly responsible for the adoption and implementation of the measures (at the highest administrative level)	
2	Products addressed by the measures	
3	Reuse operations addressed by the measures	
4	Content of the measures: — Logistic measures aimed at supporting reuse operations (e.g. identification and addressing of barriers and possibilities, help with the improvement of collection models for reusable products) — Economic and fiscal measures, including public procurement — Educational measures, including information and awareness raising campaigns (e.g. target groups, population covered, territory covered, frequency) — Other measures such as support to or establishment of accredited repair and reuse-centres and networks or support to new business models such as sharing schemes, repair and remanufacturing	
5	Actions taken to monitor and assess reuse through qualitative or quantitative indicators and targets in accordance with Article 9(3) of Directive 2008/98/EC	
6	Other (please specify)	

B. **FORMAT FOR THE REPORTING ON THE QUANTITATIVE DATA ON REUSE**

1. **Reuse per product category**

Product category	channel through which the reused products changed ownership				
	Physical shop/ market (in tonnes)	Online platform (in tonnes)	Private gift/ donation (in tonnes)	Other channel (please specify) (in tonnes)	Total reuse (in tonnes)
Textiles					
Please provide information on subcategories if available					
Electrical and electronic equipment					
Please provide information on subcategories if available					
Furniture					
Please provide information on subcategories if available					
Construction material and products					
Please provide information on subcategories if available					
Other products for which measures were adopted					
Please provide information on subcategories if available					

Notes:
Insert additional rows as appropriate.
Shaded boxes: the provision of data is voluntary.

2. **Reuse operators**

Number of reuse operators on the territory of the Member State (either the number of operators that are members of an accredited centre or network, or an estimate of the total number of operators)	

Note: the provision of this data is voluntary.

2.4.2. DRAFT Commission Delegated Decision for laying down rules for calculation, verification and reporting of average loss rates for sorted waste (ALR)

ALR is important topic for municipal and packaging waste reporting, therefore should be considered within the Project activities.

ALR Delegated act is prescribing rules for calculating, using and reporting on average loss rates. This is related to the Article 11a (3) of Waste Framework Directive which requires Member States to establish an effective system of quality control and traceability of municipal waste. This ensures that the amount of municipal waste (and packaging) that is measured at the output of a sorting operation can be used for a reliable and accurate calculation of the amount of municipal waste entering the recycling operation.

Pursuant to that provision, average loss rates for sorted waste may be used within that system as a method to determine the amount of materials and substances which are removed after a sorting operation by other preliminary treatment and which are not subsequently recycled.

Average loss rates are to be used only where reliable data on the amount of waste recycled cannot be obtained otherwise. This situation can occur where sorted waste undergoes a series of further sorting or other preliminary treatment operations in several facilities whereby fractions of the sorted waste are separated or mixed with other types of waste, with waste from other sources or with waste from other countries before reaching the calculation point. It can also occur where sorted waste is shipped to another Member State or is exported outside the Union for further processing. Member States should therefore verify whether reliable data could be obtained directly from the waste operators in whose facilities the waste reached the calculation point.

3. ANALYSIS BY DATA SOURCES

3.1. FRAMEWORK

In this Gap Report, latest available data and data required by PPWD directive, SUP directive and PBAG Directive were analysed. The goal was to assess the availability of data for reporting, compliance with new reporting formats and calculation rules, to determine gaps, non-compliance issues and to assess needs for new datasets, primarily related to SUP directive.

The analysis was based on the various available data sources: administrative reporting data, electronic registers and databases contained in Waste management information system, extended producer responsibility scheme (EPR) data on product placed on the market, waste composition analysis, production and foreign trade statistics and other.

Administrative data on waste are collected under obligations prescribed in Act on Sustainable Waste Management (ZOGO) and related by-laws. This data are contained in the Waste Management Information System, and were obtained from reports[7] prepared and published by MESD Institute or from online databases and registers such as Environmental Pollution Register (ROO) database, Waste Management Permit Register, e-ONTO database, etc.

Municipal waste composition data were obtained from municipal companies or Local self-government units (LSGU), where available.

Data on products put on the market for packaging and plastic bags were obtained from Extended producer responsibility (EPR) scheme operated by Environmental Protection and Energy Efficiency Fund.

Data on production and foreign trade were obtained from the reports and databases operated by Croatian Bureau of Statistics (CBS) and Eurostat.

Other available data or information were obtained and analysed from other sources - other MESD units, Croatian Chamber of Economy, Croatian Employers' Association, Ministry of Agriculture, Institute of Oceanography and Fisheries, LSGU, taken from web pages or obtained on the basis of interviews with relevant officials.

Classifications and nomenclatures that were used in the process are:

- List of Waste (LoW) – European classification of waste
- ESTAT classification of waste – for the preparation of waste statistics
- R / D operation – recovery and disposal operation list
- NACE 2007 Classification – classification of economic activities
- PRODCOM LIST 2019 - nomenclature of industrial products
- CN Combined Nomenclature on foreign trade
- Concordance tables (PRODCOM – CN, 2019), Eurostat

[7] At the following link: http://www.haop.hr/hr/tematska-podrucja/otpad-registri-oneciscavanja-i-ostali-sektorski-pritisci/gospodarenje-otpadom-0

- Conversion factors, Eurostat – for unit mass conversion

All Croatian classifications and nomenclatures for products, waste or economic activities, which are used in administrative data collection and surveys relevant for Project activities, are fully compliant with classifications and nomenclatures used at European level (e.g. NKD for economic activities, Waste Catalogue, NIP list for products).

According to the ESTAT classification, following waste codes are categorized as Plastic waste:

ESTAT statistical category	List of Waste code (EWC)
07.41 Plastic packaging waste	
	15 01 02 plastic packaging
07.42 Other plastic wastes	
	02 01 04 waste plastics (except packaging)
	07 02 13 waste plastic
	12 01 05 plastic shavings and turnings
	16 01 19 plastic
	17 02 03 plastic
	19 12 04 plastic and rubber
	20 01 39 plastic

However, other waste materials could contain plastic in certain share. Those are presented in extended list in Table 12.

Depending on specific reporting obligation or needs (e.g. for estimations), adequate waste codes (EWC) will be taken into account.

Table 12 LoW codes of waste, which may contain plastic materials

European Waste Code (EWC)	Name of the waste	Plastic share in waste
02 - wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing		
02 01 - wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing		
02 01 04	waste plastics (except packaging)	Plastic
07 - wastes from organic chemical processes		
07 02 - wastes from the MFSU of plastics, synthetic rubber and man-made fibres		
07 02 13	waste plastic	Plastic
07 02 16*	wastes containing hazardous silicones	May contain plastic
07 02 17	wastes containing silicones other than those mentioned in 07 02 16*	May contain plastic
12 - wastes from shaping and physical and mechanical surface treatment of metals and plastics		
12 01 - wastes from shaping and physical and mechanical surface treatment of metals and plastics		
12 01 05	plastics shavings and turnings	Plastic
12 01 16*	waste blasting material containing hazardous substances	May contain plastic
12 01 17	waste blasting material other than those mentioned in 12 01 16*	May contain plastic
15 - waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified		
15 01 - packaging (including separately collected municipal packaging waste)		

15 01 02	plastic packaging	Plastic
15 01 05	composite packaging	May contain plastic
15 01 06	mixed packaging	May contain plastic
15 01 10*	packaging containing residues of or contaminated by hazardous substances	May contain plastic
16 - wastes not otherwise specified in the list		
16 01 - end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)		
16 01 19	plastic	Plastic
16 - wastes not otherwise specified in the list		
16 02 - wastes from electrical and electronic equipment		
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15*	May contain plastic
17 - construction and demolition wastes (including excavated soil from contaminated sites)		
17 02 - wood, glass and plastic		
17 02 03	plastic	Plastic
17 02 04*	glass, plastic and wood containing or contaminated with hazardous substances	May contain plastic
17 04 - metals (including their alloys)		
17 04 10*	cables containing oil, coal tar and other hazardous substances	May contain plastic
17 04 11	cables other than those mentioned in 17 04 10*	May contain plastic
17 06 - insulation materials and asbestos-containing construction materials		
17 06 03*	other insulation materials consisting of or containing hazardous substances	May contain plastic
17 06 04	insulation materials other than those mentioned in 17 06 01* and 17 06 03*	May contain plastic
17 09 - other construction and demolition wastes		
17 09 03*	other construction and demolition wastes (including mixed wastes) containing hazardous substances	May contain plastic
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01*, 17 09 02* and 17 09 03*	May contain plastic
19 - wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use		
19 10 - wastes from shredding of metal-containing wastes		
19 10 03*	fluff-light fraction and dust containing hazardous substances	May contain plastic
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03*	May contain plastic
19 10 05*	other fractions containing hazardous substances	May contain plastic
19 10 06	other fractions other than those mentioned in 19 10 05*	May contain plastic
19 12 - wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletizing) not otherwise specified		
19 12 04	plastic and rubber	Plastic
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances	May contain plastic
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11*	May contain plastic
20 - municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions		
20 01 - separately collected fractions (except 15 01)		
20 01 39	plastic	Plastic
20 01 99	other fractions not otherwise specified	May contain plastic
20 03 - other municipal wastes		
20 03 01	mixed municipal waste	May contain plastic
20 03 02	waste from markets	May contain plastic
20 03 03	street-cleaning residues	May contain plastic
20 03 07	bulky waste	May contain plastic
20 03 99	municipal wastes not otherwise specified	May contain plastic

At present, Croatian national legislation and data collection system does not enable waste data breakdown on different types of polymers (except PET). This is important request, to be taken into account in preparation of future data collection methodologies, forms, and surveys.

Types of Polymers lists to be used in data collection within the Project are proposed in Table 13, Table 14 and Table 15. Depending on the level of details needed for specific data collection, there is a possibility to aggregate certain items.

Table 13 Types of Polymers

Non-halogenated polymers
Polyethylene (PE): High-density polyethylene (HDPE)
Polyethylene (PE): Low-density polyethylene (LDPE)
Polypropylene (PP)
Polystyrene (PS)
Acrylonitrile butadiene styrene (ABS)
Polyethylene terephthalate (PET)
Polycarbonates (PC)
Polyethers
Fluorinated polymers
Perfluoroethylene/propylene (FEP)
Perfluoroalkoxy alkanes: Tetrafluoroethylene/perfluoroalkyl vinyl ether (PFA)
Perfluoroalkoxy alkanes: Tetrafluoroethylene/perfluoromethyl vinyl ether (MFA)
Polyvinyl fluoride (PVF)
Polyvinylidene fluoride (PVDF)
Polytetrafluoroethylene (PTFE)
Polyvinyl chloride (PVC)
Polyvinyl chloride (PVC)
Cured resin or condensation product
Urea formaldehyde resins
Phenol formaldehyde resins
Melamine formaldehyde resins
Epoxy resins
Alkyd resins

Source: Commission delegated regulation (EU) 2020/2174 of 19 October 2020 amending Annexes IC, III, IIIA, IV, V, VII and VIII to Regulation (EC) No 1013/2006 of the European Parliament and of the Council on shipments of waste

Table 14 Polymer types indicated for specific sector

Automotive	PP, PA, PPA, ABS, ABS-PC, PC, PMMA, PVC, TPU, PET, ASA, PUR, PS, PE, POM, LL/LDPE, HDPE, EPS, SAN
Agriculture	LL/LDPE, HDPE, PP
Packaging	PET, HDPE, LLDPE/LDPE, PP, PO (mixed), PS, EPS, PVC
Building & Construction	PVC, PP, EPDM, HDPE, LL/LDPE, PC, PMMA, PES, PEX, ABS, PB, PA, PVDF, PPS, PPSU, XPS, EPS, PUR, PIR, PA, EVA
EEE	PS, ABS, EPS, XPS, PP, PC/ABS, HDPE, LL/LDPE

Polypropylene (PP), Polyamide (PA), Polyphthalamide (PPA), Acrylonitrile butadiene styrene (ABS), Acrylonitrile butadiene styrene (ABS)-Polycarbonate (PC), Polycarbonate (PC), Polymethyl methacrylate (PMMA), Polyvinyl chloride (PVC), Thermoplastic polyurethane (TPU), Polyethylene terephthalate (PET), Acrylonitrile styrene acrylate (ASA), Polyurethane (PUR), Polystyrene (PS), Polyethylene (PE), Polyoxymethylene (POM), Linear low-density / low-density polyethylene (LL/LDPE), High-density polyethylene (HDPE), Expandable polystyrene (EPS), Styrene acrylonitrile (SAN), Polypropylene (PP), Mixed polymerization (PO (mixed)), Ethylene propylene diene monomer (EPDM), Polyethersulfone (PES), Cross-linked polyethylene (PEX), Polybutylene (PB), Polyvinylidenefluoride (PVDF), Polyphenylene sulphide (PPS), Polyphenylsulfone (PPSU), Extruded Polystyrene (XPS), Polyisocyanurate (PIR), Ethylene-vinyl acetate (EVA)

Source: Circular Plastics Alliance Monitoring System, Methodology, Edition 6: 5 May 2021 (Draft)

Table 15 List of polymers used for single-use plastics

List of polymers used for single-use plastics	Abbreviation
Acrylonitrile-butadiene-styrene copolymer	ABS
Ethylene Vinyl alcohol	EVOH
High density polyethylene	HDPE
Low-density polyethylene	LDPE
Linear low-density polyethylene	LLDPE
Nylon	Nylon
Other	Other
Polybutylene adipate terephthalate	PBAT
Polybutadiene succinate	PBS
Polybutylene succinate adipate	PBSA
Polycarbonate	PC
Polyethylene furanoate	PEF
Polyethylene terephthalate	PET
Polyethylene terephthalate Glycol	PETG
Polyhydroxyalkanoate	PHA
Polylactic Acid	PLA
Polypropylene	PP
Polystyrene	PS
Polyvinyl chloride	PVC
Polyvinyl alcohol	PVOH

In following chapters, the assessment of certain datasources are presented, related to availability of data to be used for reporting under three directives:

- Administrative databases within Waste management information system
- EPR extended producer responsibility scheme data
- Waste composition analysis
- Production and foreign trade statistics

3.2. WASTE MANAGEMENT INFORMATION SYSTEM – MESD databases

Main strategic document is the Waste Management Plan of the Republic of Croatia for the period 2017-2022 (OG No. 3/17) (hereinafter: WMPRH). Waste Prevention Programme (hereinafter: WPP) is contained in the WMPRH. Waste management in the Republic of Croatia is governed by the Act on Sustainable Waste Management (Official Gazette No.94/13, 73/17

14/19 and 98/19) (hereinafter ZOGO)[8] and a number of related by-laws regulating special waste categories or specific recovery or disposal operations.

Most important for HRPWD Project are:

- Act on Waste Management (Official Gazette 84/2021) and
  - Act on Sustainable Waste Management (Official Gazette No. 94/13, 73/17 14/19 and 98/19) valid until July 2021
- Ordinance on waste management (Official Gazette 81/20)
- Regulation on the management of waste packaging (Official Gazette 97/15, 7/20 and 140/20)
- Ordinance on packaging and packaging waste (Official Gazette 88/15, 78/16, 116/17, 14/2020, and 144/20)
- Decision on the areas of collection of non-hazardous packaging waste (Official Gazette 88/15)

Comprehensive list of waste legislation can be found at Ministry of Economy and Sustainable Development webpage[9].

The majority of data, which is used to design and monitor the implementation of activities/measures from national waste legislation, are data contained in the Waste Management Information System[10] established and maintained by MESD Institute.

MESD Institute is facilitating access to information on waste to decision-makers and public. The data and information on waste are disseminated primarily by the Institute MESD website, in reports[11] or registers and databases, some of which are described in following text.

3.2.1. Waste management permits

Waste management permits could provide valuable overview on stakeholders which participate in management of plastic waste, data and information on capacity of the facility, technological processes and operations applied at the location where plastic waste is managed, etc.

[8] In July 2021 is adopted new Act on Waste Management (OG 84/2021): https://narodne-novine.nn.hr/clanci/sluzbeni/2021_07_84_1554.html (hereinafter New ZOGO)

[9] At the following link: https://mingor.gov.hr/o-ministarstvu-1065/djelokrug/uprava-za-procjenu-utjecaja-na-okolis-i-odrzivo-gospodarenje-otpadom-1271/zakoni-i-propisi-7637/zakoni-i-propisi-iz-podrucja-gospodarenja-otpadom/7593

[10] At the following link: http://www.haop.hr/hr/informacijski-sustavi/informacijski-sustav-zastite-okolisa/gospodarenje-otpadom

[11] At the following link: http://www.haop.hr/hr/tematska-podrucja/otpad-registri-oneciscavanja-i-ostali-sektorski-pritisci/gospodarenje-otpadom-0

ZOGO stipulates that a legal and natural person – craftsman may, after obtaining the necessary permit, start carrying out waste collection operations through waste collection and emergency waste collection operations, and the operations of waste recovery, disposal or other types of waste treatment.

Ministry of the Economy and Sustainable Development issues permits for operations that involves hazardous waste management and thermal treatment operations (operations R1 and D10). The competent administrative body in the counties/City of Zagreb issues permits for operations that involves non-hazardous and municipal waste management for all other recovery (R) and disposal (D) operations of waste except R1 and D10.

The waste management permit specifies the following:

- address of the facility in which the waste management operations will be carried out,
- the maximum amount of a specific type of waste which may be treated annually and the type of waste according to waste codes from the Waste Catalogue,
- waste management operations with associated technological processes,
- requirements for performing technological processes,
- the handling measures of waste generated or remaining after the performance of technological processes,
- date by which the waste management permit must be revised,
- the closure or after-care measures of the operations for which the waste management permit has been issued.

An application for a waste management permit shall be filed in writing and in a digital format using the prescribed form in Annex V of the Ordinance on Waste Management (Official Gazette 81/20). Waste Management Study is an integral part of the waste management permit. Its content is prescribed by Articles 26, 27 and 28 of the Ordinance. Waste Management Study shall be prepared according to the form prescribed in Annex VII of the Ordinance.

MESD Institute receives copies of issued waste management permits by the competent administrative bodies in the counties/City of Zagreb and the Directorate for Environmental Impact Assessment and Sustainable Waste Management in the MESD.

Copies of permits are entered in the database Waste Management Permits Register available via the MESD Institute website[12]. The database contains data on legal and natural persons - craftsmen, counties, waste codes, date of issue and expiry/revision, waste management operations and other. The existing database provides insight into copies (PDF) of waste management permits (including waste management study, containing information on capacities, technology and procedures at location/facility) and any later amendment of the permit for all users and the public. It is not necessary to have a user account for data search purposes.

The latest annual data report on permits and certificates for waste management is available on the MESD Institute's website[13].

[12] At the following link: http://regdoz.azo.hr

[13] At the following link: http://www.haop.hr/sites/default/files/uploads/dokumenti/021_otpad/Izvjesca/ostalo/OTP_RegDOZ_2020%20(final%20za%20web).pdf

Data available in the waste management permits and waste management studies which could be extracted and further processed for HRPWD Project:

- basic information on the legal and natural person – craftsman that has issued waste management permit: name, national identification number, headquarter address, website, contact information (telephone, e-mail)
- basic information on the waste management permit: the administrative body that issued the waste management permit, date of issuance and expiration/revision
- waste management location
- data from the Waste Management Study presented at the waste management permit level (for all waste codes): total capacity of the recovery operations per permit (t/year) and permitted amount of all types of waste that can be at the site at one time (in tonnes)
- data from the Waste Management Study processed for each waste code: recovery operation and its capacity (t/year), permitted amount of waste that may be at site at one time (in tonnes), output waste codes, type of equipment located on the site, description of the method of technological process.

Initial data for the Project was exported from the Waste Management Permits Register. Recovery operations R12 and R13 are considered as pre-treatment and not as final treatment operations.

In 2020, 269 companies obtained a permit for plastic waste management by recovery operations R1-R13 and disposal operations D1-D15 for 348 locations. Companies can have multiple waste management permits for different locations.

64 companies obtained a waste management permit for the recovery of plastic waste by operations R1-R11 for 84 locations. 226 companies obtained a waste management permit for recovery operations R12 and R13 for 298 locations. Operations R12 and R13 are not considered as final waste treatment operations but refers to preparatory actions (sorting, sorting, etc.) and waste storage.

There were 3 issued permits for the recovery of plastic waste by operation R1, for the operation R3 - 63 permits, R4 - 1 permit, R5 - 15 permits, R11 - 3 permits, R12 – 166 permits and R13 – 286 permits. Waste management permits were not issued for plastic waste recovery operations R2, R6, R7, R8, R9, R10 (Table 16).

Table 16 Number of issued permits per operations R and waste code

Waste code	Number of issued permits						
	operation R1	operation R3	operation R4	operation R5	operation R11	operation R12	operation R13
02 01 04	2	33	-	1	-	87	131
07 02 13	1	43	-	2	-	87	129
12 01 05	2	37	-	-	-	85	140

15 01 02	2	55	-	7	-	148	260
16 01 19	2	38	-	1	-	102	173
17 02 03	2	41	-	10	-	118	192
19 12 04	2	37	-	5	2	79	166
20 01 39	2	41	1	3	1	132	237

Note: Some permits are counted multiple times since there can be multiple waste codes in one permit.

There were 77 companies that had waste management permit issued for 99 locations for disposal operations D1 – 101 permits, D8 – 1 permit, D9 – 3 permits, D13- 20 permits, D14 – 4 permits, D15 – 70 permits. Waste management permits were not issued for plastic waste disposal operations D2, D3, D4, D5, D6, D7, D10, D11, D12 (Table 17).

Table 17 Number of issued permits per operations D and waste code

Waste code	Number of issued permits					
	operation D1	operation D8	operation D9	operation D13	operation D14	operation D15
02 01 04	61	1	-	17	3	51
07 02 13	61	1	1	18	3	53
12 01 05	69	1	2	17	3	52
15 01 02	59	1	-	18	3	53
16 01 19	57	1	-	17	3	54
17 02 03	59	1	-	17	3	54
19 12 04	67	1	-	17	3	53
20 01 39	66	1	1	19	4	58

Note: Some permits are counted multiple times since there can be multiple waste codes in one permit.

More detailed data will be analysed during the project and presented in the Report according to Activity D2.2.

Additionally, there are companies registered as transporters, which are also part of plastic waste management. The information about companies entered into Register of Waste Carriers can be found on the MESD's website[14]. Directorate for Environmental Impact Assessment and Sustainable Waste Management in MESD also operates Register of Waste Management Brokers, Register of Waste Dealers, Register of Recycling Yards and Register of Persons Dealing with Energy Recovery from Waste.

Data that are more detailed will be extracted and analysed within HRPWD Project activities, and presented in the Report according to Activity D2.2.

CONCLUSIONS

Waste management permits could provide valuable overview on stakeholders which participate in management of plastic waste, data and information on capacity of the facility, technological processes and operations applied at the location where plastic waste is managed, etc.

However, because the permits are issued by 22 offices, sometimes there is lack of consistency in the permits (e.g. for the recovery operations (R) assigned to the facility) which could be

[14] Available at the following link: https://mingor.gov.hr/o-ministarstvu-1065/djelokrug/uprava-za-procjenu-utjecaja-na-okolis-i-odrzivo-gospodarenje-otpadom-1271/gospodarenje-otpadom/ocevidnici-7589/7589

important for data processing (e.g. weather recovery operation (R) will be counted as final or non-final operation).

Furthermore, Register was established in 2005 and upgraded in 2015 but it can no longer meet the search requirements according to special criteria. Therefore, the analysis according to individual attributes from the waste management permits is time consuming. Data processing is done manually for attributes that cannot be analysed otherwise. Because the capacity is to be specified for each individual waste code (EWC), it is often difficult to understand the total capacity of the waste storage or waste treatment.

3.2.2. Environmental pollution Register (ROO)

Annual data on waste types and amounts are systematically collected and recorded in the Environmental Pollution Register (ROO)[15], a database which contains data on produced, collected and treated quantities of waste by each type of waste. Data are available for the period from 2008 onwards.

Maintaining of ROO is stipulated by Ordinance on Environmental Pollution Register[16]. It contains annual data on waste amounts reported by: waste generators producing 0,5 t and more hazardous waste and/or 20 t and more non-hazardous; all waste collectors and all waste treatment facilities.

The Environmental Pollution Register (ROO) is an information system established, maintained and maintained by the MESD Institute as a comprehensive IT and network-based solution, consisting of a database with an associated application for data entry, verification, review, analysis and exchange, providing the public with direct access to the data.

Data are reported for each waste type, as defined by national Waste Catalogue, which is in line with the European List of waste.

Data related to waste are reported in following forms:

Form NO (generated waste) – all bondholders in the Republic of Croatia who produce waste on the site due to their economic activity, and/or transfer it outside the place of origin report this form. In the case of hazardous waste, all those who have generated waste in volume greater than or equal to 0,5 tons per year are bondholders, and in the case of non-hazardous waste, all those who have more than or equal to 20 tons of waste generated per year are bondholders.

Form SO (Waste collection) – bondholders are all companies that perform waste collection activities, provide public service of collection of mixed municipal waste and biodegradable municipal waste, recycling yards including mobile recycling yards, waste retailers (buy waste from citizens). There is no prescribed threshold for them, i.e. all waste collectors are obliged to submit data to the ROO.

[15] http://roo.azo.hr/
[16] OG No 87/15

Form OZO (recovery/disposal of waste) – bondholders are all companies that perform the activity of recovery or disposal of waste. There is no prescribed threshold for them, i.e. all waste processors are liable.

The forms contain administrative data on the operator, location and organizational unit, data on the type and amount of waste, recovery and/or disposal procedure, condition of temporary storage, then the amount of waste processed in the Republic of Croatia and the amount of imported waste for processing. They contain also data on waste collected through public service provider, on waste collected through a recycling yard/mobile recycling yard, and waste collected through retailers of waste, and data on disposed waste and landfills.

Forms are prescribed in Annex[17] to the Ordinance.

Example of form SO1 reported by public service provider for the collection of municipal waste is presented in Annex 3.1 to the Report.

Example of form OZO, which is used to report treatment of waste, is presented in Annex 3.2 to this Report.

Companies report data via Internet application by means of user name and password that are assigned by the MESD Institute. Electronic application enables data entry, data processing and display of the reported data. The deadline for reporting is 31st of March current year for the previous calendar year. From 31st of March until 15th of May 20 county offices and the office of the City of Zagreb in cooperation with the competent inspection, ensure checking of data in terms of their completeness, consistency and credibility. The MESD Institute coordinates activities relating to data quality assurance and control.

Initial data for the Project was exported from ROO for the reporting year 2019. Summary data are presented below and in Annex 3.3.

Table 18 Recovery/disposal (treatment) of plastic waste and waste containing plastics in certain share

Plastic waste in Croatia	Quantity received for treatment from the territory of Croatia (t/year)	Quantity imported for treatment (t/year)	Waste treatment quantities (t/year)
Waste plastic, rubber and packaging *	70.086,39	41.829,02	111.885,40
Other wastes that may contain plastic - amount of plastics (share) is not assessed yet **	1.652.508,37	1.472,26	1.653.980,63

Source: ROO database

* EWC: 02 01 04, 07 02 13, 12 01 05, 15 01 02, 16 01 19, 17 02 03, 19 12 04, 20 01 39
**EWC: 07 02 16*, 07 02 17, 12 01 16*, 12 01 17, 15 01 05, 15 01 06, 15 01 10*, 16 02 16, 17 02 04*, 17 04 10*, 17 04 11, 17 06 03*, 17 06 04, 17 09 04, 19 10 04, 19 10 05*, 19 10 06, 19 12 11*, 19 12 12, 20 01 99, 20 03 01, 20 03 02, 20 03 03, 20 03 07, 20 03 99

[17] At the following link: http://www.haop.hr/sites/default/files/uploads/dokumenti/022_reg_oneciscivaca/ROO/Prilozi%20Pravilnika%20ROO.pdf

206 operators at 245 locations (organizational units) reported in ROO for 2019. the treatment of plastic waste, as well as waste that may contain plastic.

The largest amount of waste from plastics, rubber and plastic packaging is reported as treated by R3 operation (Recycling/reclamation of organic substances, which are not used as solvents (including composting and other biological transformation processes). Treatment by R13 operation – (storage of waste pending any of the operations numbered R1 to R12, excluding temporary storage, pending collection, on the site where the waste is produced), and by R12 operation – (exchange of waste for submission to any of the operations numbered R1 to R11)[18] (e.g. sorting, crushing, compacting, pelleting, shredding, etc.) are second and third by amount.

As for other waste that may contain a share of plastic, the largest quantities of this waste were landfilled (D1 operation - disposal of waste in or on the ground), then the process R5 - recycling / recovery of other waste inorganic materials, and processes R12 and R13.

1945 operators at 3251 locations (organizational unit) reported generation of plastic waste and other waste that may contain plastic in the Republic of Croatia in 2019.

Table 19 Quantities of generated plastic waste, reported to ROO

EWC	Description of EWC	Generated waste 2019 (t/year)
02 01 04	waste plastic (except packaging)	249,78
07 02 13	waste plastic	1.394,99
12 01 05	plastics shavings and turnings	465,87
15 01 02	plastic packaging	24.898,63
16 01 19	plastic	459,04
17 02 03	plastic	767,26
19 12 04	plastic and rubber	35.333,88
20 01 39	plastic	1.928,97
Total		**65.498,42**

Table 20 Quantities of other waste, which may contain plastic

EWC	Description of EWC	Generated waste 2019 (t/year)
07 02 16*	wastes containing silicones	0,00
07 02 17	wastes containing silicones other than those mentioned in 07 02 16	3,99
12 01 16*	waste blasting material containing dangerous substances	87,77
12 01 17	waste blasting material other than those mentioned in 12 01 16	3.265,12
15 01 05	composite packaging	2.748,17

[18] Each procedure is described in article 4 of Ordinance on waste management (OG 81/2020), https://narodne-novine.nn.hr/clanci/sluzbeni/2020_07_81_1517.html

15 01 06	mixed packaging	13.136,63
15 01 10*	packaging containing residues of or contaminated by dangerous substances	4.116,16
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15	6.720,72
17 02 04*	glass, plastic and wood containing or contaminated with dangerous substances	6.066,91
17 04 10*	cables containing oil, coal tar and other dangerous substances	20,86
17 04 11	cables other than those mentioned in 17 04 10	1.349,74
17 06 03*	other insulation materials consisting of or containing dangerous substances	62,25
17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03	963,78
17 09 03*	other construction and demolition wastes (including mixed wastes) containing dangerous substances	44,80
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	116.821,48
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03	23.965,06
19 10 05*	other fractions containing dangerous substances	0,00
19 10 06	other fractions other than those mentioned in 19 10 05	0,00
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances	14.025,36
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	83.664,47
20 01 99	other fractions not otherwise specified	139,97
20 03 01	mixed municipal waste	1.140.848
20 03 02	waste from markets	609,74
20 03 03	street-cleaning residues	3.375,61
20 03 07	bulky waste	18.777,36
20 03 99	municipal wastes not otherwise specified	3.802,97
Total		**1.444.616,92**

Summarised data from OZO forms for Republic of Croatia and for import, for year 2019, is given in Annex 3.3, and completed report on data from ROO, for 2019, can be found on MESD Institute's website[19]. Annex 3.4 contains data on the quantities of treated waste according to the recovery and disposal procedures. Detailed data on the municipality level can also be found on MESD Institute's website[20].

19 http://www.haop.hr/sites/default/files/uploads/dokumenti/022_reg_oneciscivaca/Izvjesca/Izvje%C5%A1%C4%87e%20ROO_2019_nacionalni%20pregled%20_Finalna%20za%20objavu_web.pdf

20 http://www.haop.hr/sites/default/files/uploads/dokumenti/022_reg_oneciscivaca/Izvjesca/Izvje%C5%A1%C4%87e%20ROO_2019_%C5%BDUPANIJE_Finalna%20verzija.pdf

More detailed data will be analysed during the project and presented in the Report according to Activity D2.2.

A large number of waste reports to the EU and international bodies are prepared on the basis of data consisted in the EPR scheme, e.g. reports according to the Waste Statistics Regulation (Commission Regulation (EC) 2150/2002), Waste Framework Directive recycling targets report, report according to the SDI on municipal waste etc.

CONCLUSIONS

ROO database is the most important database containing comprehensive data on waste generation, collection and treatment, by waste code and by R/D treatment operation. Several forms are used to report annual data. Collected data are used for preparation of almost all waste reports.

For reporting under 3 directive, plastic waste data contained in ROO database are not sufficient and are not of sufficient quality.

There is no possibility to distinguish data on different plastic materials, important for packaging or SUP items, due to the limits posed by List of waste. At this moment, there is no possibility to enable reporting on different plastic material, at least not before the adequate changes are implemented in eONTO application.

For possible future option to collect data on different plastic materials, changes in Waste catalogue could be introduced to distinguish types of polymers. This could be done by expanding Waste Catalogue to contain subnumbers under waste code 15 01 02. Also, in order to recognize certain new waste categories (such as marine litter needed for SUP Directive monitoring), there is a possibility to expand Waste Catalogue with new waste code(s) or to add subnumbers (under 20 01 39 or 20 01 99). This should be implemented in eONTO and ROO applications, as well as other databases relying on Waste Catalogue.

Some waste streams are complicated to trace, due to multiple phases of waste management.

Although at form OZO for waste treatment are requested separate data on received and data on treated quantities of waste by each facility (thus the difference could be considered as impurities), the companies reporting the data often are not aware of the difference between those two attributes.

Adjustment of forms to enable easier application of new calculation rules are considered, such as provision of data on effectiveness of the recycling process, data on losses and impurities, data on products derived from waste, outputs from sorting plants, etc.

This should be ensured by amending the Ordinance on ROO, in order to respond to new requirements.

3.2.3. Waste statistics according to Regulation 2150/2002

The basis for the production and delivery of waste statistics is Regulation (EC) no. 2150/2002 on waste statistics[21] and its amendments under Commission Regulation (EU) no. 849/2010[22]. Waste statistics are prepared in accordance with the prescribed methodological recommendations of Eurostat and submitted biannually, accompanied by quality report.

For the period from 2004-2010, the data were submitted by the Central Bureau of Statistics according to the conducted statistical surveys, while from 2012 the data are submitted by the MESD Institute[23] based on data contained in the waste management information system.

Data collection methodology is described in the Manual of waste statistics[24]. Combination of data from different data sources (MESD Institute, 21 county offices, EPEEF (EPR data), Ministry of Agriculture's data (for animal by-products) is used for the production of three different data sets: dataset on waste generation, dataset on waste treatment and dataset on treatment infrastructure and coverage of the waste collection scheme.

Waste generation includes all wastes generated by economic activities and by households, including secondary waste. Waste treatment includes all waste entering treatment facilities for final treatment (this includes both public and private waste treatment facilities) – there is no double counting.

The different concepts of the Waste Statistics Regulation for the handling of secondary waste in Annex I and in Annex II of the Regulation have consequences concerning the double counting of waste.

The data used for determining waste generation are data reported to ROO, data reported on transboundary movement of waste, data collected by Ministry of Agriculture and estimations for some waste categories.

In the WSR report, the breakdown is done according to the economic activities (NACE) and the ESTAT statistical classification of waste.

Plastic waste is described by statistical category 07 (Non-metallic wastes), subcategory 07.4 (Plastic waste) in accordance with Regulation (EC) no. 2150/2002. However, those are only separately collected plastic waste, while plastics share in mixed wastes is not taken into account.

Latest data delivered was for 2018. In 2018, there were 71.670 tonnes of generated plastic waste, of which the most waste is generated in service activities (that exclude G46.77 – wholesale of waste and scrap, such as wholesale and retail trade, repair of motor vehicles, transportation and storage, accommodation and food services, information and communication,

[21] Regulation (EC) No 2150/2002 of the European Parliament and of the Council of 25 November 2002 on waste statistics, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002R2150&from=en

[22] Commission Regulation (EU) No 849/2010 of 27 September 2010 amending Regulation (EC) No 2150/2002 of the European Parliament and of the Council on waste statistics, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010R0849&from=EN

[23] Operated as Environmental Protection Agency 2012-2016, Croatian Environment and Nature Agency 2016-2019, Ministry of Environmental Protection and Energy 2019-2020 and currently as MESD Institute.

[24] At the following link: https://ec.europa.eu/eurostat/documents/3859598/5926045/KS-RA-13-015-EN.PDF.pdf/055ad62c-347b-4315-9faa-0a1ebcb1313e?t=1414782620000

administrative and support services, human health and social work activities, arts, entertainment, etc.). In addition, significant quantities of waste are generated in households, waste/water sector (that includes water collection, treatment and supply, sewerage, remediation activities, other waste management services, waste collection, treatment and disposal activities, materials recovery) and manufacture (Table 21).

*Table 21 Generated plastic waste by economic activities**

Economic activities (NACE)	2012. (t)	2014. (t)	2016. (t)	2018. (t)
A_Agriculture, forestry, fishing	286	538	231	287
B_Mining and quarrying	8	22	38	35
C_Manufacture	8.705	12.718	9.745	11.272
D_Energy	20	32	30	24
E_Waste/water	4.951	9.655	13.791	18.132
F_Construction	225	367	596	684
G-U_Services activities (exc. G46.77)	14.174	10.614	22.597	22.979
G46.77_Wholesale of waste and scrap	0	1	11	7
HH_Households	10.817	15.169	18.094	18.250
TOTAL (ESTAT 07.4)	**39.186**	**49.117**	**65.132**	**71.670**

*share of plastics in mixed wastes is not taken into account in table

In 2018, there were 52.871 tonnes of treated plastic waste. Most waste was treated by the recovery operations R2-R11, which make 79% of total amount of treated waste. There was no incineration of waste (Table 22).

Table 22 Treatment of plastic waste by processing operations

Processing operations	2012. (t)	2014. (t)	2016. (t)	2018. (t)
Energy recovery (R1)	0	0	0	5.103
Recovery (R2-R11)	20.263	44.952	26.435	41.929
Backfilling	0	0	0	0
Incineration (D10)	0	0	0	0
Disposal (D1, D5, D12)	1.532	1.219	3.959	5.838
Other disposal operations (D2, D3, D4, D6, D7)	0	0	0	0
TOTAL (ESTAT 07.4)	**21.795**	**46.171**	**30.394**	**52.871**

The latest data report on waste statistics is available on the MESD Institute's website[25]. Data are also available on the Eurostat website[26].

Waste statistics for 2020 will be available in 2022.

[25] At the following link: http://www.haop.hr/hr/tematska-podrucja/otpad-registri-oneciscavanja-i-ostali-sektorski-pritisci/gospodarenje-otpadom-10.
[26] At the following link: https://ec.europa.eu/eurostat/web/waste/data/main-tables

CONCLUSIONS

Waste statistics provide an insight into the economic activities (NACE) that generate the most plastic. Those data can be used for the purpose of this project for better understanding from where most of the plastic waste comes from and closely observe that sector. As well, it is important to know what happens to plastic waste at the end-of-life cycle and how it is treated.

For plastic waste separately collected from municipal waste, large share of impurities in collected plastic waste could pose a problem for further management.

Due to differences in recyclability, for different plastic materials various management channels are used. In some cases, it is a problem to adequately trace such waste streams, especially if multistage treatment is done, or waste is exported.

Since the WSR report is mainly based on ROO data, the quality depends on the data reported to that database. If packaging and non-packaging wastes are mixed together, the operator decides the code to be used case-specifically, based on the previous observations on the content of the container and experience.

Waste which is not separately collected, but is mixed with other waste, categorized as mixed waste where plastic makes a certain share, are not taken into consideration for WSR data processing for the ESTAT category "Plastic waste". In Republic of Croatia, there is a large share of plastic waste being captured in mixed waste types, in particular mixed municipal waste (EWC 20 03 01).

For the above reasons, WSR waste statistics cannot be used directly for reporting under 3 directives. However, those data could and already are used for crosscheck, i.e. WSR data and data reports according to directives must be harmonized.

3.2.4. IRDJU report[27] by public service provider

Data collection on municipal waste is important for plastic waste separately collected, but also to estimate quantities of plastics still being part of mixed municipal waste.

Except eONTO and ROO, important source of data on municipal waste and packaging waste collection system is IRDJU form.

Pursuant to Article 32[28] of the ZOGO, IRDJU form is submitted by the the public service provider for the collection of mixed and biodegradable municipal waste.

[27] Report on the work of the public service provider
[28] Article 69 of new Act on Waste Management (OG 84/21)

Collected amounts of municipal waste and waste streams are reported by public service providers in ROO database. Reporting is carried out for the level of LSGU and waste type. Beside door-to-door collection, it includes collection within civic amenity sites and containers on the public surfaces.

To complement ROO data, there is an obligation for public service providers to report additional set of information on collection system, by using IRDJU form.

It contains:

- general information on the public service collection area of residual and biodegradable municipal waste (e.g. population covered by public service, number of recycling yards and mobile recycling yards, number of containers for separate waste collection by type of waste, number of vehicles and number of employees working in public service and services related to public service);
- data on infrastructure for separate collection of different fractions; information on regularity of the system; information on quality of public service and economic efficiency of the collection (total yearly income and expense);
- public service tariff;
- municipal waste composition analysis (if available).

The IRDJU form is submitted to MESD Institute in excel format via e-mail, and is filled in separately for each local government unit. Based on collected data, MESD Institute prepares annual report[29].

In 2019, all together 523 LSGUs (94 % of the total), of which 125 were cities and 398 towns and municipalities, reported separate collection of at least one municipal waste fraction from the following fractions: paper and cardboard, plastic, glass, and metal. 417 (75 %) LSGUs collected all four fractions separately. 33 (6 %) of LSGUs did not collect any of the four fractions separately. (Ministry of Economy and Sustainable Development, 2020).

Separate collection of plastic waste was reported by 92% (514) of all LSGUs. 155 LSGU reported collecting plastic waste from containers on public surfaces, 120 LSGU reported collecting on from door to door, 221 reported collecting by both ways, and 18 LSGUs reported collecting plastic waste only by recycling yards or mobile recycling yard.

Total of 27 public service providers, covering area of 63 LSGUs, reported the implementation of the analysis of the municipal waste composition. From 2005 to 2015, the analysis was conducted for 34 LSGUs, from 2016 to 2020 for 28 LSGUs and one that did not specify the year of the analysis.

[29] Latest annual report, for year 2019, can be found on: http://www.haop.hr/sites/default/files/uploads/dokumenti/021_otpad/Izvjesca/obveze_jls/OTP_2019_IRDJU_pregled%20podataka%20(final%20WEB).pdf

CONCLUSIONS

The data reported by public service providers on IRDJU form is quite comprehensive and describes the collection system developed in the territory of each individual municipality/city (LSGU).

This information is related to data on municipal waste, where plastics constitutes share. This data could not be used directly for reporting under 3 directives; those are additional data, which could be of help to understand the capacities and infrastructure for municipal (and packaging) waste collection, and in the process of data validation.

Waste composition analysis, which sometimes accompany IRDJU, is valuable source of information on the share of plastics in municipal or mixed municipal waste.

3.2.5. E-ONTO – electronic register on waste creation and transport

Pursuant to Article 45[30] of the ZOGO, the person who takes possession of the waste is obliged to keep a register of waste generation and flow through a network application e-ONTO for non-hazardous and hazardous waste of which he takes possession.

e-ONTO is a network application for recording movements of waste on the territory of the Republic of Croatia. The persons obliged to maintain and keep the records through e-ONTO are:

1. Producers of waste sludge from municipal wastewater treatment plants
2. Persons who are importing or exporting waste
3. Registered waste transporters who transfer waste from site to site
4. Authorized persons who take waste in possession

In a register, consignment notes (ePL-O) accompanying a shipment of waste are created if the producer or holder sending waste is a person obligated to maintain records through an e-ONTO application. In accordance with the confirmed data in documents, automatic records are created in the forms of each participant (e-ONTO form for waste possessions and e-ONTO-P form for waste transporters). An e-ONTO form is an electronic form for keeping records on waste entrances and exits from waste treatment, storage, and disposal facilities/sites for every waste code, year, and site. An e-ONTO-P form is an electronic form for keeping records on waste transport from site to site for every waste code and year.

Periodic reports for the public and periodic reports of waste management entities are prepared from daily data on waste transfer. Certain reports are predefined, while others are available on-demand using the desired attributes. Data is reported at the level of waste codes in accordance with the European List of Waste Codes.

[30] Article 25 of new Act on Waste Management (OG 84/21)

There are 1.004 companies and 2.157 natural persons registered in eONTO network application as users (data from August 2021.).

CONCLUSIONS

From 2017, MESD Institute operates application e-ONTO, which enables checking of data on individual waste transfer in Croatian territory. Companies use e-ONTO database to keep the data on waste storage and transfer of waste, and prepare annual aggregated data for ROO database.

The data in e-ONTO is daily data on each waste transfer from site to site and, as such, is highly dependent on the constant accuracy of the data entered by each participant in the system. High-quality automatic checks are difficult to perform due to the complexity of the system and different user type. Subsequent data validation requires significant human resources that does not exist. Taking into account all this as well as the short time of using the system, it still does not provide complete and sufficient high-quality information on an annual basis.

Due to all the above facts, the final annual quantities are considered unreliable until verified and authorized by users. Insight to waste transfer/transport on the level of the individual company is recommended only, rather than using the data to calculate annual aggregated data for national, county or LSGU level.

This is why this database will not be used to obtain aggregated data but only to perform crosschecks and verification procedures (detailed information about transportation and waste treatment procedures).

3.2.6. Transboundary movements of waste

Legal framework related to transboundary movements of waste is as follows:

- REGULATION (EC) No. 1013/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 June 2006 on shipments of waste (OJ L 190, 12. 7. 2006.), as last amended (Waste Shipment Regulation - WSR).
- COMMISSION REGULATION (EC) No. 1418/2007 of 29 November 2007 concerning the export for recovery of certain waste listed in Annex III or IIIA to Regulation (EC) No. 1013/2006 of the European Parliament and of the Council to certain countries to which the OECD Decision on the control of transboundary movements of wastes does not apply (OJ L 316, 4.12.2007), as last amended.
- 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).
- COMMISSION DELEGATED REGULATION (EU) 2020/2174 of 19 October 2020 amending Annexes IC, III, IIIA, IV, V, VII and VIII to Regulation (EC) No 1013/2006 of the European Parliament and of the Council on shipments of waste (OJ L 433, 22.12.2020).

– Sustainable Waste Management Act (OG, 94/13, 73/17, 14/19,98/19), Chapter VII: Transboundary Movements of Waste[31]

The main aims of EU rules on waste shipments are environmental protection and reducing the risks to human health. Furthermore, they aim to establish greater legal clarity and pursue harmonization in the area of transboundary shipments of waste. At the moment, there is a revision of WSR in progress. ZOGO regulates jurisdiction and sets the rules for implementation of WSR in the Republic of Croatia.

According to provisions prescribed in ZOGO, which was in force until 31 July 2021, the person who arranged the shipment/exporter and consignee/importer of waste not subject to the notification procedure with the headquarters in the Republic of Croatia was obliged to enrol into Register of exporters/importers of waste not subject to the notification procedure, kept by MESD. All registered exporters and importers of waste not subject to the notification procedure and all the notifiers/exporters and consignees/importers of waste subject to notification procedure with the headquarters in the Republic of Croatia, were obliged to submit reports in writing or digital format to the MESD Institute. These reports were containing information on the types and amounts of waste exported and/or imported in the previous calendar year, by 1st of March of the current year. The new Waste Management Act, in force from 31st of July 2021 onwards, abolishes Register of exporters/importers of waste not subject to the notification procedure and foresees the person who arranges the shipment/notifier/ exporter, as well as the consignee/importer, with the headquarters in the Republic of Croatia, to fulfil their reporting obligation via MESD on-line application. Until application is developed for transboundary movements of waste, format for data delivery to MESD will not change. The data is collected according to tables 23 and 24.

Table 23 Waste not subject to notification procedure

COMPANY enrolled into Register of exporters/ importers	NUMBER OF ENROLL-MENT into Register of exporters/ importers	COUNTRY of destination/ dispatch	USUAL DESCRIPTI-ON of the waste	LoW code	ANNEX III, IIIA or IIIB code (WSR)	RECOVERY operation code	EXPORTED/ IMPORTED AMOUNT of waste (t)

Table 24 Waste subject to notification procedure

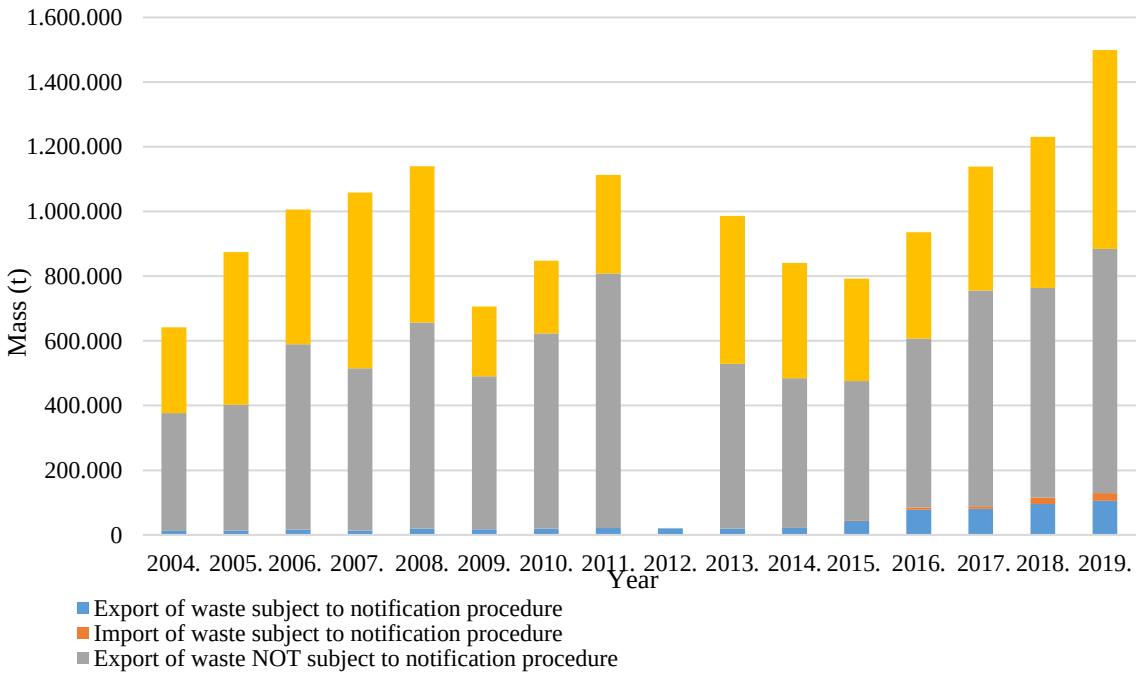
COMPANY gained the consent	CLASS and REGISTER NUMBER of the consent	VALIDITY PERIOD of the consent	COUNTRY Of destination / dispatch	USUAL DESCRIPTI-ON of the waste	USUAL DESCRI-PTION of the waste	CODE		DISPOSAL/ RECOVERY CODE	EXPOR-TED/ IMPOR-TED AMOUNT of waste (t)
						Annex IV (WSR)	Basel Convention		

[31] As of 31 July 2021, new Waste Management Act (OG, 84/2021), Chapter XIII: Transboundary Movements of Waste.

		from	till					H	Y	D	R	approved	realized

The quality of collected data depends on coverage and accuracy of submitted reports. All the reports are checked and verified by an authorized official in charge for further analysis. Data regarding waste subject to the notification procedure are always of high quality because MESD Institute has evidence of all issued consents and there is a relatively small number of reporting units to control. Data regarding waste not subject to the notification procedure are of lesser, but still satisfying, quality because many companies, mostly small or new on the market, do not fulfil their legal duty to submit a yearly report. However, it is estimated that such companies have no significant share in transboundary movements of waste.

Transboundary movements of waste are systematically monitored in the Republic of Croatia since 2004. Import of waste subject to the notification procedure was prohibited until the Republic of Croatia became an EU member, on 1st of July 2013. Since then onwards, the Republic of Croatia exercise its right pursuant to Article 4(1) of the Basel Convention to prohibit the import of hazardous waste and of waste listed in Annex II to that Convention destined for disposal. Figure 1 shows yearly amounts of waste in transboundary movements of waste in the period from 2004 until 2019. In the reported period, average quantity of waste in transboundary movements of waste is 927.057 t per year.



Source: MESD Institute

Figure 1 Total transboundary movements of waste in period from 2004 until 2019[32]

[32] Data on imported/exported waste not subject to the notification procedure in 2012 were not taken into account during data processing, due to incompleteness

Plastic waste has a certain share in total amount of waste in transboundary movements of waste. According to the last data collected, plastic waste (including LoW codes 02 01 04, 15 01 02, 07 02 13, 07 02 99, 12 01 05, 15 01 02, 16 01 19, 17 02 03, 17 04 01, 17 04 02, 19 01 02, 19 12 04 – described as plastics, 19 12 12, 20 01 39, but excluding LoW code 19 12 04 described as plastics and rubber) accounted 4,2% of total share of exported and 5,8% of imported quantities of waste not subject to the notification procedure. Waste declared as LoW code 19 12 04 and described as plastics and rubber accounts further 0,1% of exported and 1,7% of imported waste not subject to the notification procedure. Comparing quantities of plastic waste in transboundary movements in the past few years, a growth trend is observed, especially in import of plastic waste. At the same time, growth of recovery capacities is not significant. Figure 2 shows comparative view of export and import of plastic waste (including whole reported amount of LoW code 19 12 04) since Croatia became an EU member.

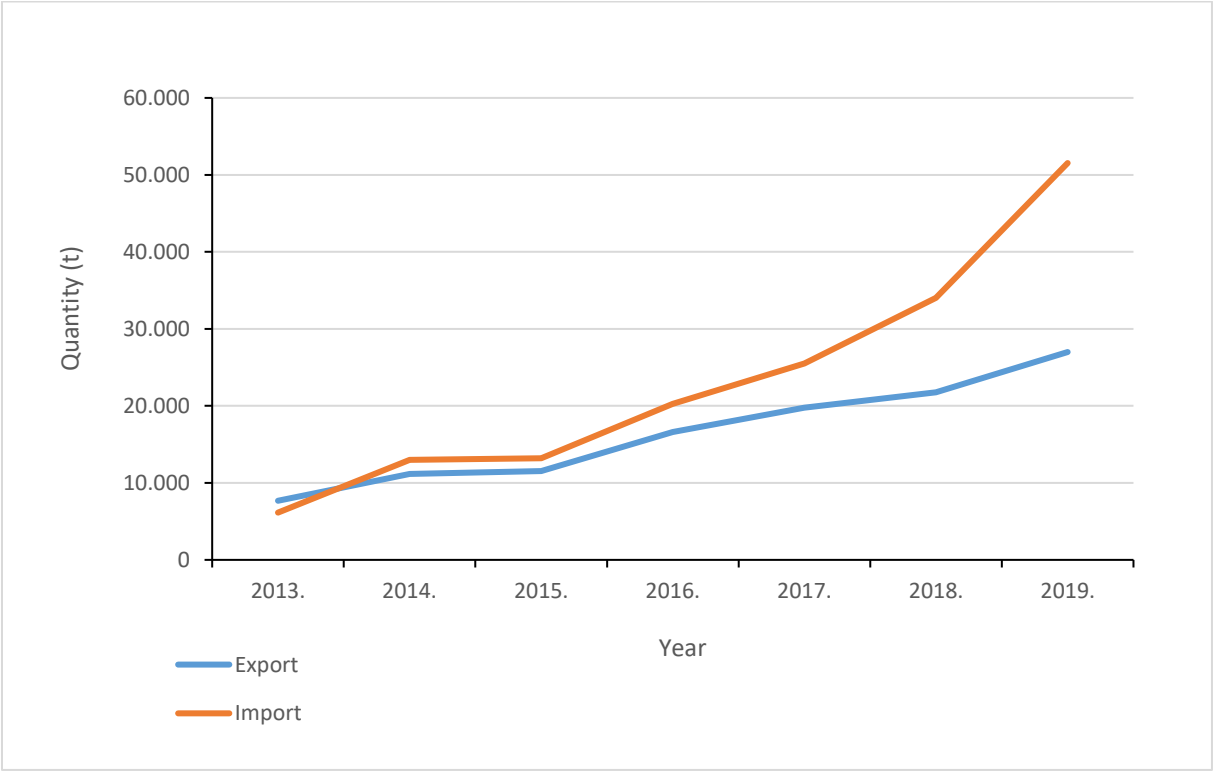


Figure 2 Comparative view of export and import of plastic waste (including total amount of LoW code 19 12 04 that has been reported) since Croatia became an EU member

Since 2013 there is noticed an increase of transboundary movements of refuse-derived fuel (RDF), LoW codes 19 12 10 and 19 12 12, especially import, while export had its peak in 2015. RDF consists mainly of plastic components and is intended for use as a fuel or other means to generate energy (R1 operation). This type of waste was imported for use in two Croatian cement kilns. RDF produced in Croatia was mostly exported to Bosnia and Herzegovina. Figure 3 shows comparative view of export and import of RDF since 2013, when Croatia became an EU member. It is important to notice Croatia had the ban of import of waste subject to notification procedure in force before EU membership.

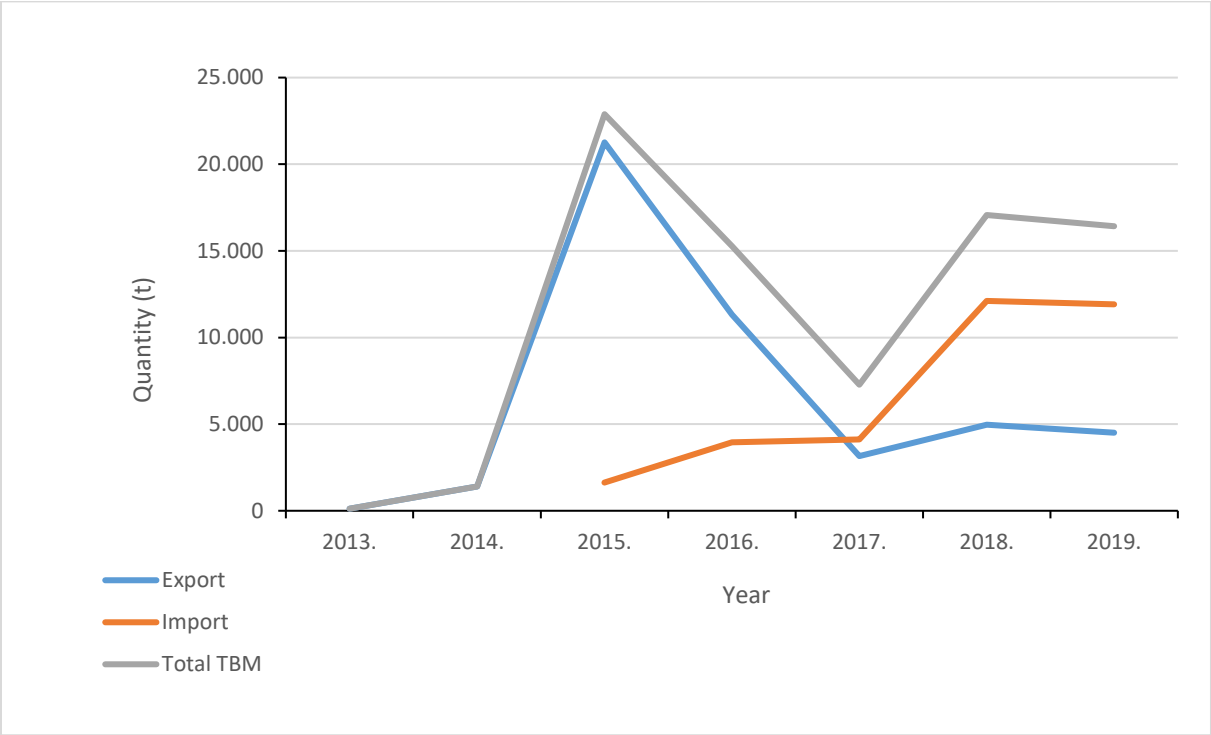


Figure 3 Comparative view of export and import of RDF since Croatia became an EU member

While waste classified as RDF is mixed waste, not listed in any Annex to the Regulation (EC) no. 1013/2006, well known as subject to notification procedure and therefore monitored, waste classified as 19 12 04 often presents a problem. In the European List of Wastes[33] (LoW) code 19 12 04 is described as plastics and rubber but plastics and rubber have different codes in Annex III to the Regulation (EC) no. 1013/2006 and if mixed they are subject to notification procedure. Furthermore, according to Ordinance on Waste Catalogue, amount of other non-hazardous, undesirable materials that do not affect the recovery process in plastic waste must not exceed 5% by weight, or the waste has to be classified as subject to notification procedure.

Code 19 12 04 refers to plastic and rubber waste from mechanical waste treatment including waste which consists of single plastic polymers (code B3010[34] in Annex III to the Regulation (EC) no. 1013/2006), single rubber polymers (code B3040 in Annex III to the Regulation (EC) no. 1013/2006), mixed waste covered by codes B3010 or B3040 as listed in Annex IIIA to the Regulation (EC) no. 1013/2006, but also non-listed mixed waste which is subject to the notification procedure. Therefore, special attention should be paid to the waste classified as code 19 12 04, as a shipment of waste subject to notification procedure for which no notification procedure has been carried out is considered an illegal shipment of waste. Illegal shipments are subject to misdemeanour, or in case of exceeding 10.000 kg (10 t) [35], to criminal proceedings[36].

[33] Commission decision no. 2000/532/EC, as the latest amended by Commission decision no. 2014/955/EU
[34] Commission Delegated Regulation (EU) 2020/2174, in force since 1 January 2021, changes classification of plastics waste
[35] Ordinance on Waste Catalog (OG 90/15, Art. 5.); Waste Management Act (OG 84/21, Art. 9.)
[36] Criminal Act (OG 125/11, 144/12, 56/15, 61/15, 101/17, 118/18, 126/19, 84/21, Art. 196.)

As previously mentioned, about 0,1% of exported (606,65 t) and about 1,7% of imported (10.294,42 t) waste reported in 2019 was declared as LoW code 19 12 04 and described as plastics and rubber without clear indication on exact waste type. There is a big possibility some of those shipments had to be subjected to the notification procedure, but such a procedure was not carried out. Furthermore, 57% (343,46 t) of exported and 62% (6.371,03 t) of imported waste classified as code 19 12 04 and described as plastics and rubber were intended for interim recovery (R12 and/or R13), there is no data of the final destiny of such waste. The environmental inspection of the State Inspectorate permanently carries out controls, and during 2019 MESD got some reports on illegal shipments consisting of plastic waste, but the cases were not finished until the date of issuing the Report on Transboundary Movements of Waste in 2019[37] and there is no final data on mentioned cases.

Irresponsible transboundary movements of plastic waste, especially mixed plastic waste, can be partly explained by lack of knowledge on plastic mixtures and complicated regulations, but also by desire for easy and quick earnings. New rules on classification and transboundary movements of plastic waste, adopted by COP 14 to Basel Convention in May 2019, and consequently transposed into EU legislation[38], together with enhanced inspection controls, might be a solution for such situations.

CONCLUSIONS

Data regarding waste subject to the notification procedure are always of high quality because MESD has evidence of all issued consents and there is a relatively small number of reporting units to control.

Data regarding waste not subject to the notification procedure are of lesser but still satisfying quality because lot of, companies, mostly small or new on the market, do not fulfil their legal duty to submit a yearly report. However, it is estimated such companies have no significant share in transboundary movements of waste.

It is necessary to develop a new application on transboundary movements of waste as a part of waste management information system which will aim to facilitate data collection and processing and also assure better data quality.

There is a need for inspection to provide more quality control of companies trading plastic waste inadequately, due to problems with insufficient management capacities in Croatia.

In addition, there is a need for companies to be informed and educated on the new rules on classification and transboundary movements of plastic waste.

[37] http://www.haop.hr/sites/default/files/uploads/dokumenti/021_otpad/Izvjesca/ostalo/OTP_Izvje%C5%A1%C4%87e%20o%20prekograni%C4%8Dnom%20prometu%20otpada%202019%20web.pdf

[38] Commission Delegated Regulation (EU) 2020/2174 of 19 October 2020 amending Annexes IC, III, IIIA, IV, V, VII and VIII to Regulation (EC) No 1013/2006 of the European Parliament and of the Council on shipments of waste; https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R2174&from=EN

3.2.7. Waste prevention portal

MESD Institute has developed and maintains the Waste Prevention Portal (WPPortal [39]), where information on plastic waste can be found[40] as well as information and advices on how to prevent the generation of plastic waste[41].

WPPportal contains general information on the topic of waste prevention, prescribed measures, and it is possible to view news from this area. Waste prevention is difficult to measure, so the achievement of results in this area is best monitored by collecting information on implemented projects and activities, which will help visitors to the Portal to plan their own waste prevention activities.

Pursuant to Article 114 of the New ZOGO, the LSGUs and the City of Zagreb are obliged to ensure the annual implementation of information activities related to waste management in its area.

The LSGUs and the City of Zagreb are obliged to establish and maintain up-to-date web pages with all relevant information on waste management, including waste prevention.

The executive body of the LSGU, and the City of Zagreb, shall submit the annual report on the implementation of educational and information activities for the previous year to the MESD Institute by 31st of March of the current year via a network application.

For this purpose, an Application for local self-government units[42] has been developed in 2017. Reporting was based on voluntary basis, but after the 1st of August 2021, is obligatory. WPPortal and Application for LSGU will be upgraded in line with new provisions.

The application for local self-government units enables the registration, modification or search of projects and activities carried out by municipalities and cities or public service providers, which are specifically aimed at preventing the generation of municipal waste (for example, educational and information activities), its reuse or separate collection.

Within the Application for LSGUs, since 2018, 55 projects and 103 activities were registered, which marked plastic waste as one of the "Type of waste" option. This means that in these projects and activities, some attention has been directed to preventing the generation of plastic waste, extending the shelf life and reusing plastic items.

Latest Project and activity that focus exclusively on plastic waste are *Activity Canvas bag*[43] within the project *Implementation of the communication campaign on sustainable waste management "Green Wave"*[44] and project *#sayNOtoplastic*[45]

[39] http://sprjecavanjeotpada.azo.hr/index.htm
[40] http://sprjecavanjeotpada.azo.hr/page.htm?id=89
[41] http://sprjecavanjeotpada.azo.hr/page.htm?id=92
[42] http://sprjecavanjeotpada.azo.hr/projekti.htm
[43] http://sprjecavanjeotpada.azo.hr/projektro.htm?t=1&p=1&id=1025
[44] http://sprjecavanjeotpada.azo.hr/projektro.htm?t=1&p=1&id=948
[45] http://sprjecavanjeotpada.azo.hr/projektro.htm?t=1&p=1&id=415

Data already available at WPPortal and additionally collected data during the HRPWD Project will be in more detail presented in the Report according to Activity D2.2.

CONCLUSIONS

Since it was established in 2018, WPPortal and Application for LSGU on waste prevention projects and activities, has shown several good examples of prevention related to municipal waste.

Some of these projects/activities could contribute to the goals for waste plastic packaging and plastic bags management, or can help to reduce the generation of waste from certain types of plastic. Further efforts need to be intensified to implement and collect positive examples on industrial waste containing plastics.

3.2.8. Other data

By-products and End-of-waste status

Art. 15 of the ZOGO[46] and the Ordinance on by-products and end of waste status (OG 117/14) prescribes obligations related to the reporting of by-products and end-of waste (EoW) data.

Data are collected annually, by 1st of March for the previous year, from companies registered in Register of by-products and End-of-waste Register. Based on collected data, MESD Institute prepares annual report.

End-of-waste status for certain types of waste for which EU regulation is adopted, was not covered by annual report, because companies using this EU defined criteria, were not required to apply to the EoW Register operated by MESD Institute and were not required to report this data.

In 2020, there were three waste categories containing plastic waste, entering in the recovery procedures – plastic waste, construction waste and other waste, with total mass of almost 4.000,00 t of waste (Annex 3.5). Newly made products were Polymer raw material and Recycled aggregate. Some of the other waste, mostly bulk, was re-used to make new furniture or decorative objects. In total, there were almost 23.900,00 t of new products made during 2020, in which recycled plastic was used (Overview of data on by-products for 2020, MESD).

ELOO database

ELOO database is new MESD Institute database for keeping data on locations of illegally discarded waste and characteristic and amounts of waste found at such locations.

[46] Article 44 of the New ZOGO

ENVI portal

ENVI portal contains GIS (geographic information system) spatial data on waste management, continuously updated by MESD Institute.

CONCLUSIONS

Data on by-products and end-of-waste materials provide valuable information, which could be used in the process of assessment of the plastic waste streams, and use of instruments, which are directing towards circular economy and waste prevention.

By-products could be considered as waste prevention. End-of-waste quantities are already counted as recovery/recycling, but provide information on further use of the material coming out of recovery operation.

Data from other databases maintained within Waste Management Information System should also be consulted in the process of data preparation or validation for reporting under 3 directives.

3.3. EXTENDED PRODUCER RESPONSIBILITY (EPR) SCHEME ON PACKAGING WASTE – DATA BY EPEEF

EU legal framework[47] is set as follows:

- European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste as last amended.
- Commission Decision 2005/270/EC of 22 March 2005 establishing the formats relating to the database system pursuant to Directive 94/62/EC of the European Parliament and of the Council on packaging and packaging waste as last amended.
- Directive (EU) 2018/852 of the European Parliament and of the Council of 30 May 2018 amending Directive 94/62/EC on packaging and packaging waste.
- Commission Implementing Decision (EU) 2019/665 of 17 April 2019 amending Decision 2005/270/EC establishing the formats relating to the database system pursuant to European Parliament and Council Directive 94/62/EC on packaging and packaging waste (notified under document C(2019) 2805).

Croatian legislative acts are:

- The Ordinance on packaging and packaging waste (OG 88/2015, 78/16, 116/17,14/20, 144/20)
- Regulation on the management of waste packaging (OG 97/15; 07/20)

[47] https://ec.europa.eu/eurostat/web/waste/legislation

The Environmental Protection and Energy Efficiency Fund (hereinafter: EPEEF) runs the packaging waste management system through the extended producer responsibility scheme, and according to the Ordinance on Packaging and Packaging Waste (OG No. 88/15, 78/16, 116/17). The system covers all packaging regardless of the function, origin, or type of packaging material (the exception is packaging that contains hazardous substances and, accordingly, waste packaging that is hazardous waste).

In Croatia, EPR applies to both household and non-household packaging. There is no advanced fee-modulation in place, but such system of fee modulation is currently under discussion.

Current data does not include information on the composition, quantities or share of different plastic materials (HDPE, LDPE, PE, PET, PE, PS, PVC and other) in plastic waste.

Legal entities that place products within packaging on the market of the Republic of Croatia are obliged to bear the costs of managing that waste by paying the packaging waste management fee to the EPEEF. The EPEEF pays fees to collectors and recovery facilities covering the costs of waste collection and recovery.

In Croatia, foreign companies selling packed products online are seen as producers and are thus responsible to pay the fees for waste packaging to the EPEEF. Foreign companies need to have an authorized representative in Croatia that is responsible for meeting the producer's commitments.

Registered persons (companies, crafts, institutions, organizations, etc.) are obliged to separate waste packaging according to the type of material and hand it directly to the collector who has a contract with the EPEEF. The collector is obliged to take over the separately collected waste packaging at the request of the EPEEF and at the invitation of the legal entity and natural person - a craftsman who is in possession of packaging waste and hand it over to a processor who has a contract with the EPEEF or export it for processing outside the Republic of Croatia. Deposit system for beverage packaging is in place and covers all beverage disposable packaging made of PET, Al / Fe and glass with a volume of equal and greater than 0.20 l (packaging of milk and liquid dairy products, as well as the packaging of a volume equal to 0.20 l, is included into the existing reimbursement system from 1st of January 2021.).

In order to identify all producers and free-riders, the Ministry is in regular connection with the Customs Administration's inspectors concerning the clarification of regulations and situations governing the registration and fee payments, and related to the products put on the market, which are covered by the packaging EPR scheme.

The Customs Administration of the Ministry of Finance delivers data to the EPEEF concerning products put on the market in Croatia that originate from the countries outside the EU, meaning those under the producer commitments.

According to the New ZOGO, new "EPR Register" will be made, and after the adoption of the new Law, within 3-6 months, the EPEEF-FINA[48] contract is planned, in order to introduce a new fee collection system, such as online interface for direct data entry by producers.

By the Ordinance on Packaging and Packaging Waste (OG No. 88/15, 78/16, 116/17, 14/2020) the data reporting from producers and waste companies to EPEEF is prescribed on a monthly basis. On annual basis, the EPEEF delivers aggregated data on packaging put on the market and packaging waste to MESD Institute.

Annual data on packaging and plastic bags[49] are published in annual reports available at MESD Institute webpages.

Latest available report is for 2019, for which the data on packaging put on the market are obtained by an EPR scheme. General estimates are not used to improve the data coverage. It is assessed that the data on packaging put on the market (i.e. packaging waste generated) is underestimated, which could also influence the calculation of recycling rates.

For Croatia, the reported total recycling rate for packaging waste is 6,6 percentage points below the 2025 target of 65 %. The current recycling rate is driven by paper and cardboard packaging recycling, which is the only packaging waste fraction exceeding the target. Croatia has reported a recycling rate of 93,7 % for paper and cardboard that is 18,7 percentage points above the target for paper and cardboard packaging. While this recycling rate seems very high, the established door-to-door collection system for paper and cardboard is likely to contribute to this good performance.

According to the Croatian authorities, waste management operators use specific waste codes for differentiating packaging and non-packaging wastes. If packaging and non-packaging wastes are mixed together, the operator decides the code to be used case-specifically, based on the previous observations on the content of the container and experience. (Ministry of Economy and Sustainable Development, 2021) This kind of approach adds some uncertainty to the reported amounts of recycled packaging if mixed packaging/non-packaging waste is simply recorded as packaging.

More detailed data and results of analysis will be presented in the Report according to Activity D2.2.

[48] FINA – Financial Agency, the leading Croatian provider of financial and electronic services (https://www.fina.hr/en/who-we-are)

[49] http://www.haop.hr/sites/default/files/uploads/dokumenti/021_otpad/Izvjesca/ostalo/OTP_Izvje%C5%A1%C4%87e_ambala%C5%BEni%20otpad_2019_WEB.PDF

CONCLUSIONS

The amended Packaging and Packaging Waste Directive has not yet been fully transposed in Croatian legislative – new Ordinance on Packaging and Packaging Waste is in the process of making.

PPWD Directive sets out new recycling targets in Article 6(1) (f) to (i). Directive also sets out new and clearer calculation rules to account for their attainment. These new calculation rules are set, in particular, in provisions of Article 6a of the PPWD Directive as well as in new Articles 6a to 6d and Article 6f of PPW Decision 2019/665.

There is a need for Croatia to fully apply these new calculation rules from reference year 2020 onwards, for which data must be reported at the latest by 30 June 2022.

From reporting year 2020, new format for reporting on packaging and packaging waste set out in PPW Decision 2019/665, should be respected.

Thus, it is necessary to update data on the amounts of packaging put on the market.

Data on packaging put on the market (i.e. packaging waste generated) is underestimated, which again have an influence on calculated recycling rates.

No estimates are available to assess the effect of an inclusion of the non-reported packaging placed on the market on the recycling rates. Especially the reliability of the paper and cardboard data needs further investigation.

Certain improvements of data are visible through recorded consumption (kg per capita), but in the coming period, activities aimed at further improvements will be implemented through the HRPWD Project (data about small manufactures, further researches, etc.).

Data improvements on packaging put on the market are expected with the implementation of the provisions planned by the new Law on Waste Management (conclusion of the EPEEF-FINA contract, for greater coverage and control of producers which are obligor of the system, and also packaging contaminated with hazardous substances will be included).

Certain data on re-use of plastic products, losses in the recycling process should be collected, in order to support the process of applying the new calculation rules.

Croatia has not yet assessed the impact of the new calculation rules, but the Croatian authorities estimate that the change in the municipal waste recycling rate should not be significant.

Due to the new high recycling targets and revenues calculated on the weight of non-recycled plastic packaging waste as of 2021, there is a need to obtain certain data on collection / recycling costs, market prices for different plastic materials (including data on plastic bags and composite packaging).

In case of data on recycled packaging waste, it is necessary to take into account amounts of collected and recycled packaging waste, which are outside of EPEEF system, and are reported in ROO.

At the moment, there are some inconsistences considering data on municipal waste – report on recycled municipal waste, which is sent to European Commission, also consists of data on

packaging waste which are outside of EPEEF system. This re-calculation should give us certain changes in rates of packaging waste recycling.

Following the adoption of the new Law, new provisions are planned for special categories of waste (rulebook, first provisions for packaging waste)

Due to preparation for non-recycled plastic packaging waste fee, Eurostat uses official data for Croatia for 2018, based on which projection was made for 2021 and 2022.

For 2021, projection of Eurostat for non-recycled plastic packaging waste is 36.286,9 tons (thus, fee would be around 16 mil. EUR, including reduction based on low GDP). Data for 2019, which are not yet sent to Eurostat, are showing uprising trend of 2 percentage points lower than predictions from EC.

All reports delivered to EPEEF on forms AO1-AO10, are manually entered in application "Konto". From there, data can be filtered and shown in different combinations, furthermore it is possible to export them to excel and manually analyse them.

For needs of Gap report, MESD Institute shall define data sets, which EPEEF will export from their application. During data analysis, data sets must be carefully used, because some users deliver quartile, while some users deliver yearly reports, while other does not deliver all reports (reports are connected to OIB[50]).

It is important that data is collected and managed by material type (e.g. PET, HDPE, PP, etc.) to identify individual types of plastics.

Furthermore, it is important to receive data on types of material while packaging data containing hazardous substances is reported – currently, on form AO10, users report only amounts of packaging waste, and not type of material.

In addition, it is important to modify reporting methods for multi-layered (composite) packaging (according to materials). This is implemented through Ordinance on amendments to the Ordinance on packaging and packaging waste (OG 14/20).

Downside of "Konto" application is that data is reported in tons, and in two decimal places. This causes data from "small producers", which are smaller than 0,01 t (10 kg) are shown as 0,00 t, and that data are not calculated in total amount.

It is suggested that mentioned problem should be fixed to enable reporting data in more than two decimal places and/or in format of kg. Further, it is suggested that data reported by small producers should be more accurate, in the means that data delivered directly through AO10 form from small producers, is additionally analysed through HRPWD project.

EPEEF data verification focuses on data related to payments of fees.

[50] The Personal identification number (Croatian: Osobni identifikacijski broj or OIB) is a permanent national identification number of every Croatian citizen and legal persons domiciled in the Republic of Croatia. OIB is determined and assigned by the Tax Administration (Porezna uprava) of the Croatian Ministry of Finance.

Regarding the data on collected beverage packaging in the refund system, they are collected as pieces of packaging collected from consumers, while the amount of packaging delivered to the collector is recorded in both pieces and kilograms.

The latest available EPEEF data contain quantities from the input scales of the processor. Data on losses should be requested from the recycler in order to assess the efficiency of recycling (they are difficult to verify).

Related to the plastic bags, from 2020 the data on plastic bags types put on the market are reported by producer/importer to EPEEF according to the obligation prescribed in the Ordinance on Packaging and Packaging Waste (OG No. 88/15, 78/16, 116/17, 14/2020).

There are no more detailed data on the consumption of bags (number of pieces). The EPEEF was asked to collect data on carrying bags for 2020 as the number of pieces placed on the market (in accordance with the Ordinance), with the mass quantity that it has already submitted by categories for 2018 and 2019.

In the case of packaging waste that is in the system managed by the EPEEF, each entry of eONTO entries shall be marked "F" (Fund), which enables the display and expression of separated quantities collected in the system managed by the Fund. Data on bag processing do not exist (data are kept using a waste catalogue that is not disaggregated in a way to separate plastic bags).

The official data on quantities put on the market available through producer responsibility system are much lower than expected. The improvements are needed to ensure the reliability and accuracy of data on plastic packaging waste (including lightweight plastic carrier bags) additional data on consumption is needed for crosschecking and validation of data obtained by the EPEEF.

3.4. WASTE COMPOSITION ANALYSIS

The Ordinance on methods and conditions of waste disposal, categories and working conditions for landfills (OG 114/15) stipulates that waste disposal in landfills is allowed if the basic characterization of waste for disposal is previously carried out.

Pursuant to the said Ordinance (for waste which is not (mixed) municipal waste) the Disposer is obliged to ensure the taking of representative samples from randomly selected collected waste, the basic characterization of which is based on chemical analysis and performance of controlled chemical analysis as part of the verification of compliance of delivered waste. Furthermore, the Disposer is obliged to ensure that at least one representative sample of waste is taken for every 1 000 tons of the same type of waste taken over by the same holder for which the basic waste characterization has been prepared and the verification of compliance has not been performed. Representative samples are stored for one month. The standards set out in Annex V to the Ordinance on the methods and conditions of waste disposal, categories and working conditions for landfills shall apply to the waste sampling procedure.

As regards (mixed) municipal waste, provider of municipal waste collection service should periodically conduct municipal waste composition analysis. A document "Methodology for determining the composition and quantity of municipal waste"[51] was prepared within the Croatian Environment Agency project implemented in 2015. The document provides guidelines for the temporal and spatial dimensions of determining the composition and quantity of waste. However, it has never been officially recommended by MESD.

Regular analyses of the composition of mixed municipal waste for the purpose of monitoring targets and determining the share of biodegradable component in waste is included in the Measure 1.4.2. of WMPRC 2017-2022 as one of the measures to achive Target 1.4. – To dispose less than 25% municipal waste until year 2022, in comparison to year 2015.

Based on composition of waste and the share of separate collection, competent authorities should be able to monitor the trend of changes in the composition of municipal waste both during seasonal changes and monitor the achievement of quantitative targets for separate collection.

Table 25 Average composition of mixed municipal waste (WMPRC 2017-2022)

Component	Share (%)
Metal	2,1
Wood	1,0
Textile/clothes	3,7
Paper and cardboard	23,2
Glass	3,7
Plastics	22,9
Rubber	0,2
Skin/bones	0,5
Kitchen waste	30,9
Garden waste	5,7
Other waste (soil, dust, sand, undefined)	6,3
Total	100

At the moment, in MESD Institute are available municipal waste composition analysis from 13 cities out of 128 cities and 428 municipalities, which is a share of only 2,34%.

Overview of the available data for three large cities is given in text below.

Overview of the available data for other LGSU and summary overview is given in Annex 3.6.

[51] Document can be downloaded here: http://www.haop.hr/sites/default/files/uploads/dokumenti/021_otpad/Projekti/OTP_PR_Metodologija%20za%20odredivanje%20sustava%20komunalnog%20otpada.pdf

Composition of mixed municipal waste

According to the data of analyses and examinations of the composition of MMW, submitted by the competent Offices / Administrative Departments in LSGUs and/or public service providers, the average share of plastics in MMW in large cities is 16.80%, while this percentage in smaller cities is 19.24%.

Zagreb

According to 2020 analysis, mass percentage of plastics in MMW is 17,02 %. Analysis is given by fraction size:

- Fraction > 100 mm has 38,31 %,
- Fraction 100 > x > 40 mm has 18,9 %,
- Fraction 40 > x > 20 mm has 2,2 % of plastics.

As for non-hazardous industrial waste, it contains 4,57 % plastics, according to size:

- Fraction > 100 mm has 0 %,
- Fraction 100 > x > 40 mm has 11,35 %,
- Fraction 40 > x > 20 mm has 2,69 % of plastics

The share of plastics in the total deposited waste (sum of MMW and industrial) is 15,76 %, according to size:

- Fraction > 100 mm has 32,1 %,
- Fraction 100 > x > 40 mm has 18,31 %,
- Fraction 40 > x > 20 mm has 2,24 % of plastics.

Split

The 2019 analysis is divided into winter and summer cycles, and Plastics is divided into *Plastics* (soft and hard plastics, plastic products and parts) and *Plastic packaging* (soft and hard plastic packaging, e.g. plastic bottles)

Overall, in the winter cycle there is 14,7 mass% of plastic in MMW, of which 8,7 % *Plastics* and 5,9 % of *plastic packaging*.

And, in the summer cycle there is 16,8 mass% of plastic in MMW, of which 0,5 % *Plastics* and 16,3 % of *plastic packaging*.

Considering that paper and plastic are collected separately in the area of the City of Split via "Green islands"[52], sampling and testing of the following separate types of municipal waste were carried out:

- Of the total separated plastic sample in the first cycle (February 2019 – 135,78 kg), the mass% of fraction is 62.35%, while the mass% of impurities is 37,65 %
- Of the total separated plastic sample in the second cycle (June 2019 – 79,7 kg), the mass% of fraction is 55,33 %, while the mass% of impurities is 44,67 %.

[52] „Green island" is public area where containers for separate collection of waste paper, glass, plastic, metal and textiles are located.

By size, in the fraction >100 mm there is 12,7 % (of which 7,69 % of packaging), in the fraction 100> x> 40 mm there is 1,71 % (of which 1,57 % of packaging), in the fraction 40> x> 20 mm is 0,60 % (of which 0,57 % packaging) of the total plastics.

Osijek

For City of Osijek, the latest available mixed municipal waste analysis is from 2013.

Plastics are divided into *small plastics, soft* (soft, foliar, elastic plastics, plastic bags, etc. - 15 01 02 and 20 01 39), *other plastics, hard* (hard plastic packaging for liquid detergents, softeners, bleaches, shampoos, motor oil, toys, plastic beverage spoons, and similar household products - 20 01 39) and *PET* (plastic bottles for juices, mineral water, oil, vinegar, milk, some cleaning and washing agents, etc. - 15 01 02 and 20 01 39).

Overall, 17,58 % is the mass fraction of plastic in MMW, of which 11,62 % is small plastic, soft; 5,8 % other plastics, hard; and 0,16 % PET, or a total of 18,95 % with recalculated trifle.

According to the tests of the composition of trifle, the share of plastic is about 5,4 %.

Composition of separately collected plastic packaging waste (door-to-door)

In 2019/2020, "Analysis of the composition of separately collected recyclable waste as part of the public service for the collection of MMW with an emphasis on packaging waste" was conducted. The study was commissioned by the EPEEF, responsible for organizing the management the Extended Producer Responsibility (EPR) scheme for packaging waste. The purpose of the study was to determine the financial resources required for the separate collection of plastic packaging waste by providers of public collection services for mixed municipal waste and biodegradable municipal waste (municipal companies) through door-to-door and green islands separate collection.

Composition of separately collected plastic waste was analysed for Cities of Zagreb, Slavonski Brod and Koprivnica, and for rural area of Krapina-zagorje County, and afterwards extrapolated on national level. Share of plastic packaging waste, by different plastic material (PET, LDPE, HDPE, etc.) in separately collected plastic waste was determined.

During the HRPWD Project, data will be additionally collected, analysed and presented in the Report under Activity D2.2.

CONCLUSIONS

LSGU and municipal companies should conduct municipal waste composition analysis on regular basis, by using common methodology.

It is necessary to encourage at City of Rijeka and City of Osijek, as two of four biggest cities in Croatia, to update the data on the municipal waste composition. Other two (Zagreb, Split) prepare waste composition analysis on more-or-less regular basis.

It is necessary to encourage other LSGUs and their municipal waste companies, to periodically conduct and update municipal waste composition analysis or mixed municipal waste composition analysis for their territory, and submit such analysis to MESD.

The results of analysis would be useful for assessing the quantities of certain fractions in municipal waste, and thus help in the assessment of effectiveness of measures prescribed in legislation for waste prevention, separate collection, recycling etc.

Having in mind that plastic waste management is priority stream, it would be useful to analyse the composition and share of different plastics materials in municipal waste in more detail (by different material), to be able to plan the necessary infrastructure for plastic waste management, analyse cost-effectiveness of certain measures for plastic packaging, plastic bags and SUP products.

3.5. DATA ON CONSUMPTION - PRODUCTION AND FOREIGN TRADE OF CERTAIN PRODUCTS

Data sources used for this analysis are data, statistical reports and databases prepared and operated by Croatian Bureau of Statistics (CBS) and Eurostat. In this chapter, the availability and quality of data on production and foreign trade for certain products of interest to the Project is described and assessed, related to the needs of this Project.

3.5.1. Legislation

General statistical legislation applied for statistics production and dissemination is Regulation (EC) No 223/2009 of the European Parliament and of the Council on European statistics.

The Council Regulation No. 3924/91 and its implementation act by the Commission, Regulation (EC) No. 912/2004, regulate PRODCOM survey for the preparation of statistics on EU industrial production.

Different legislation applies to statistics on trade between Member States (known as "intra-EU trade statistics" or "Intrastat") and trade between Member States and countries that are not members of the European Union ("extra-EU trade statistics" or "Extrastat").

Foreign trade statistics of goods is regulated:

-for Intrastat: Regulation (EC) No 638/2004 of the European Parliament and of the Council and Implementing Commission Regulation (EC) No 1982/2004

-for Extrastat: Regulation (EC) No 471/2009 of the European Parliament and of the Council; Implementing Commission Regulation (EC) No 92/2010; Implementing Commission Regulation (EC) No 113/2010

Croatian legislation relevant for this topic are Official Statistics Act (OG 25/20), Annual Implementation Plan of Statistical Activities of the Republic of Croatia (e.g. OG 12/20 for 2020), the Customs Administration Act (OG 68/13, 30/14, 115/16, 39/19 and 98/19), Ordinance on Filling in the Single Administrative Document (OG 65/19), etc.

Statistical surveys are conducted according to the methodologies available at webpages of the Croatian Bureau of Statistics (www.dzs.hr) and Eurostat (ec.europa.eu/eurostat).

3.5.2. Data on industrial production

PRODCOM SURVEY

Prodcom survey is the name for the production statistics on EU industrial production.

Prodcom data are collected by the national statistical authorities among enterprises, through statistical survey, together with any other sources or use of estimates, if appropriate.

The Prodcom survey is based on the Prodcom List, which is a list of products, goods and industrial services listed in headings. The PRODCOM List 20191 comprises 3800 compulsory headings, principally used for the compilation of detailed statistics. Prodcom code is linked to NACE Rev. 2[53], which enables the national statistical authorities to use the Business Register to identify the enterprises likely to be manufacturing the product. NACE classification (in Croatia NKD – Nacionalna klasifikacija djelatnosti) is the classification of economic activities that create products.

Observation unit surveyed by the national statistical authority within one country is the enterprise. The survey is conducted by questionnaire, targeted to enterprises having the principal or one of the secondary activity in Sections B and C of NACE Rev.2 nomenclature. The overall national sample of enterprises has to be designed in such a way that it leads to representative results at the level of the national economy. Enterprises are selected from the national business register based on the activity classification.

In the survey, the amount of production of each product in the Prodcom List is recorded. The Prodcom data includes the physical volume of production sold during the survey period and the value of production sold during the survey period. Reported is either Sold Production (the value and volume of the product sold by the enterprise in the reference year, not including any finished products used, or to be used, in further processing by local units of the same enterprise or finished products put on stock for sale later) or Total Production (including both - the proportion that is sold and the proportion that is retained by the enterprise for adding to stocks, using in further processing etc.).

Volumes could be presented in different units of measurement - number of items (p/st), square meters (m^2) or kilograms (kg).

The production for each Prodcom product from all surveyed enterprises in the country is aggregated before the results are sent to Eurostat.

The Prodcom codes normally relate to one or more Combined Nomenclature headings (CN)[54] used for foreign trade statistics, thus enabling foreign trade data to be related to production data. The PRODCOM List 2019 is linked with the Combined Nomenclature (CN 2019) of EU via reference correspondence table provided by EUROSTAT (Ramon server).

Data are on the regular basis sent from national statistical authorities to Eurostat − the Statistical Office of the European Communities, and released on Eurostat web site in the part that are covered by PRODCOM List 2019[55]:

[53] https://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF

[54] https://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=DSP_GLOSSARY_NOM_DTL_VIEW&StrNom=CODED2&StrLanguageCode=EN&IntKey=16436535&RdoSearch=&TxtSearch=&CboTheme=&IntCurrentPage=1

[55] http://ec.europa.eu/eurostat/web/prodcom/data/database.

Data by Croatian Bureau of Statistics

Croatian Bureau of Statistics periodically presents detailed results of statistical surveys in a particular field in various statistical reports.

Data on industrial production statistics for 2019 are derived from annual PRODCOM survey results on industrial production (IND-21/PRODCOM form[56], presented in Annex 3.7) and published in the statistical report entitled „The Industrial Production in 2019“. This report contains the most comprehensive and detailed annual data in the field of the industrial production statistics for the Republic of Croatia. In the report, available are the data on annual production and sale and export of industrial products. Data are presented in volume (kg, m^2, p/st) and value terms. In addition, the review of annual sale and sale value (aggregate data) accomplished in industry according to the NKD (NACE) levels (according to the product activity). Data are also presented by counties.

Within PRODCOM survey in Croatia, all data at the level of individual products (and services) were collected and published on the basis of the Nomenclature of Industrial Products (NIP), derived from the PRODCOM List[57],which was further extended on the national basis. NIP has to be updated at the beginning of each year according to the updating of the PRODCOM list.

NIP 2019[58] is a hierarchically structured, created for measuring the annual industrial production in volume and value terms. It covers all products and services resulting from performing activities of the NKD 2007 sections B, C, D and E (only division 36). The structure of the NIP 2019. corresponds at all levels to that of the NKD 2007 (NACE) and the PRODCOM List 2019. The NIP 2019. could be linked with the Customs Tariff of the Republic of Croatia, 2019. version (CT 2019.), in the same way as the PRODCOM List is linked with the EU Combined Nomenclature (CN 2019).

Reporting units in PRODCOM surveys on industrial production are all trade companies and other legal entities and tradesmen and parts thereof employing 10 and more persons that were engaged in industrial production and/or industrial services (own production or contract work) within B, C, D and E sections (only division 36) of the NKD 2007 (NACE) in an annual reference period.

In order to stay in line with the EU regulations, production intended for further processing in the same or in other legal units of the same enterprise is not considered as their output. Tradesmen are covered by these surveys, while statistical units or parts thereof that are "physically" situated outside the territory of the Republic of Croatia are not. The coverage of reporting and statistical units is defined in the Address Book for PRODCOM, which is annually created and updated by the CBS.

[56] https://www.dzs.hr/Hrv/important/Obrasci/02-Industrija/Obrasci/IND-21_PRODCOM_30_11.doc

[57] https://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM&StrGroupCode=CLASSIFIC&StrLanguageCode=EN&IntFamilyCode=&TxtSearch=prodcom&IntCurrentPage=1

[58] https://www.dzs.hr/Hrv/important/Nomen/Standardi/Nomenklatura%20industrijskih%20proizvoda-NIP2019.pdf

Data sources used in the annual updating of the Address Book are the Register of Business Entities data, other business statistics surveys on industry as well as other available information and data sources.

More information is available in the report or at the www.dzs.hr.

3.5.3. Data on foreign trade

The statistics of trading in goods by the European Union (EU) cover both outward flows from Member States and inward flows into Member States.

In broad terms, outward flows from a Member State to a non-member country are called "exports"; outward flows from one Member state to another are called "dispatches". Inward flows from a non-member country are called "imports"; inward flows from another Member State are called "arrivals".

European ITGS (International trade in goods statistics) are the official harmonised source of information about exports, imports and the trade balances of the EU, its Member States and the euro area. Data is collected on monthly basis.

Eurostat publish the value and quantity of goods traded between the EU Member States (intra-EU trade) and goods traded by the EU Member States with non-EU countries (extra-EU trade).

The Combined Nomenclature (CN) is the primary nomenclature used, as it is the one used by the EU Member States to collect detailed data on their trading of goods. It includes around 9.500 eight-digit codes and is subject to annual revisions that ensure it is kept up to date in the light of changes in technology or patterns of international trade in goods.

It is possible to associate the sub-headings of the CN with the activities or industries indicated in NACE. However, aggregated data on this base could generate confusion. This is because an industry in general makes and trade some products that are the products of other industries.

ITGS is based on two data collection systems: Extrastat and Intrastat.

Extrastat data on trade in goods with non-EU countries are collected by customs authorities and are based on the records of trade transactions in customs declarations. Trade operators fulfilling their reporting obligations to the Customs Authority in a Member State are providing statistical data on the same occasion. The dependence on customs procedures entails to a high quality and nearly total coverage of data on trade with non-EU countries.

Intrastat data do not have direct link to customs procedures and are directly collected from intra-EU trade operators as a consequence of the abolishment of customs formalities at the borders between the EU Member States. Data are collected on a monthly basis. Information on intra-EU trade is collected by the Member States using the various media placed at the disposal of the information providers. These may be paper or electronic declarations provided for at national level. The declarations are addressed directly to the competent national

administrations. Less statistical data elements are collected compared to extra-EU trade. The providers of the statistical information (PSI) are any taxable persons in a Member State carrying out intra-EU trade and being above a certain threshold of annual trade.

COMEXT is the Eurostat reference database for foreign trade. Foreign trade aggregated and detailed statistics disseminated from Eurostat website are compiled from Comext data according to a monthly process.

For the most products, it is possible to obtain the related data from the Comext system, by taking data for all the Combined Nomenclature headings that match one Prodcom heading. Trade data reported by the same country is aggregated for all matching CN headings and for all partners, to obtain single import and export figures for each Prodcom heading.

The prime responsibility for ensuring the accuracy of foreign trade data rests with national authorities, and Eurostat carries out further checks.

Data by Croatian Bureau of Statistics

Croatian Bureau of Statistics statistically processes and disseminates collected Intrastat and Extrastat data as unique information on foreign trade in goods of the Republic of Croatia.

Data on foreign trade in goods are available in the time series published on the website of the CBS under Statistics in Line; Economy – Basic Indicators (data from 2000). Further, data is published in the statistical report „Foreign trade in goods of the Republic of Croatia“[59]. Data are also available in database[60] operated by CBS.

Statistics on foreign trade in goods include all goods exported from or imported into the country.

Data by type of activities have been presented according to the (NACE) NKD 2007. (NACE, Rev. 2). Data are presented using a production approach by which export and import data are reported according to the manufacturing activity from which the product originates.

The data source for statistics on trading in goods with EU Member States is the Intrastat form used by the reporting units to report on arrivals and/or dispatches on a monthly basis, that is, for each month in which goods physically enter or leave the territory of the Republic of Croatia. The reporting units are all business entities, value added tax payers whose value of trading in goods with EU Member States exceeds the exemption threshold determined for the reference year. In order to achieve complete harmonisation with EU methodology and

[59] *Croatian Bureau of Statistics: First Release,Number 4.2.2. FOREIGN TRADE IN GOODS OF THE REPUBLIC OF CROATIA, 2020 (* **ISSN 1330-0350):** https://www.dzs.hr/Hrv_Eng/publication/2020/04-02-02_01_2020.htm

[60] Database: https://www.dzs.hr/PXWeb/Selection.aspx?px_path=Robna%20razmjena%20s%20inozemstvom__u%202018.%20i%202019.%20godini.fld&px_tableid=Region8_HR.px&px_language=hr&px_db=Robna%20razmjena%20s%20inozemstvom&rxid=873d08b0-e1cd-46c0-8402-fd3cf93e1a73

legislation, data on foreign trade in goods have been supplemented with trade value below the exemption threshold after being estimated based on data on supplies and acquisitions of goods in/from EU Member States provided by the Tax Administration Office of the Republic of Croatia. More detailed notes are published on the website of the Croatian Bureau of Statistics[61].

The data source for statistics on trading in goods with third countries, that is, non-EU countries, are Single Administrative Documents on export and import of goods. The CBS receives the reviewed Single Administrative Documents from the Customs Administration of the Republic of Croatia in the form of data records.

All data on import and export are presented in volume and values.

3.5.4. Consumption of certain products

Consumption of certain products of interest for the Project can be calculated by using the *formula*

Consumption = production + imports – exports

Consumption could be calculated by balancing:

-data on produced and sold volumes of products (PRODCOM survey) with

-comparable data on export/import of either the same products/commodities or those aggregated to the level of the same PRODCOM List products (originally foreign trade in goods data aggregated to the CN level of the Customs Tariff).

Generating product (table, report), in which this relationship between data on production and foreign trade is established, is exhaustive and is not done by the CBS. However, on the basis of data provided by CBS and other member states, Eurostat publish tables in which the relationship between the classifications PRODCOM and the CN is established, in order to compare external trade and domestic production of individual goods at a fine level of detail.

This table could be used as a basis for calculation of consumption for certain product.

Data published by EUROSTAT

The Prodcom data is obtained by the national statistical authorities who carries out a survey of industrial production in that country, collates the results and transmits them to Eurostat. (described in chapter 13.1. for Croatia).

The purpose of the statistics is to report, for each product in the Prodcom List, how much has been produced in the reporting country during the reference period. Eurostat calculates EU totals and publishes the national and EU data together with the related external trade data. Complete and detailed statistics for foreign trade are available in Comtext, and the

[61] http://www.dzs.hr/Eng/intrastat/intrastat.htm

data used in PRODCOM are extracted from this database. Estimates are made for missing data to ensure that EU totals can be calculated for all products.

National statistical authorities are required to transmit production data to Eurostat within 6 months of the end of the reference year for annual data (by 30 June). Eurostat first publishes this data in mid-July, two weeks after the deadline.

Statistics on the production of manufactured goods and relate foreign trade are published at Protcom database website[62], in tables:

- Sold production, exports and imports by PRODCOM list (NACE Rev. 2) - annual data (DS-066341)
- Total production by PRODCOM list (NACE Rev. 2) - annual data (DS-066342)
  Full access to detailed statistics on foreign trade in goods is available in Comext database[63], using CN nomenclature.

At Eurostat's classification server RAMON[64], Correspondence table between PRODCOM List 2019 and Combined Nomenclature 2019 could be found. (PRODCOM 2019 - CN 2019)[65]

In aforementioned tables, some codes are described in number of items (p/st), square meters (m^2) or kilograms (kg).

In order to determine common volume unit of measurement, kilograms or tonnes, conversion factors should be applied if data is presented in number of items or square meters. For this purpose, Eurostat publishes table containing conversion factors for each product code.

3.5.5. Data of interest to the project

PRODCOM

PRODCOM/NIP 2019 product codes for **products made of plastic materials** or containing plastic materials (including the products of interest to this Project) are grouped under headings in Table 26 and are presented in detail (eight-digit codes) in Annex 3.8 (Table 1, 2, 3, 4, 5).

This products are mainly listed under heading 20.16 (manufacture of plastics in primary forms) and heading 22.2 (manufacture of plastic products), but some products are also selected from other groups/headings. For example, product code 31031250 (mattresses of cellular plastics) and related CN code 9404 21 90 could make considerable share in municipal bulky waste quantity.

[62] http://ec.europa.eu/eurostat/web/prodcom/data/database
[63] http://epp.eurostat.ec.europa.eu/newxtweb/
[64] https://ec.europa.eu/eurostat/ramon/relations/index.cfm?TargetUrl=LST_REL&StrLanguageCode=EN&IntCurrentPage=15
[65] PRODCOM 2019 - CN 2019

Table 26 PRODCOM/NIP codes /groups on products made of plastic materials and product of interest to the Project

Product headings PRODCOM/NIP 2019	**PRODCOM/NIP heading**	**Relation to CN headings (foreign trade)**	**of interest to the Project**
20.16	*Manufacture of plastics in primary forms*	3901-3914	
22.21	*Manufacture of plastic plates, sheets, tubes and profiles*	3916, 3917, 3920, 3921, 3923	
22.22	***Manufacture of plastic packing goods***	**3923**	PPWD, PBAG, SUP products
22.23	*Manufacture of builders' ware of plastic*	3918, 3922, 3925	
22.29	***Manufacture of other plastic products***	**3919, 3924, 3926,** 6406, 6506, 9405, 9615	SUP products
31031250	***Manufacture of mattresses*** Mattresses of cellular plastics (including with a metal frame) (excluding water-mattresses, pneumatic mattresses)		
13.94	***Manufacture of cordage, rope, twine and netting***	5608	SUP (fishing gear)
32301600	***Manufacture of sports goods*** Fishing rods, other line fishing tackle; articles for hunting or fishing n.e.c.	9507	SUP (fishing gear)
1200	***Manufacture of tobacco products***		SUP (tobacco products-filters)
17221240	**Manufacture of household and sanitary goods and of toilet requisites** Wadding; other articles of wadding		SUP (tobacco products-filters)

Source: PRODCOM/NIP nomenclature

PRODCOM headings for groups of **products of interest for the Project** are marked grey in Table 26. Those are selected headings under:

- 22.22 (manufacture of plastic packing goods) – relevant for plastic packaging and plastic bags, and some SUP products
- 22.29 (manufacture of other plastic goods) – relevant for some SUP products
- 13.94 (manufacture of cordage, rope, twine and netting) and code 32301600 – relevant for SUP fishing gear products
- 12.00 (manufacture of tobacco products / filters) and code 7221240 – relevant for tobacco products with filters and filters separately marketed for use in combination with tobacco products

In Table 27 are eight-digit PRODCOM 2019 / NIP 2019 headings selected to be of interest to the Project. However, during the Project implementation, this Table will be revised according to the results of the surveys and additional data collection.

Table 27 Selected eight-digit PRODCOM 2019 / NIP 2019 headings, of interest to the Project

22.22	**Manufacture of plastic packing goods**	**DIRECTIVE**
22221100	Sacks and bags of polymers of ethylene (including cones)	PPWD, PBAG
22221200	Plastic sacks and bags (including cones) (excluding of polymers of ethylene)	PPWD, PBAG
22221300	Plastic boxes, cases, crates and similar articles for the conveyance or packing of goods	PPWD, SUP

22221450	Plastic carboys, bottles, flasks and similar articles for the conveyance or packing of goods, of a capacity ≤ 2 litres	PPWD, SUP
22221470	Plastic carboys, bottles, flasks and similar articles for the conveyance or packing of goods, of a capacity > 2 litres	PP
22221910	Spools, cops, bobbins and similar supports, of plastics	PPWD, SUP products
22221925	Plastic stoppers, lids, caps, capsules and other closures	PPWD, SUP products
22221950	Articles for the conveyance or packaging of goods, of plastics (excluding boxes, cases, crates and similar articles; sacks and bags, including cones; carboys, bottles, flasks and similar articles; spools, spindles, bobbins and similar supports; stoppers, lids, caps and other closures)	PPWD, SUP products
22.29	**Manufacture of other plastic products**	
22292320	Tableware and kitchenware of plastic	SUP products
22292340	Household articles and toilet articles, of plastics (excluding tableware, kitchenware, baths, shower-baths, washbasins, bidets, lavatory pans, seats and covers, flushing cisterns and similar sanitary ware)	SUP products
1394	**Manufacture of cordage, rope, twine and netting**	**SUP (fishing gear)**
13941233	Made-up fishing nets from twine, cordage or rope of man-made fibres (excluding fish landing nets)	SUP (fishing gear)
13941235	Made-up fishing nets from yarn of man-made fibres (excluding fish landing nets)	SUP (fishing gear)
13941253	Made-up nets from twine, cable or rope of nylon or other polyamides (excluding netting in the piece produced by crochet, hairnets, sports and fishing nets)	SUP (fishing gear)
13941255	Made-up nets of nylon or other polyamides (excluding netting in the piece produced by crochet, hairnets, sports and fishing nets, those made from twine, cable or rope)	SUP (fishing gear)
13941280	Articles of twine, cordage, rope or cables	SUP (fishing gear)
3230	**Manufacture of sports goods**	SUP (fishing gear)
32301600	Fishing rods, other line fishing tackle; articles for hunting or fishing n.e.c.	SUP (fishing gear)
1200	**Manufacture of tobacco products**	SUP (tobacco – filters)
12001130	Cigars, cheroots and cigarillos containing tobacco or mixtures of tobacco and tobacco substitutes (excluding tobacco duty)	SUP (tobacco – filters)
12001150	Cigarettes containing tobacco or mixtures of tobacco and tobacco substitutes (excluding tobacco duty)	SUP (tobacco – filters)
12001170	Cigars; cheroots; cigarillos and cigarettes containing only tobacco substitutes (excluding tobacco duty)	SUP (tobacco – filters)
1722	**Manufacture of household and sanitary goods and of toilet requisites**	SUP (tobacco – filters)
17221240	Wadding; other articles of wadding	SUP (tobacco – filters)

Product code 17221240 (wadding, other articles of wadding) related to CN code 5601229000 (wadding of textile materials and articles thereof – other) is used for imported cigarette filters in Croatia.

Relationship between PRODCOM and CN, products of interest to the project.

CN codes, which are related to the foreign trade (export/import) of products made of plastic materials, are presented in the Annex 3.9. Those are listed mainly under group 39[66] but also under a number of other groups/headings.

Based on Eurostat concordance table, the examples of the relationship between PRODCOM 2019 and CN 2019 for 22.2. are listed in Table 28.

[66] http://ec.europa.eu/eurostat/ramon/documents/cn_2019/CN2019-SITC4.zip

Plastic packaging and plastic bags are covered mainly in group 3923, while SUP products could be find in group 39, but also other CN groups - 3919, 3924, 3926, 6406, 6506, 9405, 9615 or possibly other.

Table 28 Relation between PRODCOM 2019 – CN 2019 for selected products of interest to the Project

PRCCODE	CNCODE
22221100	3923 21 00
22221200	3923 29 10
22221200	3923 29 90
22221300	3923 10 10
22221300	3923 10 90
22221450	3923 30 10
22221470	3923 30 90
22221910	3923 40 10
22221910	3923 40 90
22221925	3923 50 10
22221925	3923 50 90
22221950	3923 90 00
22291010	3926 20 00
22291010	6506 91 00
22292130	3919 10 12
22292130	3919 10 15
22292130	3919 10 19
22292140	3919 10 80
22292240	3919 90 20
22292240	3919 90 80
22292320	3924 10 00
22292340	3924 90 00
22292400	9405 92 00
22292500	3926 10 00
22292610	3926 30 00
22292620	3926 40 00
22292630	3926 90 50
22292910	9615 11 00
22292915	9615 90 00
22292920	6406 20 90
22292950	3926 90 92
22292995	3926 90 97
22299110	Not specified
22299125	Not specified
22299127	Not specified
22299130	Not specified
22299140	Not specified
22299150	Not specified
22299160	Not specified
22299180	Not specified
22299193	Not specified
22299197	Not specified

Products relevant for fishing gear

PRCCODE	CNCODE
13941233	5608 11 20
13941235	5608 11 80
13941253	5608 19 11
13941255	5608 19 19
13941259	5608 19 30
13941259	5608 19 90
13941259	5608 90 00
32301600	9507 10 00
32301600	9507 20 10
32301600	9507 20 90
32301600	9507 30 00
32301600	9507 90 00

Tobacco- filters related products

PRCCODE	CNCODE
12001130	2402 10 00
12001150	2402 20 10
12001150	2402 20 90
12001170	2402 90 00
Filters separately	
17221240	5601 21 90

Source: Eurostat, concordance table 2019

Aligned PRODCOM-CN data for 2019

Detailed data on products of interest to the Project - produced, exported and imported quantities in 2019 – are presented in Annex 3.10.

Data in Annex 3.10 are presented for selected PRODCOM/NIP 2019 headings, listed under:

- 22.22 (manufacture of plastic packing goods) – relevant for plastic packaging and plastic bags, and some SUP products
- 22.29 (manufacture of other plastic goods) - relevant for some SUP products

- 13.94 (manufacture of cordage, rope, twine and netting) and code 32301600 – relevant for SUP fishing gear products
- 12.00 (manufacture of tobacco products / filters) and code 7221240 – relevant for tobacco products with filters and filters separately marketed for use in combination with tobacco products

Summary data are presented in Table 29. Summary data are indicative only, because detailed data for eight-digit codes are reported in different measurement units.

To be able to produce summary table, conversion factors from Table 30 were used.

Table 29 Indicative quantities of production sold, export and import for certain selected PRODCOM2019/NIP2019 headings, of interest for the Project

HEADING	Export (t)	Import (t)	Production (t)	Consumption (t)
heading 20.16	43325,2	289851,6	22797	269323,4
heading 22.21	110.119,50	124.639,50	120.918,00	135438
heading 22.22	35.436,05	44.500,54	58.961,37	68025,86
heading 22.23	4.795,82	22.690,31	65.929,12	83823,61
heading 22.29	7.965,80	27.121,70	8.855,00	28010,9
heading 31031250			1000,215	1000,215
heading 139412	307,2	849,5	235,3	777,6
heading 32301600				
headings 12001130, 12001150	11.580,94	4.796,56	14.228,40	7.444,02
heading 17221240	527,2	1.594,3	1.248,942	2.316,042

Source: Eurostat, http://ec.europa.eu/eurostat/web/prodcom/data/database

Table 30 Conversion factors for unit mass 2021

PRODCOM	CN	Unit	Conversion factor 2021
22221450	3923 30 10	p/st	0,03000
22221470	3923 30 90	p/st	0,593091991
22231155	3918 10 10	m^2	2,5888
22231159	3918 10 90	m^2	3,09060674
22231190	3918 90 00	m^2	2,580129148
22231250	3922 10 00	p/st	not specified by Eurostat (used-45)
22231270	3922 20 00	p/st	not specified by Eurostat (used -45)
22231290	3922 90 00	p/st	not specified by Eurostat (used - 45)
22231450	3925 20 00	p/st	45
22231500	5904 10 00	m2	2,893629891
22292920	6406 20 90	p/st	0,752478206
17221240	5601 22 90	p/st	not specified by Eurostat (used-0,03)
31031250	9404 21 90		not specified by Eurostat (used-45)
12001130	2402 10 00	1000 p/st	1,51069
12001150	2402 20 10	1000 p/st	1,20409

Source: Eurostat, Conversion factors table 2021

Number of local units reporting on industrial production sold, according to NACE 2007 sections

For NACE 22 Manufacture of rubber and plastic products there were 221 local units reporting, out of which 194 (88%) legal entities (value sold is 4636,4 mil. kn or 96,4%) and 27 (12%) tradesmen (value 175,2 mil.kn or 3,6%).

NACE 2007	No. of local units
22.2	205
22.21	36
22.22	51
22.23	105
22.29	48

3.5.6. Conclusions and recommendations

Prodcom statistics relate to products (not to activities) and are therefore not strictly comparable with activity-based statistics such as Structural Business Statistics. **The NACE codes on which Prodcom codes are based merely serve to identify the enterprises that should be surveyed**.
Alignment of production and foreign trade data (consumption calculation) The national PRODCOM survey is designed to provide detailed information about national industrial production, to allow alignment with foreign trade statistics (based on Customs Tariff data on exports/imports of goods) and, in that way, to make the comparison of national and international markets possible at a detailed level of products/goods. Such approach allows the calculation of the apparent consumption. It is important to understand that European statistics, which cover the EU as a whole, and the statistics published by the Member States, are not always directly comparable, or there could be at least some minor differences in published data. For that reason, it is **necessary to understand which of two data sources is used in the presentation or calculation of data – CBS or Eurostat**.
Conducting comparison between PRODCOM and foreign trade data, in order to provide base data for consumption calculation is exhaustive and for that reason the Croatian Bureau of Statistics does not perform it. However, Eurostat publish tables prepared based on concordance table between EU PRODCOM List and the EU Combined Nomenclature (CN)). **In order to calculate consumption for certain products of interest to the Project, Eurostat should be used as a source.**
Double counting Prodcom differs from external trade statistics in that the latter can be thought of as event-based: each time a product crosses a border it is registered as a 'trade', and if the same product crosses borders several times, it is recorded as several trades. On the other hand, a product is never produced more than once. **It is important to avoid double counting, since this inflates the reported quantity of the product produced**.
Units of measurement Data on production and trade are presented in volume – this could mean in kilograms, square meters or number of items. For the possibility to aggregate data, Eurostat publishes table containing conversion factors for the product level. **In order to have common unit of**

measurement, kilograms or tonnes, for some products conversion factors should be applied.
Data quality Aligning the trade and production data together enables to calculate apparent consumption, defined as production + imports – exports. Occasionally the result of this calculation is negative. In reality, this is not possible, so the **presence of a negative result in calculating the consumption** indicates a problem with either the production or foreign trade figures.
Data quality **In case that some** national data are unavailable, Eurostat has introduced a system of **estimating missing data** so that affected EU totals can be calculated and published. Reporting countries have a major **difficulty in identifying all the enterprises that produce a product**. Although they can use the Business Register to find enterprises whose primary or secondary activities are linked to the product being surveyed, they can never be sure that they have identified all producers of the product. In addition, in order to reduce the burden on small enterprises, the Prodcom Regulation states that national statistics authorities are not required to survey enterprises with less than 20 employees (CBS uses threshold of 10 employees). This means that **it is impossible to know if 100% coverage of the product is achieved, or what percentage coverage is achieved**. **Statistics may suffer from late or non-response from the units liable to statistical reporting.** **Non-response** results from a failure to collect complete information on all units in the selected sample. There are two types of non-response. Firstly, a sampled unit that is contacted may fail to respond; this is called "*unit non-response*". Secondly, the sampled unit may respond incompletely to the questionnaire; this is called "*item non-response*". Those could be adjusted by imputation methods, auxiliary information or estimation methods. **Errors** are caused mainly because of erroneous information on the products produced by an enterprise. Main errors are reporting wrong industrial product codes, wrong measurement unit or wrong conversion from one measurement unit to another.
Data quality In order to ensure quality data, **CBS and Eurostat apply several plausibility checks**. Member States apply a number of micro and macro plausibility checks at different aggregation levels, between historic and current data and with other sources. Eurostat applies its own data checks by comparing unit values across countries and comparing historical and current data, and with additional checks. Eurostat consults the CBS in case of errors or anomalies. Plausibility checks include logical checks (e.g. based on the experience and information about the individual unit and the economic branch concerned), coherence checks between monthly/annual data, checks with foreign trade data, etc.
Due to tight deadlines for reporting, full data could not be published until about one year after the end of the reference period.

Data confidentiality Regulation (EC) No 223/2009 on European statistics[67], Article 20(4), stipulates the need to establish common principles and guidelines ensuring the confidentiality of data used for the production of statistics. A set of rules is applied to ensure that no aggregates containing confidential data are published if this would allow a user to derive the national confidential data. For those aggregates that are unsafe to publish according to these rules, Eurostat applies rounding, so that an approximate value within a range can be published without revealing the confidential national data included in the aggregate. As a general definition, data used by national and EU authorities for producing statistics are considered confidential if statistical units can be identified, either directly or indirectly, and information about individuals or businesses is disclosed as a result. **Therefore, some data has to be suppressed due to confidentiality, reducing the value of the statistics**. Due to data confidentiality principle prescribed in statistical legislation, **data on the level of statistical units could not be obtained from CBS by other national authority.** This means that the Ministry competent for monitoring the data under 3 directives **could not be able to perform quality data analysis if only this data source is used**. Identification of companies not reporting data or nor proper data validation could not be performed. Further, due to data confidentiality, **lower levels of the NKD 2007 would not be available**.
Data needs for 3 directives **Comparison between products monitored under 3 directive and PRODCOM/NIP list could fully function only for some selected products. For most of the products, PRODCOM data could only be seen as an additional data to be used in validation procedures, for crosschecking.** **In addition, PRODCOM data could be used in cases where there better data does not exist for time being, until legislation base for monitoring of the consumption for some products is established or statistical survey is done.**
For packaging waste (bottles) and for plastic bags data, there is no need to use this data source, because there is an official EPR system operated by the EPEEF which could provide more detailed and more quality data used for official monitoring and reporting. However, this data source **could be used for data crosscheck purposes**, in order to improve data validation process.
For monitoring of certain SUP products, data for some of the product categories could be calculated by using this data source and produce quality results on consumption. For separately sold **filters that are used in combination with tobacco products** (e.g. that are sold separately from cigarettes), this data source could be used, also for **fishing gear** consumption (until better data are produced – by survey or estimation method).

[67] https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:087:0164:0173:En:PDF

3.6. OTHER DATA SOURCES

Potential new data sources for certain SUP products, which will be explored in more detail in further Project activities are:

- MESD Sector competent for water and sea protection – coordinates implementation of activities conducted by Institute of Oceanography and Fisheries Split, acting as National Referent Centre for Sea protection. IOR is coordinating measuring marine litter and waste at beaches according to the annual programme. Report and data are given in Annex 3.11.
- CEA (SUP bottles – covered by existing EPR, data on recycled content in products is available. Problems are not expected in relation to SUP reporting-data delivery. For other products and packaging, problems might occur)
- CEA (tobacco) - certain data is provided, related to the quantities of cigarettes put on the market. Quantities of filters sold separately is not available (companies importing are not known). There is a study in preparation, which will offer the data on the share of filters in products and in waste (measured on beaches).
- CCE Association of food industry- data on SUP products – to be covered by survey.
- Ministry of Agriculture (fishing gear) – there are around 3000 commercial fisherman and around 3.000 coastal small fisherman registered in database.
  Fishermans are obligated to keep the data on fishing activities. In electronic registers (not all fisherman, but only the biggest are obligated to use electronic register) there are some new data on fishing gear damage or loss. There are some other forms prescribed in legislation relevant for fishery where the data on fishing gear is requested. However, these are new requests, many vessels does not report or does not have the obligation to report.
  Fishing gear are sometimes bought, but more often repaired in fishery sector, which would be the problem in data collection.
  There could be a recommendation to introduce new attributes on fishing gear loss or other necessary data, in annual reports which fishermans are obligated to send to Ministry of Agriculture.
  Fishing inspection could be able to provide data on ghost-fishing (illegal fishermans working with illegal fishing gear, which remain in sea as waste).
  Potential data could be requested from official ports used by fishermans (around 250).
- Project DeFishGear[68]
- Other institutions, literature, projects, etc.

  Additional data will be collected in further activities and presented in Report under Activity D.2

[68] https://acta.izor.hr/wp/en/activities/international-cooperation-and-projects/defishgear-project/

CONCLUSIONS

In previous chapters, datasources were described, which could ensure data or be used in data validation for packaging waste, plastic bags and SUP products which are already covered by extended producer responsibility system.

For the SUP products which are already covered by existing EPR scheme (bottles, plastic bags,..) the request for additional new data needed for reporting shall be resolved by extending the existing data collection forms prescribed on the basis of PPWD, PBAG Directive and national Ordinance on packaging and packaging waste.

For SUP products, for which new EPR scheme are to be developed in the following period (e.g. fishing gear), there is no monitoring at present, and the data on consumption are not known. In addition, due to inadequate waste codes in LoW, the monitoring of collected and recycled quantities of waste is difficult. Until new monitoring elements are prescribed and implemented, the first collection of data could be done by estimations on the basis of existing data on production and foreign trade, waste composition analysis, additional surveys (some of which could be done within this Project), from literature or other sources.

Such approach could be applied also for the third group of SUP products, for which is not foreseen to develop EPR scheme in the future.

Conclusions for SUP

SUP Directive is transposed in new Act on Waste Management, adopted in July 2021, but in the following period is expected:

- Defining and adoption of new detailed provisions in national legislation, for implementation of SUP Directive measures

- Assigning competencies and methods for monitoring and data collection on the consumption of certain SUP products, as well as separate collection and recycling of waste arising from these SUP products.

- For the needs of Gap analysis and further project activities, the MESD Institute will define the necessary data sets, harmonize the classification of plastics by materials, collect and analyse data on production, import and export of products.

- For quality data processing, the sources for collecting relevant data, e.g. data from competent institutions, as well as data reported by producers, should be carefully considered and defined. In addition, the MESD Institute will work on adapting Eurostat's methodological guidelines for the preparation of the necessary formats and content for future monitoring.

- After defining the data sets, the MESD Institute will prepare a proposal for a structured survey questionnaire focused on targeted SUP products, with attached specific instructions in accordance with the new European Commission Guidelines on SUP products.

The Institute will consider the proposal of the CCE for the development of various survey questionnaires that would include only data relevant to a particular sector (e.g. especially for the food industry, for the chemical industry, etc.).

- It is necessary to take care that the survey questionnaire covers the current situation, but also future obligations and plans (e.g. material replacements, eco-design, etc.). In addition, to include in the survey questionnaire additional questions that are useful to the MESD Institute in future monitoring and analysis of data (e.g. the share of recyclables in the product).

- It is important to collect and keep data by type of material (e.g. separately for PET, HDPE, PP, etc.) in order to identify certain types of plastic.

- Identification of companies is done according to the main NACE (NKD) activity, which does not fully cover all relevant companies

Given the large number of members and the possible low response of smaller members in the participation or submission of data, it would be good to assess the market share of large members. It should primarily include those members that make up the primacy of the market in accordance with the share.

The Association of the Food Processing Industry of the CCE has about 2,000 members and is the most interesting association of the CCE in terms of the use of SUP products.

Some potential issues, which are important for avoiding data gaps in the future, are:

- if not covered by EPR system, the need for possible modifications of the (national) List of waste in order to introduce additional waste codes for SUP items should be considered

Possible gaps to be filled:

- Share of SUP/non-SUP food containers put on the market.
- Data on the consumption of tobacco product filters containing plastics, its share in municipal waste and waste that is subject to litter clean-up activities (from beaches).
- For fishing gear, which contains plastics, there is a need to identify potential subjects for participation in the future producer responsibility scheme, and quantities put on the market.

MESD should work on information dissemination on the topic, by using all possible channels (e.g. conferences).

4. RESULTS, CONCLUSIONS AND RECOMMENDATIONS

To improve our knowledge on plastic products and plastic waste generation and management, there is a need to adapt and modify data collection system and waste information system in accordance with the requests set in three directives. There is a need to organize collection of certain new data, as well as to work on improvement of the quality of existing data. This shall be done in order to monitor implementation of three directives at national level in a way that the harmonization of methods and comparability of data is ensured at EU level, and the data quality is improved. Therefore, the HRPWD Project activities should contribute to the implementation of European Statistical Programme.

Short effects of the project would be visible in improvements of data on plastic products, waste and waste management. This would further contribute to the ability to better evaluate implementation and effectiveness of certain measures, and to adjust waste management plan and other strategic documents accordingly. This should in the long-term lead to improvements in production and consumption patterns and waste management practices.

Project results will mainly be used by the MESD in order to evaluate the present situation and formulate adequate measures in strategic documents and legislation acts.

Project results will also be of use to other competent bodies responsible for policies related to production, distribution and use of the certain plastic products, as well as companies involved in production, distribution and use of these products.

Waste management collectors and waste treatment companies, expert institutions and other stakeholders could also benefit from the project.

***

For packaging waste recycling, there is a need for Croatia to fully apply new calculation rules from reference year 2020 onwards, for which data must be reported electronically, within 18 months of the end of reporting year for which the data are collected, or at the latest by 30 June 2022 for year 2020. From reporting year 2020, new format for reporting on packaging and packaging waste set out in PPW Decision 2019/665, should be respected.

In the process of calculation and reporting on annual lightweight plastic carrier bag consumption data for the purpose of monitoring their performance against the reduction requirement of Directive (EU) 2015/720, there is a need to ensure that the dataset is drawn from sources that represent the fullest possible coverage and representation of the consumption of lightweight plastic carrier bags within the territory. There is a possibility to choose one of four reporting methods, in order to present data on bags consumed, regardless of the exemptions or reduction measures that are implemented at national level.

SUP Directive is transposed in new Act on Waste Management, adopted in July 2021. In the following period, it is foreseen to define and regulate methodology for monitoring, data collection and reporting provisions in national legislation. This process will be influenced by the dynamics of adoption of new implementing acts by European Commission by which the details on reporting formats will be prescribed.

***

In this Gap Report, latest available data and data required by PPWD directive, SUP directive and PBAG Directive were analysed. The goal was to assess the availability of data for reporting, compliance with new reporting formats and calculation rules, to determine gaps, non-compliance issues and to assess needs for new datasets, primarily related to SUP directive.

The analysis was based on the various available data sources: administrative reporting data, electronic registers and databases contained in Waste management information system, extended producer responsibility scheme (EPR) data on product placed on the market, waste composition analysis, production and foreign trade statistics and other.

Selected waste types (by LoW codes) categorized as Plastic waste, and other waste codes of interest, were analysed in each of the databases contained in Waste Management Information System. Those are administrative data collected under obligations prescribed in Act on Sustainable Waste Management (ZOGO) and related by-laws, contained in databases and registers such as EPR scheme database, Environmental Pollution Register (ROO) database, Waste Management Permit Register, e-ONTO database, etc.

Waste management permits could provide valuable overview on stakeholders, which participate in management of plastic waste, technological processes and operations applied at the location where plastic waste is managed, etc. Sometimes there is lack of consistency in the permits and understanding weather the R/D operation assigned should be counted as final or non-final. Also is often difficult to understand the total capacity of the waste storage or waste treatment. The database is outdated; therefore, the data processing is time-consuming.

ROO database contains comprehensive annual data on waste generation, collection and treatment, by waste code (LoW) and by R/D treatment operation, but unfortunately not on different plastic materials. If packaging and non-packaging wastes are mixed together, the operator decides the code to be used case-specifically, based on the previous observations on the content of the container and experience. Further, in cases of to multiple phases of waste management, it is complicated to trace waste streams.

For possible future option to collect data on different plastic materials, changes in Waste catalogue could be introduced to distinguish types of polymers. This could be done by expanding Waste Catalogue to contain subnumbers under waste code 15 01 02. Also, in order to recognize certain new waste categories (such as marine litter needed for SUP Directive monitoring), there is a possibility to expand Waste Catalogue with new waste code(s) or to add subnumbers (under 20 01 39 or 20 01 99). This should be implemented in eONTO and ROO applications, as well as other databases relying on Waste Catalogue.

Adjustment of forms to enable easier application of new calculation rules are to be considered, such as provision of data on effectiveness of the recycling process, data on losses and impurities, data on products derived from waste, outputs from sorting plants, etc. This should be ensured by amending the Ordinance on ROO to respond to new requirements.

Similar conclusions and recommendations could be applied for other databases or applications described in this report (eONTO, IRDJU…).

Waste statistics prepared for reporting on Waste Statistics Regulation provide an insight into the economic activities (NACE) that generate the most plastic. Those data can be used for the purpose of this project for better understanding from where most of the plastic waste comes from and closely observe that sector.

MINGOR databases ensure quality data on quantities and flows for separately collected and treated plastic waste, by waste codes (LoW / EWC) categorized as Plastic waste. However, other waste codes could also contain plastic in certain share. In Croatia, there is a large share of plastic waste being captured in mixed waste types, in particular mixed municipal waste (EWC 20 03 01). It is important to determine quantity of this share, by analysing available data on (mixed) municipal waste composition, from municipal companies or Local self-government units (LSGU), where available.

At present, Croatian national legislation and data collection system does not enable waste data breakdown on different types of polymers (except PET, for which the data is available in EPR database). This is important request, to be taken into account in preparation of future data collection methodologies, forms, and surveys.

In addition, there is a need for companies to be informed and educated on the new rules on calculating recycling, classification and transboundary movements of plastic waste.

For the above reasons, MINGOR databases are not sufficient to be used directly for reporting under 3 Directives, but could mainly be used for validation procedures and for crosschecks.

As to the waste prevention – for citizens, general measures directed to municipal waste prevention could be adequate, but more examples of good practice, projects and activities focused on plastic waste prevention in industry should be collected and uploaded at the Waste Prevention Portal. This includes the information on use of two possible instruments to declare by-product or end-of-waste status for materials that usually was waste.

Data on products put on the market for packaging and plastic bags were obtained from Extended producer responsibility **(EPR) scheme** operated by Environmental Protection and Energy Efficiency Fund.

Although certain improvements of data are visible, data on packaging put on the market (i.e. packaging waste generated) are lower than expected, which again have an influence on calculated recycling rates. No estimates are available to assess the effect of an inclusion of the non-reported packaging placed on the market on the recycling rates. Especially the reliability of the paper and cardboard data needs further investigation.

It is necessary to take into account amounts of collected and recycled packaging waste, which are outside of EPEEF system, and are reported in ROO.

Larger coverage and control of producers (by EPEEF and by inspection) should be ensured within the EPR system, as well as inclusion of packaging contaminated with hazardous substances. Data on re-use of plastic products, data on losses in the recycling process should also be collected.

All reports delivered to EPEEF on forms AO1-AO10, are manually entered in application "Konto", which could be used for further analysis, however with caution, because some users deliver quartile and some deliver annual reports.

For future reporting, it would be important to adjust application "Konto" to collection of data by material type to identify individual types of plastic, to enable new reporting method for multi-layered (composite) packaging. It should also correctly process data from small producers (smaller than 10 kg) which, at present, is not calculated in total amount.

Further, measure of units – pieces or kilograms – used for reporting of collected beverage packaging in the refund system should be taken into account in further analysis.

For plastic bags, there are no detailed data on the consumption of bags – number of pieces. Treatment of plastic bags could also not be recognized in the eONTO or ROO application, due to limitations of Waste catalogue. For bags, the official data on quantities put on the market available through producer responsibility system are lower than expected. The improvements are needed to ensure the reliability and accuracy of data on plastic packaging waste (including lightweight plastic carrier bags) additional data on consumption is needed for crosschecking and validation of data obtained by the EPEEF.

All Croatian classifications and nomenclatures for products, waste or economic activities, which are used in administrative data collection and surveys relevant for Project activities, are fully compliant with classifications and nomenclatures used at European level (NACE (NKD), List of Waste (Waste Catalogue), recovery R / disposal D operation list, CN Combined nomenclature, PRODCOM (NIP)).

Municipal waste composition analysis should be conducted by LSGU and municipal companies on regular basis, by using common methodology.

It is necessary to encourage biggest cities in Croatia, to update the data on the municipal waste composition on regular basis (for example, Zagreb prepares waste composition analysis on annual basis).

Other LSGUs and their municipal waste companies should also periodically conduct and update municipal waste composition analysis or mixed municipal waste composition analysis for their territory, and submit such analysis to MESD.

The results of analysis should be used to assess quantities of certain fractions in municipal waste, and thus help in the assessment of effectiveness of measures prescribed in legislation for waste prevention, separate collection, recycling etc.

Having in mind that plastic waste management is priority stream, it would be useful to analyse the composition and share of different plastics materials in municipal waste in more detail (by different material), to be able to plan the necessary infrastructure for plastic waste management, analyse cost-effectiveness of certain measures for plastic packaging, plastic bags and SUP products.

Data on production and foreign trade were obtained from the reports and databases operated by CBS and Eurostat. Data from those two sources are not always directly comparable, or there could be at least some minor differences in published data.

Conducting comparison between PRODCOM and foreign trade data, in order to provide base data for consumption calculation (production + imports– exports) is exhaustive and for that reason, the CBS does not perform it. However, Eurostat publishes tables prepared based on concordance table between EU PRODCOM List and the EU Combined Nomenclature (CN).

There are a number of problems, which could occur in using this methodology:

- Data confidentiality - Data used for producing statistics are considered confidential if statistical units can be identified, either directly or indirectly, and information about individuals or businesses is disclosed as a result. Data on the level of statistical units could not be obtained from CBS, which means that the officer monitoring the data under 3 directives could not be able to perform detailed quality data analysis.

- Identification of products, which are of interest – nomenclatures however does not enable identification of most SUP or packaging products of interest

- Identification of enterprises that produce a certain product - it is difficult to identify all the enterprises that produce a certain product in Business Register. In addition, there is a threshold for small enterprises, which are not required to participate in survey.

- Data are presented in different units of measurement - kilograms, square meters or number of items. In order to have common unit of measurement to aggregate data, conversion factors should be applied for some products

- For those enterprises, which participate in the survey, there is always a question of non-response or low quality of received data.

To conclude, comparison between products monitored under 3 directive and PRODCOM/NIP list could fully function only for some selected products. For most of the products, PRODCOM data could only be seen as an additional data to be used in validation procedures, for crosschecking aggregated data.

PRODCOM data could be used in cases where there better data does not yet exist - until legislation base for monitoring of the consumption for some products is established or statistical survey is done.

For packaging waste (bottles) and for plastic bags data, there is no need to use this data source, because there is an official EPR system operated by the EPEEF which could provide more detailed and more quality data used for official monitoring and reporting. However, this data source could be used for data crosscheck purposes, in order to improve data validation process.

For monitoring of certain SUP products, data for some of the product categories could be calculated by using this data source and produce quality results on consumption.

For separately sold filters that are used in combination with tobacco products (e.g. that are sold separately from cigarettes), this data source could be used, also for fishing gear consumption (until better data are produced – by survey or estimation method).

Other data and information, which could be used for the HRPWD project or information, were obtained or will be obtained and analysed from other sources, taken from web pages or obtained based on interviews with relevant officials. Those sources are other MESD units, Croatian Chamber of Economy, Croatian Employers' Association, Ministry of Agriculture, Institute of Oceanography and Fisheries, LSGU.

* * *

In previous chapters were described datasources which contain data (or at least could be used in data validation process) for packaging waste, plastic bags and those SUP products which are already covered by extended producer responsibility (EPR) scheme.

For those SUP products which are already covered by existing EPR scheme (bottles, plastic bags,..) the request for additional new data needed for reporting shall be resolved by extending the existing data collection forms prescribed on the basis of PPWD, PBAG Directive, transposed in national Waste Act and Ordinance on packaging and packaging waste.

For those specific SUP products for which new EPR scheme are to be developed in the following period (e.g. fishing gear), there is no monitoring at present and the data on consumption are not known. In addition, due to inadequate waste codes in LoW, the monitoring of collected and recycled quantities of waste is difficult. Until new monitoring elements are prescribed and implemented, the first collection of data could be done by estimations on the basis of existing data on production and foreign trade, waste composition analysis, additional surveys (some of which could be done within this Project), from literature or other sources.

Such approach could be applied also for the third group of SUP products, for which is not foreseen to develop EPR scheme in the future.

In the continuation of the Project, all above sources will be used in order to achieve the objective and produce results under the HRPWD Project.

5. ANNEXES

Annex 2.1 – Annex to the Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment

Annex 3.1 – Example of form SO-1

Annex 3.2 – Example of form OZO

Annex 3.3 – Summarised data from OZO forms for Republic of Croatia and for import, for year 2019

Annex 3.4 – Quantities of treated waste according to the recovery and disposal procedures

Annex 3.5. – Waste categories containing plastic waste and entering in the recovery procedures, for year 2020 (MESD, 2021)

Annex 3.6 – Overview of data on MMW composition by certain LSGU

Annex 3.7 – PRODCOM form for research on industrial production

Annex 3.8 – PRODCOM/NIP codes on products made of plastic materials and products of interest to the Project

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Annex 3.10 – Sold production, exports and imports by PRODCOM list (NACE Rev. 2) – 2019 annual data (DS-066341)

Annex 3.11 – Report on marine waste in middle and south part of Croatian Adriatic coast

6. LITERATURE

- Act on Sustainable Waste Management (OG 94/13, 73/17, 14/19, 98/19)
- Act on Waste Management (OG 84/21)
- COMMISSION DECISION of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste no. 2000/532/EC (OJ L 226 , 06.09.2000)
- COMMISSION DELEGATED REGULATION (EU) 2020/2174 of 19 October 2020 amending Annexes IC, III, IIIA, IV, V, VII and VIII to Regulation (EC) No 1013/2006 of the European Parliament and of the Council on shipments of waste (OJ L 433, 22.12.2020)
- COMMISSION REGULATION (EC) No. 1418/2007 of 29 November 2007 concerning the export for recovery of certain waste listed in Annex III or IIIA to Regulation (EC) No. 1013/2006 of the European Parliament and of the Council to certain countries to which the OECD Decision on the control of transboundary movements of wastes does not apply (OJ L 316, 4.12.2007)
- COMMISSION IMPLEMENTING DECISION 2005/270/EC as amended by Implementing Decision (EU) 2019/665 establishing the formats relating to the database system pursuant to European Parliament and Council Directive 94/62/EC on packaging and packaging waste
- 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)
- Criminal Act (OG NN 125/11, 144/12, 56/15, 61/15, 101/17, 118/18, 126/19, 84/21)
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- Directive (EU) 2015/720 of the European Parliament and of the Council of 29 April 2015 amending Directive 94/62/EC as regards reducing the consumption of lightweight plastic carrier bags
- DIRECTIVE 94/62/EC of European Parliament and Council of 20 December 1994 on packaging and packaging waste
- DIRECTIVE (EC) 2019/904 on the reduction of the impact of certain plastic products on the environment
- DIRECTIVE 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directive
- Eur-Lex, Explanatory notes to the Combined Nomenclature (CN) of the EU: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.C_.2019.119.01.0001.01.ENG&toc=OJ%3AC%3A2019%3A119%3AFULL
- Eurostat: Database on PRODCOM 2019: http://ec.europa.eu/eurostat/web/prodcom/data/database
- Eurostat: Metadata/methodology for Industrial production https://ec.europa.eu/eurostat/cache/metadata/en/prom_esms.htm#contact1609757517094
- Eurostat: Metadata/methodology for International trade in goods statistics (ITGS): https://ec.europa.eu/eurostat/cache/metadata/en/ext_go_agg_esms.htm
- Eurostat (Ramon server), Combined Nomenclature (CN): https://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM&StrGroupCode=CLASSIFIC&StrLanguageCode=EN&IntFamilyCode=&TxtSearch=prodcom&IntCurrentPage=1
- Eurostat (Ramon server), PRODCOM Nomenclature: https://www.dzs.hr/Hrv/important/Nomen/Standardi/Nomenklatura%20industrijskih%20proizvoda-NIP2019.pdf
- Explanatory notes to the Combined Nomenclature of the European Union, OJ C 119, 29.3.2019, p. 1–422: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.C_.2019.119.01.0001.01.ENG&toc=OJ%3AC%3A2019%3A119%3AFULL
- Manual of Waste Statistics, https://ec.europa.eu/eurostat/documents/3859598/5926045/KS-RA-13-015-EN.PDF.pdf/055ad62c-347b-4315-9faa-0a1ebcb1313e?t=1414782620000
- Methodology for determining the composition and quantities of municipal or mixed municipal waste with the Instruction for ordering and implementation of determining the average composition of municipal or mixed municipal waste (CEAN, 2015)
- Municipal Waste Report for year 2019 (MESD Institute, 2020)
- Ordinance on methods and conditions of waste disposal, categories and working conditions for landfills (OG 114/15)
- Ordinance on Waste Catalogue (OG 90/15, Art. 5.); Waste Management Act (OG 84/21)

- REGULATION (EC) No. 1013/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 June 2006 on shipments of waste (OJ L 190, 12. 7. 2006.)
- Report on the work of the public service provider for year 2019 (MESD Institute, 2020)
- Report on Transboundary movements of Waste in the year 2019, http://www.haop.hr/sites/default/files/uploads/dokumenti/021_otpad/Izvjesca/ostalo/OTP_Izvje%C5%A1%C4%87e%20o%20prekograni%C4%8Dnom%20prometu%20otpada%202019%20web.pdf
- Waste Management Plan of the Republic of Croatia for the period 2017-2022 (OG 3/2017)

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PART A

Single-use plastic products covered by Article 4 on consumption reduction

(1) Cups for beverages, including their covers and lids;

(2) Food containers, i.e. receptacles such as boxes, with or without a cover, used to contain food which:

(a) is intended for immediate consumption, either on-the-spot or take-away,
(b) is typically consumed from the receptacle, and
(c) is ready to be consumed without any further preparation, such as cooking, boiling or heating, including food containers used for fast food or other meal ready for immediate consumption, except beverage containers, plates and packets and wrappers containing food.

PART B

Single-use plastic products covered by Article 5 on restrictions on placing on the market

(1) Cotton bud sticks, except if they fall within the scope of Council Directive 90/385/EEC ([1]) or Council Directive 93/42/EEC ([2]);

(2) Cutlery (forks, knives, spoons chopsticks);

(3) Plates;

(4) Straws, except if they fall within the scope of Directive 90/385/EEC or Directive 93/42/EEC;

(5) Beverage stirrers;

(6) Sticks to be attached to and to support balloons, except balloons for industrial or other professional uses and applications that are not distributed to consumers, including the mechanisms of such sticks;

(7) Food containers made of expanded polystyrene, i.e. receptacles such as boxes, with or without a cover, used to contain food which:
(a) is intended for immediate consumption, either on-the-spot or take-away,
(b) is typically consumed from the receptacle, and
(c) is ready to be consumed without any further preparation, such as cooking, boiling or heating, including food containers used for fast food or other meal ready for immediate consumption, except beverage containers, plates and packets and wrappers containing food;

(8) Beverage containers made of expanded polystyrene, including their caps and lids;

(9) Cups for beverages made of expanded polystyrene, including their covers and lids.

([1]) Council Directive 90/385/EEC of 20 June 1990 on the approximation of the laws of the Member States relating to active implantable medical devices (OJ L 189, 20.7.1990, p. 17).
([2]) Council Directive 93/42/EEC of 14 June 1993 concerning medical devices (OJ L 169, 12.7.1993, p. 1).

PART C

Single-use plastic products covered by Article 6(1) to (4) on product requirements

Beverage containers with a capacity of up to three liters, i.e. receptacles used to contain liquid, such as beverage bottles including their caps and lids and composite beverage packaging including their caps and lids, but not:

(a) glass or metal beverage containers that have caps and lids made from plastic,
(b) beverage containers intended and used for food for special medical purposes as defined in point (g) of Article 2 of Regulation (EU) No 609/2013 of the European Parliament and of the Council ([3]) that is in liquid form.

PART D

Single-use plastic products covered by Article 7 on marking requirements

(1) Sanitary towels (pads), tampons and tampon applicators;

(2) Wet wipes, i.e. pre-wetted personal care and domestic wipes;

(3) Tobacco products with filters and filters marketed for use in combination with tobacco products; (4) Cups for beverages.

PART E

I. Single-use plastic products covered by Article 8(2) on extended producer responsibility

(1) Food containers, i.e. receptacles such as boxes, with or without a cover, used to contain food which:
(a) is intended for immediate consumption, either on-the-spot or take-away,
(b) is typically consumed from the receptacle, and
(c) is ready to be consumed without any further preparation, such as cooking, boiling or heating, including food containers used for fast food or other meal ready for immediate consumption, except beverage containers, plates and packets and wrappers containing food;
(2) Packets and wrappers made from flexible material containing food that is intended for immediate consumption from the packet or wrapper without any further preparation;

(3) Beverage containers with a capacity of up to three litres, i.e. receptacles used to contain liquid such as beverage bottles including their caps and lids and composite beverage packaging including their caps and lids, but not glass or metal beverage containers that have caps and lids made from plastic;

(4) Cups for beverages, including their covers and lids;

(5) Lightweight plastic carrier bags as defined in point 1c of Article 3 of Directive 94/62/EC.

II. Single-use plastic products covered by Article 8(3) on extended producer responsibility

(1) Wet wipes, i.e. pre-wetted personal care and domestic wipes;
(2) Balloons, except balloons for industrial or other professional uses and applications that are not distributed to consumers.

([3]) Regulation (EU) No 609/2013 of the European Parliament and of the Council of 12 June 2013 on food intended for infants and young children, food for special medical purposes, and total diet replacement for weight control and repealing Council Directive 92/52/EEC, Commission Directives 96/8/EC, 1999/21/EC, 2006/125/EC and 2006/141/EC, Directive 2009/39/EC of the European Parliament and of the Council and Commission Regulations (EC) No 41/2009 and (EC) No 953/2009 (OJ L 181, 29.6.2013, p. 35).

III. Other single-use plastic products covered by Article 8(3) on extended producer responsibility

Tobacco products with filters and filters marketed for use in combination with tobacco products.

PART F

Single-use plastic products covered by Article 9 on separate collection and by Article 6(5) on product requirements

Beverage bottles with a capacity of up to three litres, including their caps and lids, but not:
(a) glass or metal beverage bottles that have caps and lids made from plastic,
(b) beverage bottles intended and used for food for special medical purposes as defined in point (g) of Article 2 of Regulation (EU) No 609/2013 that is in liquid form.

PART G

Single-use plastic products covered by Article 10 on awareness raising

(1) Food containers, i.e. receptacles such as boxes, with or without a cover, used to contain food which:
(a) is intended for immediate consumption, either on-the-spot or take-away,
(b) is typically consumed from the receptacle, and
(c) is ready to be consumed without any further preparation, such as cooking, boiling or heating, including food containers used for fast food or other meal ready for immediate consumption, except beverage containers, plates and packets and wrappers containing food;

(2) Packets and wrappers made from flexible material containing food that is intended for immediate consumption from the packet or wrapper without any further preparation;

(3) Beverage containers with a capacity of up to three litres, i.e. receptacles used to contain liquid such as beverage bottles including their caps and lids and composite beverage packaging including their caps and lids, but not glass or metal beverage containers that have caps and lids made from plastic;

(4) Cups for beverages, including their covers and lids;

(5) Tobacco products with filters and filters marketed for use in combination with tobacco products; (6) Wet wipes, i.e. pre-wetted personal care and domestic wipes;

(7) Balloons, except balloons for industrial or other professional uses and applications that are not distributed to consumers;

(8) Lightweight plastic carrier bags as defined in point 1c of Article 3 of Directive 94/62/EC; (9) Sanitary towels (pads), tampons and tampon applicators.

***Annex 3.1* – Example of SO-1 form**

Godina	OIB operatera	MBS	MBO	MBPS	Naziv operatera	Ulica operatera	Poštanski broj operatera	Mjesto operatera	Županija operatera	Šifra organizacijske jedinice	Naziv organizacijske jedinice	Ulica organizacijske jedinice	Poštanski broj organizacijske jedinice	Mjesto organizacijske jedinice	Županija organizacijske jedinice	ID kod	1. Opći podaci (tip)	2.4. Djelatnost prema NKD (šifra)	2.4. Djelatnost prema NKD (naziv)	2.5. HTRS96 TM koordinate centroida organizacijske jedinice (E)	2.5. HTRS96 TM koordinate centroida organizacijske jedinice (N)
2020	29732862130	07003005 0		3760553	LUKOM d.o.o. LUDBREG	Koprivnička 17	42230	Ludbreg	Varaždinska	3760553	Lukom d.o.o. Ludbreg	Koprivnička 17	42230	Ludbreg	Varaždinska	HR010254323	Davatelj javne usluge prikupljanja biorazgradivog komunalnog otpada (SO-1), Davatelj javne usluge prikupljanja miješanog komunalnog otpada (SO-1), Mobilno reciklažno dvorište (SO-3-1)	38.11	Skupljanje neopasnog otpada	5122849	509496
2020	29732862130	07003005 0		3760553	LUKOM d.o.o. LUDBREG	Koprivnička 17	42230	Ludbreg	Varaždinska	3760553	Lukom d.o.o. Ludbreg	Koprivnička 17	42230	Ludbreg	Varaždinska	HR010254323	Davatelj javne usluge prikupljanja biorazgradivog komunalnog otpada (SO-1), Davatelj javne usluge prikupljanja miješanog komunalnog otpada (SO-1), Mobilno reciklažno dvorište (SO-3-1)	38.11	Skupljanje neopasnog otpada	5122849	509496
2020	65665226983	05003988 5		2249332	KOMUNALAC DAVOR d.o.o. za komunalne usluge	Ivana Gundulića 35	35425	Davor	Brodsko-posavska	01	KOMUNALAC DAVOR d.o.o.	Ivana Gundulića 35	35425	Davor	Brodsko-posavska	HR010307907	Davatelj javne usluge prikupljanja miješanog komunalnog otpada (SO-1), Reciklažno dvorište (SO-3-2)	38.11	Skupljanje neopasnog otpada	5001592	581625

2020	65665226983	050039885		2249332	KOMUNALAC DAVOR d.o.o. za komunalne usluge	Ivana Gundulića 35	35425	Davor	Brodsko-posavska	01	KOMUNALAC DAVOR d.o.o.	Ivana Gundulića 35	35425	Davor	Brodsko-posavska	HR010307907	Davatelj javne usluge prikupljanja miješanog komunalnog otpada (SO-1), Reciklažno dvorište (SO-3-2)	38.11	Skupljanje neopasnog otpada	5001592	581625

2.6 Kapacitet privremenog skladišta otpada (m3)	2.7. Kontakt osoba (ime i prezime)	2.7. Kontakt osoba (telefon)	2.7. Kontakt osoba (fax)	2.7. Kontakt osoba (e-mail)	Verificirano	(a) Županija sakupljanja otpada	(b) Područje s kojeg je otpad skupljen	(b) Područje s kojeg je otpad skupljen - Matični broj	(b) Područje s kojeg je otpad skupljen - Status	(c) Broj stanovnika obuhvaćenih sakupljanjem	(d + e) Ključni broj otpada	(d + e) Naziv otpada	(d + e) Kategorija otpada	Statistička kategorija otpada	(f) Naziv, adresa podugovorne tvrtke/obrta	(g) OIB podugovorne tvrtke/obrta	(h) Osnova određivanja količine	(i) Ukupno preuzeto u izvještajnoj godini (t)	(j) Preuzeto na obračunskom mjestu – Kućanstva (t)	(k) Preuzeto na obračunskom mjestu – Poslovni subjekti iz sektora uslužnih djelatnosti (t)
	Ivana Matijašec Orehovec	0914223033		ivana.matijasec@lukom.hr	Da	Varaždinska	Ludbreg	02445	Grad		15 01 02	plastična ambalaža	Neopasan	07.4 Plastic wastes			1 - vaganje	148,5	103,95	4,45
	Ivana Matijašec Orehovec	0914223033		ivana.matijasec@lukom.hr	Da	Varaždinska	Ludbreg	02445	Grad		15 01 02	plastična ambalaža	Neopasan	07.4 Plastic wastes			1 - vaganje	148,5	103,95	4,45
0	SANDRA ZLATANOVIĆ	035-347-087	035-347-960	komunalac.davor@gmail.com	Da	Brodsko-posavska	Nova Kapela	02852	Općina		20 01 39	plastika	Neopasan	07.4 Plastic wastes			1 - vaganje	15,24	11	2
0	SANDRA ZLATANOVIĆ	035-347-087	035-347-960	komunalac.davor@gmail.com	Da	Brodsko-posavska	Vrbje	05061	Općina		20 01 39	plastika	Neopasan	07.4 Plastic wastes			1 - vaganje	7,95	5	1

(l) Preuzeto na obračunskom mjestu - Poslovni subjekti iz ostalih ekonomskih djelatnosti (t)	(m) Preuzeto s javnih površina - Spremnici za odvojeno prikupljanje otpada (t)	(n) Preuzeto s javnih površina – Ostalo (t)	(o) Stanje privremenog skladišta na dan (t) 1.1.	(p) Stanje privremenog skladišta na dan (t) 31.12.	(r) Namijenjeno za postupak oporabe (R) ili zbrinjavanja (D) (šifra)	(r) Namijenjeno za postupak oporabe (R) ili zbrinjavanja (D) (naziv)	(s) Količina (t)	(t) Naziv i adresa tvrtke/obrta koja preuzima otpad	(u) OIB tvrtke/obrta koja preuzima otpad	ID kod odlagališta	Naziv odlagališta	Naselje odlagališta	(v) Količina (t)	(z) Država uvoznica
40,1	0	0	0	0	R	Oporaba	100,68	CE-ZA-R d.o.o. PODRUŽNICA MBO, Josipa Lončara 15, 10000 ZAGREB - Lokacija: ULICA DORE PEJAČEVIĆ 10, 42000 VARAŽDIN	03860945174					
40,1	0	0	0	0	R	Oporaba	47,82	WANG X d.o.o., 40000 Čakovec, Pleškovec 63 - Lokacija: Poljana Biškupečka bb, 42000 Varaždin	55487771009					
1	1,24	0	15,98	1,29	R13	Skladištenje otpada prije bilo kojeg od postupaka oporabe navedenim pod R1-R12	29,93	CE-ZA-R Centar za reciklažu d.o.o., 10000 Zagreb, Ul. Josipa Lončara 15 - Lokacija: Pavleka Miškine 63, 42000 Varaždin	03860945174					
1	0,95	0	6,29	6,29	R13	Skladištenje otpada prije bilo kojeg od postupaka oporabe navedenim pod R1-R12	7,95	UNIVERZAL d.o.o., 42000 Varaždin, Cehovska 10 - Lokacija: Cehovska 10, 42000 Varaždin	71843925886					

Annex 3.2. Example of OZO form – OZO form for 2019 year

KBO	Opis KBO	D1-odlaganje	D13-spajanje ili miješanje prija postupka D1-D12	D14-ponovno pakiranje prije D1-D13	D15-skladištenje D1-D14	D8-biološka obrada	D9-fizikalno-kemijska obrada	Kompostiranje	Nasipavanje	PP-priprema prije	PU-ponovna uporaba	R1-spaljivanje	R12-razmjena otpada	R13-skladištenje prije R1-R12	R3- recikliranje organskih tvari	R4-recikliranje / obnavljanje metala	R5-recikliranje/obnavljanje drugih otpadnih anorganskih materijala	Ukupno OZO
02 01 04	otpadna plastika (isključujući ambalažu)	53,78	1,34										141,24	1,80	42,21			240,37
07 02 13	otpadna plastika	906,56	9,87							0,09			561,38	0,51	600,34			2.078,75
07 02 16*	otpad koji sadrži opasne silikone		0,00															0,00
07 02 17	otpad koji sadrži silikone, osim onih koju su navedeni pod 07 02 16*		0,01				0,97											0,98
12 01 05	strugotine plastike	248,44	12,86							2,28			367,80		83,08			714,46
12 01 16*	otpadni materijal od obrade rasprskavanjem koji sadrži opasne tvari		7,16															7,16
12 01 17	otpadni materijal od obrade rasprskavanjem koji nije naveden pod 12 01 16*	1.761,52	16,65	1,00			334,83						57,65				255,20	2.426,85
15 01 02	plastična ambalaža	1.004,71	5,52							5.467,57	16,84	320,88	14.535,74	3.710,36	35.917,66		1.195,61	62.174,89
15 01 05	višeslojna (kompozitna) ambalaža	189,87	2,33							72,37		21,20	1.256,87	357,10	38,86			1.938,60
15 01 06	miješana ambalaža	4.430,27	7,93							412,83			11.929,63	1.429,26	36,29			18.246,21
15 01 10*	ambalaža koja sadrži ostatke opasnih tvari ili je onečišćena opasnim tvarima		984,11				44,45			37,92	74,97	339,50	1.588,77	0,01				3.069,73
16 01 19	plastika	12,85								15,44			352,27	10,55	509,46			900,57
16 02 16	komponente izvađene iz odbačene opreme koje nisu navedene pod 16 02 15*												170,87			5.623,43		5.794,30
17 02 03	plastika	26,76	26,26							2,54		2,59	152,09	2,71	149,90		9,41	372,26
17 02 04*	staklo, plastika i drvo koji sadrže ili su onečišćeni opasnim tvarima		8,88									392,67	30,10					431,65
17 04 10*	kabelski vodiči koji sadrže ulje, ugljeni katran i druge opasne tvari												0,28			0,02		0,30
17 04 11	kabelski vodiči koji nisu navedeni pod 17 04 10*		1,42							5,50			325,73			1.160,30		1.492,95
17 06 03*	ostali izolacijski materijali, koji se sastoje ili sadrže opasne tvari		121,36							5,06								126,42
17 06 04	izolacijski materijali koji nisu navedeni pod 17 06 01* i 17 06 03*	829,43	61,90							0,83			641,80	15,23	16,61	3,64	88,98	1.658,42
17 09 03*	ostali građevinski otpad i otpad od rušenja objekata (uključujući miješani otpad), koji sadrži opasne tvari		30,77															30,77
17 09 04	miješani građevinski otpad i otpad od rušenja objekata, koji nije naveden pod 17 09 01*, 17 09 02* i 17 09 03*	20.223,37	13,17						36.024,66				5.233,76				130.579,25	192.074,21
19 10 04	pahuljasta frakcija i prašina, koja nije navedena pod 19 10 03*												16.944,28					16.944,28
19 10 05*	ostale frakcije koje sadrže opasne tvari		15,26															15,26
19 10 06	ostale frakcije koje nisu navedene pod 19 10 05*															394,12		394,12
19 12 04	plastika i guma	3.561,84								13,15		9.080,76	450,47	17.809,89	5.606,02			36.522,13
19 12 11*	ostali otpad (uključujući mješavine materijala) od mehaničke obrade otpada, koji sadrži opasne tvari		57,40									880,73				8.905,19		9.843,32
19 12 12	ostali otpad (uključujući mješavine materijala) od mehaničke obrade otpada, koji nije naveden pod 19 12 11*	75.823,98							750,00	11,25		1.651,37	440,40	594,34	2.937,78		2.031,00	84.240,12
20 01 39	plastika	264,60	12,48							150,82		4,05	5.595,03	2.035,17	819,82			8.881,97
20 01 99	ostali sastojci komunalnog otpada koji nisu specificirani na drugi način	89,41											264,63	99,27				453,31
20 03 01	miješani komunalni otpad	956.528,83	85.534,80										37.761,48	6.183,20	80.719,36			1.166.727,67
20 03 02	otpad s tržnica	2.619,94						31,03		150,00			49,92		50,00			2.900,89
20 03 03	ostaci od čišćenja ulica	4.855,17	45,34			45,34							2.440,20		447,00			7.833,05
20 03 07	glomazni otpad	74.743,64	49,36		375,06					3.625,55	6,60		45.792,60	2.532,55	20,70			127.146,06
20 03 99	komunalni otpad koji nije specificiran na drugi način	6.624,59								133,72			2.696,10	73,94	655,65			10.184,00
Ukupno		**1.154.799,56**	**87.026,18**	**1,00**	**375,06**	**45,34**	**380,25**	**44,06**	**36.774,66**	**10.106,92**	**98,41**	**12.693,75**	**149.781,09**	**34.855,89**	**128.458,73**	**16.265,68**	**134.159,45**	**1.765.866,03**

***Annex 3.3.* – Summarized data from OZO forms for Republic of Croatia and for import, for year 2019**

EWC	Description of EWC	OZO[1] RH	OZO Import	Total OZO 2019
02 01 04	waste plastic (except packaging)	240,37		240,37
07 02 13	waste plastic	1.592,97	485,78	2.078,75
07 02 16*	wastes containing silicones	0,00		0,00
07 02 17	wastes containing silicones other than those mentioned in 07 02 16	0,98		0,98
12 01 05	plastics shavings and turnings	391,58	322,88	714,46
12 01 16*	waste blasting material containing dangerous substances	7,16		7,16
12 01 17	waste blasting material other than those mentioned in 12 01 16	2.426,85		2.426,85
15 01 02	plastic packaging	54.534,48	7.640,41	62.174,89
15 01 05	composite packaging	1.938,60		1.938,60
15 01 06	mixed packaging	18.246,21		18.246,21
15 01 10*	packaging containing residues of or contaminated by dangerous substances	3.069,73		3.069,73
16 01 19	plastic	842,31	58,26	900,57
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15	5.794,30		5.794,30
17 02 03	plastic	372,20	0,06	372,26
17 02 04*	glass, plastic and wood containing or contaminated with dangerous substances	431,65		431,65
17 04 10*	cables containing oil, coal tar and other dangerous substances	0,30		0,30
17 04 11	cables other than those mentioned in 17 04 10	1.492,95		1.492,95
17 06 03*	other insulation materials consisting of or containing dangerous substances	126,42		126,42
17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03	1.658,42		1.658,42
17 09 03*	other construction and demolition wastes (including mixed wastes) containing dangerous substances	30,77		30,77
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	192.074,21		192.074,21
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03	16.944,28		16.944,28
19 10 05*	other fractions containing dangerous substances	15,26		15,26
19 10 06	other fractions other than those mentioned in 19 10 05	394,12		394,12

EWC	Description of EWC	OZO[1] RH	OZO Import	Total OZO 2019
19 12 04	plastic and rubber	3.230,51	33.321,62	36.522,13
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances	9.843,32		9.843,32
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	82.767,86	1.472,26	84.240,12
20 01 39	plastic	8.881,97		8.881,97
20 01 99	other fractions not otherwise specified	453,31		453,31
20 03 01	mixed municipal waste	1.166.727,67		1.166.727,67
20 03 02	waste from markets	2.900,89		2.900,89
20 03 03	street-cleaning residues	7.833,05		7.833,05
20 03 07	bulky waste	127.146,06		127.146,06
20 03 99	municipal wastes not otherwise specified	10.184,00		10.184,00
Total		**1.722.594,76**	**43.301,28**	**1.765.866,03**

[1] recovery/disposal of waste

***Annex 3.4* - quantities of treated waste according to the recovery and disposal procedures**

EWC	Description of EWC	D1-disposal	D13-merging or mixing before process D1-D12	D14-re-packaging before D1-D13	D15-storage D1-D14	D8-biological treatment	D9-phisico-chemical treatment	Composting	Filling	PP-preparation before R/D	PU-reuse	R1-incineration	R12-waste exchange	R13-storage before R1-R12	R3-recycling of organic matter	R4 recycling / restoring of metal	R5-recycling / restoring other anorganic waste material	Total OZO
02 01 04	waste plastic (except packaging)	53,78	1,34										141,24	1,80	42,21			240,37
07 02 13	waste plastic	906,56	9,87							0,09			561,38	0,51	600,34			2.078,75
07 02 16*	wastes containing silicones		0,00															0,00
07 02 17	wastes containing silicones other than those mentioned in 07 02 16		0,01				0,97											0,98
12 01 05	plastics shavings and turnings	248,44	12,86							2,28			367,80		83,08			714,46
12 01 16*	waste blasting material containing dangerous substances		7,16															7,16
12 01 17	waste blasting material other than those mentioned in 12 01 16	1.761,52	16,65	1,00			334,83						57,65				255,20	2.426,85
15 01 02	plastic packaging	1.004,71	5,52							5.467,57	16,84	320,88	14.535,74	3.710,36	35.917,66		1.195,61	62.174,89
15 01 05	composite packaging	189,87	2,33							72,37		21,20	1.256,87	357,10	38,86			1.938,60
15 01 06	mixed packaging	4.430,27	7,93							412,83			11.929,63	1.429,26	36,29			18.246,21
15 01 10*	packaging containing residues of or contaminated by dangerous substances		984,11				44,45			37,92	74,97	339,50	1.588,77	0,01				3.069,73
16 01 19	plastic	12,85								15,44			352,27	10,55	509,46			900,57
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15												170,87			5.623,43		5.794,30
17 02 03	plastic	26,76	26,26							2,54		2,59	152,09	2,71	149,90		9,41	372,26
17 02 04*	glass, plastic and wood containing or contaminated with dangerous substances		8,88									392,67	30,10					431,65
17 04 10*	cables containing oil, coal tar and other dangerous substances												0,28			0,02		0,30
17 04 11	cables other than those mentioned in 17 04 10		1,42							5,50			325,73			1.160,30		1.492,95
17 06 03*	other insulation materials consisting of or containing dangerous substances		121,36							5,06								126,42
17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03	829,43	61,90							0,83			641,80	15,23	16,61	3,64	88,98	1.658,42
17 09 03*	other construction and demolition wastes (including mixed wastes) containing dangerous substances		30,77															30,77
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	20.223,37	13,17						36.024,66				5.233,76				130.579,25	192.074,21
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03												16.944,28					16.944,28
19 10 05*	other fractions containing dangerous substances		15,26															15,26
19 10 06	other fractions other than those mentioned in 19 10 05															394,12		394,12

EWC	Description of EWC	D1-disposal	D13-merging or mixing before process D1-D12	D14-re-packaging before D1-D13	D15-storage D1-D14	D8-biological treatment	D9-phisico-chemical treatment	Composting	Filling	PP-preparation before R/D	PU-reuse	R1-incineration	R12-waste exchange	R13-storage before R1-R12	R3-recycling of organic matter	R4 recycling/restoring of metal	R5-recycling/restoring other anorganic waste material	Total OZO
19 12 04	plastic and rubber	3.561,84								13,15		9.080,76	450,47	17.809,89	5.606,02			36.522,13
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances		57,40									880,73				8.905,19		9.843,32
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	75.823,98							750,00	11,25		1.651,37	440,40	594,34	2.937,78		2.031,00	84.240,12
20 01 39	plastic	264,60	12,48							150,82		4,05	5.595,03	2.035,17	819,82			8.881,97
20 01 99	other fractions not otherwise specified	89,41											264,63	99,27				453,31
20 03 01	mixed municipal waste	956.528,83	85.534,80										37.761,48	6.183,20	80.719,36			1.166.727,67
20 03 02	waste from markets	2.619,94						31,03		150,00			49,92		50,00			2.900,89
20 03 03	street-cleaning residues	4.855,17	45,34			45,34							2.440,20		447,00			7.833,05
20 03 07	bulky waste	74.743,64	49,36		375,06					3.625,55	6,60		45.792,60	2.532,55	20,70			127.146,06
20 03 99	municipal wastes not otherwise specified	6.624,59								133,72			2.696,10	73,94	655,65			10.184,00
Total		**1.154.799,56**	**87.026,18**	**1,00**	**375,06**	**45,34**	**380,25**	**44,06**	**36.774,66**	**10.106,92**	**98,41**	**12.693,75**	**149.781,09**	**34.855,89**	**128.458,73**	**16.265,68**	**134.159,45**	**1.765.866,03**

Annex 3.5. **Waste categories containing plastic waste and entering in the recovery procedures, for year 2020 (MESD, 2021)**

Entered the recovery process	Waste status revoked after recovery	Delivered USO form for 2020	No.	Company / trade name	Company address	Company location	Year of entry in the Register	Type (s) of waste to be recovered	Product name	Product type	EWC Code	recovery process	amount of waste (kg)	amount of waste (t)	product quantity (kg)	product quantity (t)	e-mail	contact number	NOTE / COMMENT
Plastic waste	Polymeric raw material	Yes	USO-7	DRAVA INTERNATIONAL d.o.o.	Stjepana Radića 15	Osijek	2015.	15 01 02	Polymeric raw material	Input raw material for the production of bags, foils, preforms, moulds, vacuum cleaners, stoppers and for the production of diesel fuel by catalytic depolymerization	15 01 02	R3	2.294.784,00	2.294,78	22.562.393,00	22.562,39			
Construction waste	Recycled aggregate	Yes	USO-41	Sekundar usluge d.o.o.	Permani 1/E	Jurdani	2019.	17 01 07, 17 09 04, 20 02 02	Recycled aggregate	Aggregate for unbound and hydraulically bound materials for use in construction and road construction without high safety requirements according to HRN EN 13242: 2008, fraction 0/80 mm	17 09 04	R5	1.291.778,00	1.291,78	1.291.778,00	1.291,78			
Construction waste	Recycled aggregate	Yes	USO-48	Arkada d.o.o.	Kolodvorska 1A	Duga Resa	2020.	17 03 02, 17 05 04, 17 09 04	Recycled aggregate 0/63	Construction product	17 09 04	R5	408.300,00	408,30					
Other	Wardrobe, chest of drawers, drawer…	Yes	USO-24	Gradsko komunalno poduzeće "Pre-kom"	Ulica Kralja Zvonimira 9	Prelog	2017.	20 01 10, 20 03 07	wardrobe, chest of drawers, drawer, display case, nightstand, table, chair, bench, armchair, bed, armchair, carpet, clothes, shoes, book, picture, decorative items, etc.	furniture, children's items, bathroom equipment, kitchen and garden equipment, floor coverings, clothing, footwear, decorative items	20 03 07	PU	3.500,00	3,50	4.260,00	4,26			

***Annex 3.6* - Overview of data on MMW composition by certain LSGU**

Component	Share (%)	Zagreb	Split	Osijek	City of Buzet	City of Samobor	City of Zaprešić	City of Dugo Selo	City of Velika Gorica	City of Vrbovec	City of Sveti Ivan Zelina	City of Ivanić-Grad	City of Poreč	City of Bjelovar	Average TOTAL	Average big cities	Average smaller cities
WMPRC 2017-2022 (2015)		2020	2019	2013	2020	2019	2019	2019	2019	2019	2019	2019	2018	2013			
Metal	2,1	2,46	2,25	2,71	2,3	2,6	6,4	4	4	2,9	2,2	4	2,14	2,22	3,09	2,47	3,28
Wood	1	5,23	2	0,21	0,1	0,7	0,4	0,5	1,9	0,6	0,5	0,8	0,08	0	1,00	2,48	0,56
Textile/clothes	3,7	3,93	4,9	3	4,3	5,1	7,2	9,4	6,5	9,6	3,6	18,4	3,65	4,69	6,48	3,94	7,24
Paper and cardboard	23,2	21,7	17,85	16,67	16,9	12,9	9,2	11,1	13,1	13,6	10,9	12,6	31,13	21,05	16,05	18,74	15,25
Glass	3,7	3,38	6,4	4,64	2,8	4,2	3	2,2	3,4	1,7	6,9	2,7	4,55	4,1	3,84	4,81	3,56
Plastics	22,9	15,76	15,7	18,95	14,7	18,6	18,9	23,7	19,3	21,9	23,7	19,6	12,67	19,3	18,68	16,80	19,24
Rubber	0,2	0,21	0,05	0,01	0,2	0,1	0,4	1	0,1	0	0,1	1,6	0,12	0,03	0,30	0,09	0,37
Skin/bones	0,5	1,95	0,45		0,5	1,7	0,7	1	1,2	0,8	0,7	3,3	0,78	0,24	1,11	1,20	1,09
Kitchen waste	30,9	9,13	23,5	39,85	39,1	34,1	30,2	26,2	32,9	24,1	31,1	20,2	25,34	30,85	28,20	24,16	29,41
Garden waste	5,7	1,13	4	5,78	1,1	1,8	2,8	7,6	4,2	10,3	1,9	0,4	0,08	7,9	3,77	3,64	3,81
Other waste (soil, dust, sand, undefined)	6,3	35,11	22,9	8,18	17,9	18,2	20,9	13,3	13,3	14,4	18,5	16,3	19,48	9,61	17,54	22,06	16,19
Total	100,2	99,99	100	100	99,9	100	100,1	100	99,9	99,9	100,1	99,9	100,02	99,99			

Annex 3.7 – PRODCOM form for research on industrial production

REPUBLIKA HRVATSKA DRŽAVNI ZAVOD ZA STATISTIKU	10000 Zagreb, Ilica 3 Internetske stranice: http://www.dzs.hr	**Obrazac IND-21/PRODCOM/G** Istraživanje se provodi na temelju Zakona o službenoj statistici (NN, br. 25/20.).

PRODCOM ISTRAŽIVANJE O INDUSTRIJSKOJ PROIZVODNJI ZA 2020.

Obveza podnošenja izvještaja temelji se na članku 45. Zakona o službenoj statistici (NN, br. 25/20.). Odbijanje davanja podataka, davanje nepotpunih i netočnih podataka ili nedavanje podataka u propisanom roku povlači prekršajne odredbe iz članka 76. navedenog Zakona.
Podaci koje dajete u ovom izvještaju koristit će se isključivo za statističke svrhe.

Vrsta posla 1 1 6 1 **Razdoblje** 0 1 **Godina** 2 0 2 0

(RB poduzeća iz adresara)

1. **PODACI O IZVJEŠTAJNOJ JEDINICI** (PRAVNOJ OSOBI I OBRTNIKU)

a) **IME** (tvrtka/obrt) _____

_____

b) **OSOBNI IDENTIFIKACIJSKI BROJ (OIB)** _____

_____

c) **MATIČNI BROJ IZ REGISTRA POSLOVNIH SUBJEKATA/OBRTNOG REGISTRA**

MB

d) **SJEDIŠTE** (tvrtka/obrt): Županija_____

Naselje _____

Grad/općina _____

Telefon _____

Ulica i broj _____

e) **DJELATNOST** (razred)

_____

_____

_____

prema Nacionalnoj klasifikaciji djelatnosti – NKD-u 2007. (NN, br. 58/07. i 72/07.)

Poštovani,

Godišnjim istraživanjem PRODCOM o industrijskoj proizvodnji (e-IND-21/PRODCOM/G) za 2020. prikupljaju se elektroničkim putem – izravnim pristupom mrežnoj aplikaciji Državnog zavoda za statistiku (u nastavku teksta: DZS) – podaci o ukupno proizvedenim količinama industrijskih proizvoda i količinama utrošenima za daljnju proizvodnju te podaci o prodanim količinama i vrijednosti prodaje ukupno i na inozemnom tržištu (izvoz) u 2020. Svi podaci istraživanja **e-IND-21/PRODCOM/G** iskazuju se na detaljnoj razini proizvoda iz ažurirane Nomenklature industrijskih proizvoda – **NIP-a 2020.** Za ispravno iskazivanje podataka izvještajne jedinice dužne su slijediti koncepte i definicije iz Statističkih standarda za istraživanje PRODCOM o industrijskoj proizvodnji u 2020. i nomenklature NIP 2020., koja je njihov sastavni dio, a dostupna je na mrežnim stranicama DZS-a **http://www.dzs.hr/Hrv/important/Nomen/nomenclatures.htm.**

Izvještajne jedinice e-istraživanja IND-21/PRODCOM/G jesu trgovačka društva, druge pravne osobe i obrtnici ako su razvrstani u industrijsku djelatnost područja B, C, D i E (samo odjeljak 36), prema NKD-u 2007. (NN, br. 58/07. i 72/07.), te ona trgovačka društva, druge pravne osobe i obrtnici koji nisu razvrstani u industriju, ali imaju dijelove koji su obavljali industrijsku djelatnost u 2020. prema spomenutoj definiciji industrije za ovo istraživanje. Izvještajne jedinice dostavljaju ispunjene podatke na e-obrascu **IND-21/PRODCOM/G** u mrežnoj aplikaciji, za svaku industrijsku lokalnu jedinicu posebno (obično je to županija) prema adresaru statističkih jedinica IND-21/PRODCOM/G za 2020., posebno izrađenu za potrebe ovog istraživanja. **Identifikacijski podaci svih industrijskih lokalnih jedinica neke izvještajne jedinice već su postavljeni u mrežnoj aplikaciji DZS-a**. U slučaju neslaganja identifikacijskih podataka s podacima izvještajnih jedinica treba kontaktirati izravno sa Službom statistika industrije DZS-a (vidi osobe za kontakt).

Rok i način dostava podataka. Dostava podataka na e-obrascu **IND-21/PRODCOM/G** elektroničkim putem na mrežnim stranicama DZS-a **http://www.dzs.hr/App/eUpitnik/default.aspx obvezatna je. Rok za ispunjavanje e-obrasca e-IND-21/PRODCOM/G putem mrežne aplikacije DZS-a jest od 22. ožujka do 15. svibnja 2021., kada je otvoren pristup mrežnoj aplikaciji.** Ako neka izvještajna jedinica nema tehničkih uvjeta za pristup internetu, potrebno je dostaviti dopis DZS-u elektroničkom poštom kako bi joj se omogućila dostava podataka za istraživanje IND-21/PRODCOM/G za 2020. na drugi način.

Za **pristupanje sustavu elektroničkog ispunjavanja** e-obrasca IND-21/PRODCOM/G **prvi put** potrebno je dostaviti adresu elektroničke pošte odgovorne osobe za Vašu izvještajnu jedinicu/industrijsku lokalnu jedinicu i zatražiti dodjelu korisničkog imena i lozinke izravno od DZS-a, Službe statistika industrije, Ilica 3, 10000 Zagreb, elektroničkom poštom na adresu **Ind-21prodcom@dzs.hr**, telefaksom na broj (01) 4873-658 ili telefonom na brojeve (01) 4806-179, 4806-181, gdje možete dobiti i sve ostale informacije vezane za iskazivanje podataka elektroničkim putem.

Zahvaljujemo na suradnji.

2. PODACI ZA STATISTIČKU JEDINICU ZA KOJU SE ISPUNJAVA TABLICA 1.

a) ŽUPANIJA (naziv)

_____

b) INDUSTRIJSKA LOKALNA JEDINICA (naziv)

_____

RB iz adresara

3. TABLICA 1. UKUPNO OSTVARENA PROIZVODNJA I PRODAJA INDUSTRIJSKIH PROIZVODA U 2020.

	Proizvodi prema Nomenklaturi industrijskih proizvoda – NIP-u 2020.		Vrsta proiz-vodnje	Mjerne jedinice iz NIP-a 2020.		Ukupno ostvarena proizvodnja prema NIP-u 2020.		Količine proizvoda utrošene za daljnju proizvodnju u poduzeću[1)]	Prodaja proizvedenih proizvoda u 2020. prema NIP-u 2020.[2)]			
									ukupno		od toga u inozemstvo (izvoz)	
	šifra proizvoda	naziv proizvoda		naziv	šifra	maksimalno moguća količina	količine proizvedenih proizvoda		količine prodanih proizvoda	vrijednost prodanih proizvoda, tis. kuna	količine prodanih proizvoda	vrijednost prodanih proizvoda, tis. kuna
	a	b	c	d	e	f	g	h	i	j	k	l
1												

0	0	0	0	0	0	0	0	0	9	Ukupna vrijednost prodaje svih proizvoda lokalne jedinice (zbroj odgovarajućih stupaca **j** ili **l**)[3]	9								

1) U stupcu "h" pod "količina proizvoda utrošena za daljnju proizvodnju u poduzeću" treba upisati podatak sa stanovišta poduzeća, tj. bez obzira na to obavlja li se daljnja proizvodnja u istoj ili nekoj drugoj lokalnoj jedinici u sklopu istog poduzeća odnosno iste izvještajne jedinice.
2) U stupcima "i do l" iskazuju se ukupno proizvedene količine (i) i ukupna vrijednost (j) prodanih proizvoda, a u stupcima "k do l" iskazuju se samo količine prodanih proizvoda u inozemstvo (k) i odgovarajuća vrijednost samo onih proizvoda koji su prodani u inozemstvo (l).
3) U retku "0000000009" pod "Ukupno vrijednost prodaje svih proizvoda lokalne jedinice" upisuje se ukupna vrijednost prodanih proizvoda u stupac "**j**", a u stupac "**l**" upisuje se vrijednost prodanih proizvoda u inozemstvu (izvoz) koja je fakturirana u 2020.

4. TABLICA 2. MOLIMO DA NAVEDETE KOLIKO STE VREMENA UTROŠILI NA ISPUNJAVANJE OVOG E-OBRASCA/OBRAZACA IND-21/PRODCOM/G ZA SVOJU IZVJEŠTAJNU JEDINICU, IZRAŽENO U MINUTAMA.

2 | | | | |

VAŽNE NAPOMENE ZA ISPUNJAVANJE E-OBRAZACA IND-21/PRODCOM/G I IND-21/PRODCOM/G/30.11

- Svaka izvještajna jedinica (pravna osoba i obrtnik) treba ispuniti tablicu 1. **e-obrasca IND-21/PRODCOM/G** za svaku industrijsku lokalnu jedinicu koja im je pridružena prema adresaru za IND-21/PRODCOM/G za 2020. o ostvarenoj proizvodnji te prodaji industrijskih proizvoda i usluga u 2020. prema detaljnoj Nomenklaturi industrijskih proizvoda – NIP-u 2020. Tablica i proizvodi NIP-a 2020. već su postavljeni u mrežnoj aplikaciji prema asortimanu proizvoda Vaše izvještajne jedinice koji ste iskazali u e-obrascu IND-21/PRODCOM/G za 2019., osim za nove izvještajne jedinice. Nove izvještajne jedinice izabiru proizvode i usluge u mrežnoj aplikaciji prema izborniku NIP-a 2020. složenoga padajućim slijedom šifara. U slučaju nedoumice koju šifru NIP-a 2020. treba dodijeliti uz odgovarajući proizvod treba kontaktirati izravno sa Službom statistika industrije DZS-a (vidi osobe za kontakt) ili poslati upit elektroničkom poštom na adresu **Ind-21prodcom@dzs.hr**.
- **Pomoćni e-obrazac IND-21/PRODCOM/G/30.11 za BRODOGRADNJU** također je postavljen u mrežnoj aplikaciji, a trebaju ga ispuniti sva poduzeća koja su se bavila brodogradnjom u 2020., odnosno obavljala djelatnosti opisane u razredu 30.11 Gradnja brodova i plutajućih objekata, prema NKD-u 2007. (NN, br. 58/07. i 72/07.).
- U stupcima **a, b, d** i **e** tablice 1. e-obrazaca IND-21/PRODCOM/G podaci o šiframa i nazivima proizvoda i mjernim jedinicama već su upisani u mrežnoj aplikaciji prema NIP-u 2020. U stupcima od **f** do **i** te **k** iskazuju se podaci o količinama, dok se u stupcima **j** i **k** iskazuju vrijednosno u tisućama kuna. U stupcu **c** upisuje se oznaka **0** za proizvodnju za vlastiti račun, a **1** za proizvodnju na temelju ugovora s naručiteljem slijedeći upute iz Statističkih standarda za istraživanje PRODCOM o industrijskoj proizvodnji za 2020. Napominjemo da su ove upute načelne jer mrežna aplikacija ima drugi raspored stupaca od tiskanog obrasca.
- E-obrazac IND-21/PRODCOM/G i pomoćni e-obrazac IND-21/PRODCOM/G/30.11 za BRODOGRADNJU ispunjavaju se i šalju preko mrežne aplikacije na mrežnim stranicama DZS-a **http://www.dzs.hr/App/eUpitnik/default.aspx.** Dostava podataka za istraživanje IND-21/PRODCOM/G za 2020. elektroničkim putem **obvezatna je**.
- **Ovaj tiskani obrazac služi samo kao ogledni primjerak.**

OKVIR ZA VAŠE KOMENTARE

Molimo da sve komentare, primjedbe i prijedloge u vezi s Vašim podacima, problematikom ispunjavanja ili dostavljanja podataka na e-obrascu IND-21/PRODCOM/G upišete u predviđeni okvir u mrežnoj aplikaciji.

Čitljivo ispisano ime osobe koja odgovara za točnost podataka

Direktor

_____ _____

Telefon _____

Elektronička pošta _____

Datum _____ 2021.

Annex 3.8 – PRODCOM/NIP codes on products made of plastic materials and products of interest to the Project

Table 1. PRODCOM 2019 / NIP 2019 HEADING 20.16

20.16	***Manufacture of plastics in primary forms***
20161035	Linear polyethylene having a specific gravity < 0,94, in primary forms
20161039	Polyethylene having a specific gravity < 0,94, in primary forms (excluding linear)
20161050	Polyethylene having a specific gravity of ≥ 0,94, in primary forms
20161070	Ethylene-vinyl acetate copolymers, in primary forms
20161090	Polymers of ethylene, in primary forms (excluding polyethylene, ethylene-vinyl acetate copolymers)
20162035	Expansible polystyrene, in primary forms
20162039	Polystyrene, in primary forms (excluding expansible polystyrene)
20162050	Styrene-acrylonitrile (SAN) copolymers, in primary forms
20162070	Acrylonitrile-butadiene-styrene (ABS) copolymers, in primary forms
20162090	Polymers of styrene, in primary forms (excluding polystyrene, styrene-acrylonitrile (SAN) copolymers, acrylonitrile-butadiene-styrene (ABS) copolymers)
20163010	Polyvinyl chloride, not mixed with any other substances, in primary forms
20163023	Non-plasticised polyvinyl chloride mixed with any other substance, in primary forms
20163025	Plasticised polyvinyl chloride mixed with any other substance, in primary forms
20163040	Vinyl chloride-vinyl acetate copolymers and other vinyl chloride copolymers, in primary forms
20163060	Fluoropolymers
20163090	Polymers of halogenated olefins, in primary forms, n.e.c.
20164013	Polyacetals, in primary forms
20164015	Polyethylene glycols and other polyether alcohols, in primary forms
20164020	Polyethers, in primary forms (excluding polyacetals, polyether alcohols)
20164030	Epoxide resins, in primary forms
20164040	Polycarbonates, in primary forms
20164050	Alkyd resins, in primary forms
20164062	Polyethylene terephthalate in primary forms having a viscosity number of ≥ 78 ml/g
20164064	Other polyethylene terephthalate in primary forms
20164070	Unsaturated liquid polyesters, in primary forms (excluding polyacetals, polyethers, epoxide resins, polycarbonates, alkyd resins, polyethylene terephthalate)
20164080	Unsaturated polyesters, in primary forms (excluding liquid polyesters, polyacetals, polyethers, epoxide resins, polycarbonates, alkyd resins, polyethylene terephthalate)
20164090	Polyesters, in primary forms (excluding polyacetals, polyethers, epoxide resins, polycarbonates, alkyd resins, polyethylene terephthalate, other unsaturated polyesters)
20165130	Polypropylene, in primary forms
20165150	Polymers of propylene or of other olefins, in primary forms (excluding polypropylene)
20165230	Polymers of vinyl acetate, in aqueous dispersion, in primary forms
20165250	Polymers of vinyl acetate, in primary forms (excluding in aqueous dispersion)
20165270	Polymers of vinyl esters or other vinyl polymers, in primary forms (excluding vinyl acetate)
20165350	Polymethyl methacrylate, in primary forms
20165390	Acrylic polymers, in primary forms (excluding polymethyl methacrylate)
20165450	Polyamide -6, -11, -12, -6,6, -6,9, -6,10 or -6,12, in primary forms
20165490	Polyamides, in primary forms (excluding polyamide -6, -11, -12, -6,6, -6,9, -6,10 or -6,12)
20165550	Urea resins and thiourea resins, in primary forms
20165570	Melamine resins, in primary forms
20165630	Amino resins, in primary forms (excluding urea and thiourea resins, melamine resins)
20165650	Phenolic resins, in primary forms

20165670	Polyurethanes, in primary forms
20165700	Silicones, in primary forms
20165920	Petroleum resins, coumarone-indene resins, polyterpenes, polysulphides, polysulphones, etc., n.e.c., in primary forms
20165945	Sodium carboxymethyl cellulose
20165950	Cellulose and its chemical derivatives, in primary forms, excluding sodium carboxymethyl cellulose and n.e.c.
20165955	Natural polymers and modified natural polymers, not elsewhere specified or included, in primary forms . Alginic acid, its salts and esters
20165965	Natural polymers and modified natural polymers, e.g. hardened proteins, chemical derivatives of natural rubber, n.e.s., in primary forms (excl. alginic acid and its salts and esters)
20165970	Ion-exchangers based on synthetic or natural polymers, in primary forms

Table 2. PRODCOM 2019 / NIP 2019 heading 22.2

22.21	**Manufacture of plastic plates, sheets, tubes and profiles**
22211050	Monofilament with any cross-sectional dimension > 1 mm, rods, sticks, profile shapes, of polymers of ethylene (including surface worked but not otherwise worked)
22211070	Monofilament with any cross-sectional dimension > 1 mm, rods, sticks, profile shapes, of polymers of vinyl chloride (including surface worked but not otherwise worked)
22211090	Monofilament with any cross-sectional dimension > 1 mm; rods; sticks and profile shapes of plastics (excluding of polymers of ethylene, of polymers of vinyl chloride)
22212130	Artificial guts (sausage skins) of hardened protein or cellulosic materials
22212153	Rigid tubes, pipes and hoses of polymers of ethylene
22212155	Rigid tubes, pipes and hoses of polymers of propylene
22212157	Rigid tubes, pipes and hoses of polymers of vinyl chloride
22212170	Rigid tubes, pipes and hoses of plastics (excluding of polymers of ethylene, of polymers of propylene, of polymers of vinyl chloride)
22212920	Flexible tubes, pipes and hoses of plastics, with a burst pressure ≥ 27,6 MPa
22212935	Flexible tubes, pipes and hoses of plastics, not reinforced or otherwise combined with other materials, without fittings
22212937	Flexible tubes, pipes and hoses of plastics, not reinforced or otherwise combined with other materials, with fittings, seals or connectors
22212950	Plastic tubes, pipes and hoses (excluding artificial guts, sausage skins, rigid, flexible tubes and pipes having a minimum burst pressure of 27,6 MPa)
22212970	Fittings, e.g. joints, elbows, flanges, of plastics, for tubes, pipes and hoses
22213010	Other plates..., of polymers of ethylene, not reinforced, thickness ≤ 0,125 mm
22213017	Other plates..., of polymers of ethylene, not reinforced, etc., thickness > 0,125 mm
22213021	Other plates..., of biaxially orientated polymers of propylene, thickness ≤ 0,10 mm
22213023	Other plates..., of polymers of propylene, thickness ≤ 0,10 mm, others
22213026	Other plates..., of non-cellular polymers of propylene, thickness > 0,10 mm, n.e.c.
22213030	Other plates..., of polymers of styrene, not reinforced, etc.
22213035	Other plates, sheets, film, foil and strip, of polymers of vinyl chloride, containing ≥ 6 % of plasticisers, thickness ≤ 1 mm
22213036	Other plates, sheets, film, foil and strip, of polymers of vinyl chloride, containing ≥ 6 % of plasticisers, thickness > 1 mm
22213037	Other plates, sheets, film, foil and strip, of polymers of vinyl chloride, containing < 6 % of plasticisers, thickness ≤ 1 mm
22213038	Other plates, sheets, film, foil and strip, of polymers of vinyl chloride, containing < 6 % of plasticisers, thickness > 1 mm
22213053	Plates..., of polymethyl methacrylate, not reinforced, etc.
22213059	Plates..., of other acrylic polymers, not reinforced, etc., n.e.c.
22213061	Plates, sheets, film, foil, strip of polycarbonates, non-cellular excluding floor, wall, ceiling coverings - self-adhesive, reinforced, laminated, supported/similarly combined with other materials
22213063	Plates..., of unsaturated polyesters, not reinforced, etc.
22213065	Plates, sheets, film, foil, strip, of polyethylene terephthalate, not reinforced, etc., of a thickness ≤ 0,35 mm

22213067	Plates, sheets, film, foil, strip, of polyethylene terephthalate, not reinforced, etc., of a thickness > 0,35 mm
22213069	Plates, sheets, film, foil, strip of polyesters, non-cellular excluding floor, wall, ceiling coverings, self-adhesive - of polycarbonates, polyethylene terephthalate, unsaturated polyesters
22213070	Plates, sheets, film, foil and strip, of non-cellular cellulose or its chemical derivatives, not reinforced, laminated, supported or similarly combined with other materials (excluding self-adhesive products as well as and floor, wall and ceiling coverings of HS 3918)
22213082	Plates, sheets, film, foil, strip of polyamides, non-cellular (excluding floor, wall, ceiling coverings, self-adhesive, reinforced, laminated, supported/similarly combined with other materials)
22213086	Plates, sheets, film, foil and strip, of non-cellular poly(vinyl butyral), amino-resins, phenolic resins or polymerisation products, not reinforced, laminated, supported or similarly combined with other materials (excluding self-adhesive products as well as and floor, wall and ceiling coverings of HS 3918)
22213090	Plates, sheets, film, foil and strip, of non-cellular plastics, n.e.c., not reinforced, laminated, supported or similarly combined with other materials (excluding self-adhesive products, floor, wall and ceiling coverings of HS 3918 and sterile surgical or dental adhesion barriers of CN 3006 10 30)
22214120	Plates, sheet, film, foil and strip of cellular polymers of styrene
22214130	Plates, sheets, film, foil and strip of cellular polymers of vinyl chloride
22214150	Plates, sheets, film, foil and strip of cellular polyurethanes
22214170	Plates, sheets, film, foil and strip of regenerated cellular cellulose
22214180	Plates, sheets, film, foil and strip of cellular plastics (excluding of polymers of styrene, of polymers of vinyl chloride, of polyurethanes, of regenerated cellulose)
22214230	Non-cellular plates, sheets, film, foil, strip of condensation or rearrangement polymerisation products, polyesters, reinforced, laminated, supported/similarly comb. with other materials)
22214250	Non-cellular plates, strips..., of phenolic resins
22214275	Non-cellular plates, sheets, film, foil, strip of condensation or rearrangement polymerisation products, amino-resins (high pressure laminates, decorative surface one/both sides)
22214279	Other plates, sheets, films, foil and strip, of polymerisation products
22214280	Other plates..., non-cellular of plastics other than made by polymerisation
22.22	**Manufacture of plastic packing goods**
22221100	Sacks and bags of polymers of ethylene (including cones)
22221200	Plastic sacks and bags (including cones) (excluding of polymers of ethylene)
22221300	Plastic boxes, cases, crates and similar articles for the conveyance or packing of goods
22221450	Plastic carboys, bottles, flasks and similar articles for the conveyance or packing of goods, of a capacity ≤ 2 litres
22221470	Plastic carboys, bottles, flasks and similar articles for the conveyance or packing of goods, of a capacity > 2 litres
22221910	Spools, cops, bobbins and similar supports, of plastics
22221925	Plastic stoppers, lids, caps, capsules and other closures
22221950	Articles for the conveyance or packaging of goods, of plastics (excluding boxes, cases, crates and similar articles; sacks and bags, including cones; carboys, bottles, flasks and similar articles; spools, spindles, bobbins and similar supports; stoppers, lids, caps and other closures)
22.23	**Manufacture of builders' ware of plastic**
22231155	Floor coverings in rolls or in tiles and wall or ceiling coverings consisting of a support impregnated, coated or covered with polyvinyl chloride
22231159	Other floor, wall, ceiling... coverings of polymers of vinyl chloride
22231190	Floor coverings in rolls or in tiles; and wall or ceiling coverings of plastics (excluding of polymers of vinyl chloride)
22231250	Plastic baths, shower-baths, sinks and wash-basins
22231270	Plastic lavatory seats and covers
22231290	Plastic bidets, lavatory pans, flushing cisterns and similar sanitary ware (excluding baths, showers-baths, sinks and wash-basins, lavatory seats and covers)
22231300	Plastic reservoirs, tanks, vats, intermediate bulk and similar containers, of a capacity > 300 litres
22231450	Plastic doors, windows and their frames and thresholds for doors
22231470	Plastic shutters, blinds and similar articles and parts thereof
22231500	Linoleum, floor coverings consisting of a coating or covering applied on a textile backing (excluding sheets and plates of linoleum compounds)
22231950	Builder's fittings and mountings intended for permanent installation of plastics
22231990	Builders' ware for the manufacture of flooring, walls, partition walls, ceilings, roofing, etc., guttering and accessories, banisters, fences and the like, fitted shelving for shops, factories, warehouses, storerooms, etc.,

	architectural ornaments such as fluting, vaulting and friezes, of plastics, n.e.c.
22232000	Prefabricated buildings, of plastics
22.29	**Manufacture of other plastic products**
22291010	Plastic articles of apparel and clothing accessories (including headgear, gloves, raincoats, aprons, belts and babies' bibs) (excluding safety headgear)
22292130	Self-adhesive strips of plastic with a coating consisting of unvulcanised natural or synthetic rubber, in rolls of a width ≤ 20 cm
22292140	Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics, in rolls ≤ 20 cm wide (excluding plastic strips coated with unvulcanised natural or synthetic rubber)
22292240	Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics, whether or not in rolls > 20 cm wide (excluding floor, wall and ceiling coverings of HS 3918)
22292320	Tableware and kitchenware of plastic
22292340	Household articles and toilet articles, of plastics (excluding tableware, kitchenware, baths, shower-baths, washbasins, bidets, lavatory pans, seats and covers, flushing cisterns and similar sanitary ware)
22292400	Plastic parts for lamps, lighting fittings and illuminated signs and name-plates
22292500	Office or school supplies of plastic (including paperweights, paper-knives, blotting pads, pen-rests and book marks)
22292610	Plastic fittings for furniture, coachwork or the like
22292620	Statuettes and other ornamental articles of plastic (including photograph, picture and similar frames)
22292630	Perforated buckets and similar articles used to filter water at the entrance to drains, of plastic
22292910	Hard rubber or plastic combs, hair-slides and the like (excluding electro-thermic hairdressing apparatus)
22292915	Hairpins, curling pins, curling grips, hair-curlers and the like, and parts thereof, of plastic (excluding electro-thermic hairdressing apparatus)
22292920	Outer soles and heels of plastics
22292950	Other articles made from sheet
22292995	Other articles of plastic n.e.c (excluding appliances identifiable for ostomy use)
22299110	Plastic parts for machinery and mechanical appliances, excluding internal combustion piston engines, gas turbines
22299125	Plastic parts for apparatus of HS 8509 and 8516
22299127	Plastic parts for turntables, record players, cassette-players, magnetic tape recorders, other sound or video recording/reproducing apparatus excluding pick-up cartridges
22299130	Plastic parts for apparatus of HS 8525 to 8528
22299140	Plastic products, parts of apparatus of HS 8535 to 8537, and 8542
22299150	Plastic parts for locomotives or rolling stock, railway or tramway track fixtures and fittings, mechanical signalling, safety or traffic control equipment
22299160	Plastic parts and accessories for all land vehicles (excluding for locomotives or rolling stock)
22299180	Plastic parts for aircraft and spacecraft
22299193	Plastic parts for electrical machinery and equipment, sound recorders and reproducers, television image and sound recorders and reproducers
22299197	Plastic parts for optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus

Table 3. Additional PRODCOM 2019 / NIP 2019 product codes containing plastic materials, not specified in headings 20.16 and 22.2

Prodcom/NIP	Heading	Related CN numbers
15201100	Waterproof footwear, with uppers in rubber or plastics (excluding incorporating a protective metal toecap)	6401 92 10, 6401 92 90, 6401 99 00
15201210	Sandals with rubber or plastic outer soles and uppers (including thong-type sandals, flip flops)	6402 20 00, 6402 99 31, 6402 99 39
15201231	Town footwear with rubber or plastic uppers	6402 91 90, 6402 99 10, 6402 99 91, 6402 99 93, 6402 99 96, 6402 99 98
15201237	Slippers and other indoor footwear with rubber or plastic outer soles and plastic uppers (including bedroom and dancing slippers, mules)	6402 99 50

17221240	Wadding; other articles of wadding	5601229000
20595640	Compound plasticisers for rubber or plastics	3808 92 90
31031250	**Mattresses of cellular plastics (including with a metal frame) (excluding water-mattresses, pneumatic mattresses)**	**9404 21 90**
31091430	Furniture of plastics (excluding medical, surgical, dental or veterinary furniture - cases and cabinets specially designed for hi-fi systems, videos and televisions)	9403 70 00
32502253	Individual artificial teeth of plastics (including metal posts for fixing) (excluding dentures or part dentures)	9021 21 10
32504350	Plastic frames and mountings for spectacles, goggles or the like	9003 11 00

Table 4. PRODCOM 2019 / NIP 2019 product codes relevant for fishing gear (fishing nets and fishing requisites)

Prodcom/NIP	Heading
1394	**Manufacture of cordage, rope, twine and netting**
13941130	Twine, cordage, rope or cables, of sisal or other textile fibres of 'agave', of jute or other textile bast fibres and hard leaf fibres (excluding binder or baler twine)
13941153	Sisal binder or baler (agricultural) twines
13941155	Polyethylene or polypropylene binder or baler (agricultural) twines
13941160	Cordage, ropes or cables of polyethylene, polypropylene, nylon or other polyamides or of polyesters measuring > 50 000 decitex, of other synthetic fibres (excluding binder or baler twine)
13941170	Twines of polyethylene or polypropylene, of nylon or other polyamides or polyesters measuring ≤ 50 000 decitex (5 g/m) (excluding binder or baler twine)
13941190	Twines, cordage, rope and cables of textile materials (excluding jute and other textile bast fibres, sisal, abaca or other hard leaf fibres, synthetic fibres)
13941233	Made-up fishing nets from twine, cordage or rope of man-made fibres (excluding fish landing nets)
13941235	Made-up fishing nets from yarn of man-made fibres (excluding fish landing nets)
13941253	Made-up nets from twine, cable or rope of nylon or other polyamides (excluding netting in the piece produced by crochet, hairnets, sports and fishing nets)
13941255	Made-up nets of nylon or other polyamides (excluding netting in the piece produced by crochet, hairnets, sports and fishing nets, those made from twine, cable or rope)
13941259	Knotted netting of textile materials (excluding made-up fishing nets of man-made textiles, other made-up nets of nylon or other polyamides)
13941280	Articles of twine, cordage, rope or cables
3230	**Manufacture of sports goods**
32301600	Fishing rods, other line fishing tackle; articles for hunting or fishing n.e.c.

Table 5. PRODCOM 2019 / NIP 2019 product codes relevant for tobacco products with filters and filters (separately) marketed for use in combination with tobacco products

Prodcom/NIP	Heading
1200	**Manufacture of tobacco products**
12001130	Cigars, cheroots and cigarillos containing tobacco or mixtures of tobacco and tobacco substitutes (excluding tobacco duty)
12001150	Cigarettes containing tobacco or mixtures of tobacco and tobacco substitutes (excluding tobacco duty)
12001170	Cigars; cheroots; cigarillos and cigarettes containing only tobacco substitutes (excluding tobacco duty)
12001200	Cured stemmed/striped tobacco leaves
12001930	Smoking tobacco (excluding tobacco duty)
12001990	Manufactured tobacco, extracts and essences, other homogenised or reconstituted tobacco, n.e.c.
1722	**Manufacture of household and sanitary goods and of toilet requisites**
17221240	Wadding; other articles of wadding

Annex 3.9 – CN Nomenclature for foreign trade of goods – CN codes used for foreign trade of products made of plastic materials (including CN codes of interest for the Project)

http://ec.europa.eu/eurostat/ramon/documents/cn_2019/CN2019-SITC4.zip

Table 1: CN codes used for foreign trade of products made of plastic materials (including CN codes of interest for the Project), specified in group 39

VII	SECTION VII - PLASTICS AND ARTICLES THEREOF; RUBBER AND ARTICLES THEREOF
39	CHAPTER 39 - PLASTICS AND ARTICLES THEREOF
	I. PRIMARY FORMS
3901	Polymers of ethylene, in primary forms
3901 10	- Polyethylene having a specific gravity of less than 0,94
3901 10 10	-- Linear polyethylene
3901 10 90	-- Other
3901 20	- Polyethylene having a specific gravity of 0,94 or more
3901 20 10	-- Polyethylene in one of the forms mentioned in note 6(b) to this chapter, of a specific gravity of 0,958 or more at 23 °C, containing: - 50 mg/kg or less of aluminium, - 2 mg/kg or less of calcium, - 2 mg/kg or less of chromium, - 2 mg/kg or less of iron, - 2 mg/kg or less of nickel, - 2 mg/kg or less of titanium and - 8 mg/kg or less of vanadium,for the manufacture of chlorosulphonated polyethylene
3901 20 90	-- Other
3901 30 00	- Ethylene-vinyl acetate copolymers
3901 40 00	- Ethylene-alpha-olefin copolymers, having a specific gravity of less than 0,94
3901 90	- Other
3901 90 30	-- Ionomer resin consisting of a salt of a terpolymer of ethylene with isobutyl acrylate and methacrylic acid; A-B-A block copolymer of polystyrene, ethylene-butylene copolymer and polystyrene, containing by weight 35 % or less of styrene, in one of the forms mentioned in note 6(b) to this chapter
3901 90 80	-- Other
3902	Polymers of propylene or of other olefins, in primary forms
3902 10 00	- Polypropylene
3902 20 00	- Polyisobutylene
3902 30 00	- Propylene copolymers
3902 90	- Other
3902 90 10	-- A-B-A block copolymer of polystyrene, ethylene-butylene copolymer and polystyrene, containing by weight 35 % or less of styrene, in one of the forms mentioned in note 6(b) to this chapter
3902 90 20	-- Polybut-1-ene, a copolymer of but-1-ene with ethylene containing by weight 10 % or less of ethylene, or a blend of polybut-1-ene with polyethylene and/or polypropylene containing by weight 10 % or less of polyethylene and/or 25 % or less of polypropylene, in one of the forms mentioned in note 6(b) to this chapter
3902 90 90	-- Other
3903	Polymers of styrene, in primary forms
	- Polystyrene
3903 11 00	-- Expansible
3903 19 00	-- Other
3903 20 00	- Styrene-acrylonitrile (SAN) copolymers
3903 30 00	- Acrylonitrile-butadiene-styrene (ABS) copolymers
3903 90	- Other
3903 90 10	-- Copolymer, solely of styrene with allyl alcohol, of an acetyl value of 175 or more
3903 90 20	-- Brominated polystyrene, containing by weight 58 % or more but not more than 71 % of bromine, in one of the forms mentioned in note 6(b) to this chapter
3903 90 90	-- Other
3904	Polymers of vinyl chloride or of other halogenated olefins, in primary forms
3904 10 00	- Poly(vinyl chloride), not mixed with any other substances
	- Other poly(vinyl chloride)
3904 21 00	-- Non-plasticised
3904 22 00	-- Plasticised
3904 30 00	- Vinyl chloride-vinyl acetate copolymers
3904 40 00	- Other vinyl chloride copolymers
3904 50	- Vinylidene chloride polymers
3904 50 10	-- Copolymer of vinylidene chloride with acrylonitrile, in the form of expansible beads of a diameter of 4 micrometres or more but not more than 20 micrometres
3904 50 90	-- Other
	- Fluoropolymers
3904 61 00	-- Polytetrafluoroethylene
3904 69	-- Other
3904 69 10	--- Poly(vinyl fluoride), in one of the forms mentioned in note 6(b) to this chapter
3904 69 20	--- Fluoroelastomers FKM
3904 69 80	--- Other
3904 90 00	- Other
3905	Polymers of vinyl acetate or of other vinyl esters, in primary forms; other vinyl polymers in primary forms
	- Poly(vinyl acetate)
3905 12 00	-- In aqueous dispersion
3905 19 00	-- Other
	- Vinyl acetate copolymers
3905 21 00	-- In aqueous dispersion
3905 29 00	-- Other
3905 30 00	- Poly(vinyl alcohol), whether or not containing unhydrolysed acetate groups
	- Other
3905 91 00	-- Copolymers
3905 99	-- Other
3905 99 10	--- Poly(vinyl formal), in one of the forms mentioned in note 6(b) to this chapter, of a molecular weight of 10000 or more but not exceeding 40000 and containing by weight: - 9,5 % or more but not more than 13 % of acetyl groups evaluated as vinyl acetate and - 5 % or more but not more than 6,5 % of hydroxy groups

	evaluated as vinyl alcohol
3905 99 90	--- Other
3906	Acrylic polymers in primary forms
3906 10 00	- Poly(methyl methacrylate)
3906 90	- Other
3906 90 10	-- Poly[N-(3-hydroxyimino-1,1-dimethylbutyl)acrylamide]
3906 90 20	-- Copolymer of 2-diisopropylaminoethyl methacrylate with decyl methacrylate, in the form of a solution in N,N-dimethylacetamide, containing by weight 55 % or more of copolymer
3906 90 30	-- Copolymer of acrylic acid with 2-ethylhexyl acrylate, containing by weight 10 % or more but not more than 11 % of 2-ethylhexyl acrylate
3906 90 40	-- Copolymer of acrylonitrile with methyl acrylate, modified with polybutadiene-acrylonitrile (NBR)
3906 90 50	-- Polymerisation product of acrylic acid with alkyl methacrylate and small quantities of other monomers, for use as a thickener in the manufacture of textile printing pastes
3906 90 60	-- Copolymer of methyl acrylate with ethylene and a monomer containing a non-terminal carboxy group as a substituent, containing by weight 50 % or more of methyl acrylate, whether or not compounded with silica
3906 90 90	-- Other
3907	Polyacetals, other polyethers and epoxide resins, in primary forms; polycarbonates, alkyd resins, polyallyl esters and other polyesters, in primary forms
3907 10 00	- Polyacetals
3907 20	- Other polyethers
	-- Polyether alcohols
3907 20 11	--- Polyethylene glycols
3907 20 20	--- Other
	-- Other
3907 20 91	--- Copolymer of 1-chloro-2,3-epoxypropane with ethylene oxide
3907 20 99	--- Other
3907 30 00	- Epoxide resins
3907 40 00	- Polycarbonates
3907 50 00	- Alkyd resins
	- Poly(ethylene terephthalate)
3907 61 00	-- Having a viscosity number of 78 ml/g or higher
3907 69 00	-- Other
3907 70 00	- Poly(lactic acid)
	- Other polyesters
3907 91	-- Unsaturated
3907 91 10	--- Liquid
3907 91 90	--- Other
3907 99	-- Other
3907 99 05	--- Thermoplastic liquid crystal aromatic polyester copolymers
3907 99 10	--- Poly(ethylene naphthalene-2,6-dicarboxylate)
3907 99 80	--- Other
3908	Polyamides in primary forms
3908 10 00	- Polyamide-6, -11, -12, -6,6, -6,9, -6,10 or -6,12
3908 90 00	- Other
3909	Amino-resins, phenolic resins and polyurethanes, in primary forms
3909 10 00	- Urea resins; thiourea resins
3909 20 00	- Melamine resins
	- Other amino-resins
3909 31 00	-- Poly(methylene phenyl isocyanate) (crude MDI, polymeric MDI)
3909 39 00	-- Other
3909 40 00	- Phenolic resins
3909 50	- Polyurethanes
3909 50 10	-- Polyurethane of 2,2′-(tert-butylimino)diethanol and 4,4′-methylenedicyclohexyl diisocyanate, in the form of a solution in N,N-dimethylacetamide, containing by weight 50 % or more of polymer
3909 50 90	-- Other
3910 00 00	Silicones in primary forms
3911	Petroleum resins, coumarone-indene resins, polyterpenes, polysulphides, polysulphones and other products specified in note 3 to this chapter, not elsewhere specified or included, in primary forms
3911 10 00	- Petroleum resins, coumarone, indene or coumarone-indene resins and polyterpenes
3911 90	- Other
	-- Condensation or rearrangement polymerisation products whether or not chemically modified
3911 90 11	--- Poly(oxy-1,4-phenylenesulphonyl-1,4-phenyleneoxy-1,4-phenyleneisopropylidene-1,4-phenylene), in one of the forms mentioned in note 6(b) to this chapter
3911 90 13	--- Poly(thio-1,4-phenylene)
3911 90 19	--- Other
	-- Other
3911 90 92	--- Copolymer of p-cresol and divinylbenzene, in the form of a solution in N,N-dimethylacetamide containing by weight 50 % or more of polymer; hydrogenated copolymers of vinyltoluene and α-methylstyrene
3911 90 99	--- Other
3912	Cellulose and its chemical derivatives, not elsewhere specified or included, in primary forms
	- Cellulose acetates
3912 11 00	-- Non-plasticised
3912 12 00	-- Plasticised
3912 20	- Cellulose nitrates (including collodions)
	-- Non-plasticised
3912 20 11	--- Collodions and celloidin
3912 20 19	--- Other
3912 20 90	-- Plasticised
	- Cellulose ethers
3912 31 00	-- Carboxymethylcellulose and its salts
3912 39	-- Other
3912 39 20	--- Hydroxypropylcellulose
3912 39 85	--- Other
3912 90	- Other
3912 90 10	-- Cellulose esters
3912 90 90	-- Other
3913	Natural polymers (for example, alginic acid) and modified natural polymers (for example, hardened proteins, chemical derivatives of natural rubber), not elsewhere specified or included, in primary forms
3913 10 00	- Alginic acid, its salts and esters
3913 90 00	- Other
3914 00 00	Ion-exchangers based on polymers of headings 3901 to 3913, in primary forms
	II. WASTE, PARINGS AND SCRAP; SEMI-MANUFACTURES; ARTICLES
3915	Waste, parings and scrap, of plastics
3915 10 00	- Of polymers of ethylene
3915 20 00	- Of polymers of styrene
3915 30 00	- Of polymers of vinyl chloride
3915 90	- Of other plastics
3915 90 11	-- Of polymers of propylene
3915 90 80	-- Other
3916	Monofilament of which any cross-sectional dimension exceeds 1 mm, rods, sticks and profile shapes, whether or not surface-worked but not

	otherwise worked, of plastics
3916 10 00	- Of polymers of ethylene
3916 20 00	- Of polymers of vinyl chloride
3916 90	- Of other plastics
3916 90 10	-- Of condensation or rearrangement polymerisation products, whether or not chemically modified
3916 90 50	-- Of addition polymerisation products
3916 90 90	-- Other
3917	Tubes, pipes and hoses, and fittings therefor (for example, joints, elbows, flanges), of plastics
3917 10	- Artificial guts (sausage casings) of hardened protein or of cellulosic materials
3917 10 10	-- Of hardened protein
3917 10 90	-- Of cellulosic materials
	- Tubes, pipes and hoses, rigid
3917 21	-- Of polymers of ethylene
3917 21 10	--- Seamless and of a length exceeding the maximum cross-sectional dimension, whether or not surface-worked, but not otherwise worked
3917 21 90	--- Other
3917 22	-- Of polymers of propylene
3917 22 10	--- Seamless and of a length exceeding the maximum cross-sectional dimension, whether or not surface-worked, but not otherwise worked
3917 22 90	--- Other
3917 23	-- Of polymers of vinyl chloride
3917 23 10	--- Seamless and of a length exceeding the maximum cross-sectional dimension, whether or not surface-worked, but not otherwise worked
3917 23 90	--- Other
3917 29 00	-- Of other plastics
	- Other tubes, pipes and hoses
3917 31 00	-- Flexible tubes, pipes and hoses, having a minimum burst pressure of 27,6 MPa
3917 32 00	-- Other, not reinforced or otherwise combined with other materials, without fittings
3917 33 00	-- Other, not reinforced or otherwise combined with other materials, with fittings
3917 39 00	-- Other
3917 40 00	- Fittings
3918	Floor coverings of plastics, whether or not self-adhesive, in rolls or in the form of tiles; wall or ceiling coverings of plastics, as defined in note 9 to this chapter
3918 10	- Of polymers of vinyl chloride
3918 10 10	-- Consisting of a support impregnated, coated or covered with poly(vinyl chloride)
3918 10 90	-- Other
3918 90 00	- Of other plastics
3919	Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics, whether or not in rolls
3919 10	- In rolls of a width not exceeding 20 cm
	-- Strips, the coating of which consists of unvulcanised natural or synthetic rubber
3919 10 12	--- Of poly(vinyl chloride) or of polyethylene
3919 10 15	--- Of polypropylene
3919 10 19	--- Other
3919 10 80	-- Other
3919 90	- Other
3919 90 20	-- Self-adhesive circular polishing pads of a kind used for the manufacture of semiconductor wafers
3919 90 80	-- Other
3920	Other plates, sheets, film, foil and strip, of plastics, non-cellular and not reinforced, laminated, supported or similarly combined with other materials
3920 10	- Of polymers of ethylene
	-- Of a thickness not exceeding 0,125 mm
	--- Of polyethylene having a specific gravity of
	---- Less than 0,94
3920 10 23	----- Polyethylene film, of a thickness of 20 micrometres or more but not exceeding 40 micrometres, for the production of photoresist film used in the manufacture of semiconductors or printed circuits
3920 10 24	----- Stretch film, not printed
3920 10 25	----- Other
3920 10 28	---- 0,94 or more
3920 10 40	--- Other
	-- Of a thickness exceeding 0,125 mm
3920 10 81	--- Synthetic paper pulp, in the form of moist sheets made from unconnected finely branched polyethylene fibrils, whether or not blended with cellulose fibres in a quantity not exceeding 15 %, containing poly(vinyl alcohol) dissolved in water as the moistening agent
3920 10 89	--- Other
3920 20	- Of polymers of propylene
	-- Of a thickness not exceeding 0,10 mm
3920 20 21	--- Biaxially oriented
3920 20 29	--- Other
3920 20 80	-- Of a thickness exceeding 0,10 mm
3920 30 00	- Of polymers of styrene
	- Of polymers of vinyl chloride
3920 43	-- Containing by weight not less than 6 % of plasticisers
3920 43 10	--- Of a thickness not exceeding 1 mm
3920 43 90	--- Of a thickness exceeding 1 mm
3920 49	-- Other
3920 49 10	--- Of a thickness not exceeding 1 mm
3920 49 90	--- Of a thickness exceeding 1 mm
	- Of acrylic polymers
3920 51 00	-- Of poly(methyl methacrylate)
3920 59	-- Other
3920 59 10	--- Copolymer of acrylic and methacrylic esters, in the form of film of a thickness not exceeding 150 micrometres
3920 59 90	--- Other
	- Of polycarbonates, alkyd resins, polyallyl esters or other polyesters
3920 61 00	-- Of polycarbonates
3920 62	-- Of poly(ethylene terephthalate)
	--- Of a thickness not exceeding 0,35 mm
3920 62 12	---- Poly(ethylene terephthalate) film, of a thickness of 72 micrometres or more but not exceeding 79 micrometres, for the manufacture of flexible magnetic disks; poly(ethylene terephthalate) film, of a thickness of 100 micrometres or more but not exceeding 150 micrometres, for the manufacture of photopolymer printing plates
3920 62 19	---- Other
3920 62 90	--- Of a thickness exceeding 0,35 mm
3920 63 00	-- Of unsaturated polyesters
3920 69 00	-- Of other polyesters
	- Of cellulose or its chemical derivatives
3920 71 00	-- Of regenerated cellulose
3920 73	-- Of cellulose acetate
3920 73 10	--- Film in rolls or in strips, for cinematography or photography
3920 73 80	--- Other
3920 79	-- Of other cellulose derivatives
3920 79 10	--- Of vulcanised fibre
3920 79 90	--- Other
	- Of other plastics

3920 91 00	-- Of poly(vinyl butyral)
3920 92 00	-- Of polyamides
3920 93 00	-- Of amino-resins
3920 94 00	-- Of phenolic resins
3920 99	-- Of other plastics
	--- Of condensation or rearrangement polymerisation products, whether or not chemically modified
3920 99 21	---- Polyimide sheet and strip, uncoated, or coated or covered solely with plastic
3920 99 28	---- Other
	--- Of addition polymerisation products
3920 99 52	---- Poly(vinyl fluoride) sheet; biaxially oriented poly(vinyl alcohol) film, containing by weight 97 % or more of poly(vinyl alcohol), uncoated, of a thickness not exceeding 1 mm
3920 99 53	---- Ion-exchange membranes of fluorinated plastic material, for use in chlor-alkali electrolytic cells
3920 99 59	---- Other
3920 99 90	--- Other
3921	Other plates, sheets, film, foil and strip, of plastics
	- Cellular
3921 11 00	-- Of polymers of styrene
3921 12 00	-- Of polymers of vinyl chloride
3921 13	-- Of polyurethanes
3921 13 10	--- Flexible
3921 13 90	--- Other
3921 14 00	-- Of regenerated cellulose
3921 19 00	-- Of other plastics
3921 90	- Other
	-- Of condensation or rearrangement polymerisation products, whether or not chemically modified
3921 90 10	--- Of polyesters
3921 90 30	--- Of phenolic resins
	--- Of amino-resins
	---- Laminated
3921 90 41	----- High-pressure laminates with a decorative surface on one or both sides
3921 90 43	----- Other
3921 90 49	---- Other
3921 90 55	--- Other
3921 90 60	-- Of addition polymerisation products
3921 90 90	-- Other
3922	Baths, shower-baths, sinks, washbasins, bidets, lavatory pans, seats and covers, flushing cisterns and similar sanitary ware, of plastics
3922 10 00	- Baths, shower-baths, sinks and washbasins
3922 20 00	- Lavatory seats and covers
3922 90 00	- Other
3923	Articles for the conveyance or packing of goods, of plastics; stoppers, lids, caps and other closures, of plastics
3923 10	- Boxes, cases, crates and similar articles
3923 10 10	-- Boxes, cases, crates and similar articles, of plastic, specially shaped or fitted for the conveyance or packing of semiconductor wafers, masks, or reticles
3923 10 90	-- Other
	- Sacks and bags (including cones)
3923 21 00	-- Of polymers of ethylene
3923 29	-- Of other plastics
3923 29 10	--- Of poly(vinyl chloride)
3923 29 90	--- Other
3923 30	- Carboys, bottles, flasks and similar articles
3923 30 10	-- Of a capacity not exceeding two litres
3923 30 90	-- Of a capacity exceeding two litres
3923 40	- Spools, cops, bobbins and similar supports
3923 40 10	-- Spools, reels and similar supports for photographic and cinematographic film or for tapes, films and the like of heading 8523
3923 40 90	-- Other
3923 50	- Stoppers, lids, caps and other closures
3923 50 10	-- Caps and capsules for bottles
3923 50 90	-- Other
3923 90 00	- Other
3924	Tableware, kitchenware, other household articles and hygienic or toilet articles, of plastics
3924 10 00	- Tableware and kitchenware
3924 90 00	- Other
3925	Builders' ware of plastics, not elsewhere specified or included
3925 10 00	- Reservoirs, tanks, vats and similar containers, of a capacity exceeding 300 litres
3925 20 00	- Doors, windows and their frames and thresholds for doors
3925 30 00	- Shutters, blinds (including venetian blinds) and similar articles and parts thereof
3925 90	- Other
3925 90 10	-- Fittings and mountings intended for permanent installation in or on doors, windows, staircases, walls or other parts of buildings
3925 90 20	-- Trunking, ducting and cable trays for electrical circuits
3925 90 80	-- Other
3926	Other articles of plastics and articles of other materials of headings 3901 to 3914
3926 10 00	- Office or school supplies
3926 20 00	- Articles of apparel and clothing accessories (including gloves, mittens and mitts)
3926 30 00	- Fittings for furniture, coachwork or the like
3926 40 00	- Statuettes and other ornamental articles
3926 90	- Other
3926 90 50	-- Perforated buckets and similar articles used to filter water at the entrance to drains
3926 90 97	-- Other

Table 2. Additional CN codes on products containing plastic materials, not specified in group 39

5601 22 90	Wadding of textile materials and articles thereof; textile fibres, not exceeding 5 mm in length (flock), textile dust and mill neps - Wadding Of textile materials and articles thereof--- Other
5904 10 00	Linoleum, whether or not cut to shape; floor coverings consisting of a coating or covering applied on a textile backing, whether or not cut to shape- Linoleum
5904 90 00	Linoleum, whether or not cut to shape; floor coverings consisting of a coating or covering applied on a textile backing, whether or not cut to shape- Other
6406 20 90	Parts of footwear (including uppers whether or not attached to soles other than outer soles); removable insoles, heel cushions and similar articles; gaiters, leggings and similar articles, and parts thereof - Outer soles and heels, of rubber or plastics-- Of plastics
6506 91 00	Other headgear, whether or not lined or trimmed-- Of rubber or of plastics
9404 21 90	Mattress supports; articles of bedding and similar furnishing (for example, mattresses, quilts, eiderdowns, cushions, pouffes and pillows) fitted with springs or stuffed or

	internally fitted with any material or of cellular rubber or plastics, whether or not covered-- Of cellular rubber or plastics, whether or not covered--- Of plastics
9405 92 00	Lamps and lighting fittings including searchlights and spotlights and parts thereof, not elsewhere specified or included; illuminated signs, illuminated nameplates and the like, having a permanently fixed light source, and parts thereof not elsewhere specified or included-- Of plastics
9406 90 90	Prefabricated buildings--- Of other materials
9615 11 00	Combs, hair-slides and the like; hairpins, curling pins, curling grips, hair-curlers and the like, other than those of heading 8516, and parts thereof-- Of hard rubber or plastics
9615 90 00	Combs, hair-slides and the like; hairpins, curling pins, curling grips, hair-curlers and the like, other than those of heading 8516, and parts thereof- Other

Table 3. CN codes relevant for fishing gear products (5608 – fishing nets and CN – 9507 – fishing requisites)

5608	Knotted netting of twine, cordage or rope; made-up fishing nets and other made-up nets, of textile materials
	- Of man-made textile materials
5608 11	-- Made-up fishing nets
5608 11 20	--- Of twine, cordage, rope or cables
5608 11 80	--- Other
5608 19	-- Other
	--- Made-up nets
	---- Of nylon or other polyamides
5608 19 11	----- Of twine, cordage, rope or cables
5608 19 19	----- Other
5608 19 30	---- Other
5608 19 90	--- Other
5608 90 00	- Other
9507	Fishing rods, fish-hooks and other line fishing tackle; fish landing nets, butterfly nets and similar nets; decoy 'birds' (other than those of heading 9208 or 9705) and similar hunting or shooting requisites
9507 10 00	- Fishing rods
9507 20	- Fish-hooks, whether or not snelled
9507 20 10	-- Fish-hooks, not snelled
9507 20 90	-- Other
9507 30 00	- Fishing reels
9507 90 00	- Other

Table 4. CN codes relevant for tobacco products and filters separately marketed

24	CHAPTER 24 - TOBACCO AND MANUFACTURED TOBACCO SUBSTITUTES
2401	Unmanufactured tobacco; tobacco refuse
2401 10	- Tobacco, not stemmed/stripped
2401 10 35	-- Light air-cured tobacco
2401 10 60	-- Sun-cured Oriental type tobacco
2401 10 70	-- Dark air-cured tobacco
2401 10 85	-- Flue-cured tobacco
2401 10 95	-- Other
2401 20	- Tobacco, partly or wholly stemmed/stripped
2401 20 35	-- Light air-cured tobacco
2401 20 60	-- Sun-cured Oriental type tobacco
2401 20 70	-- Dark air-cured tobacco
2401 20 85	-- Flue-cured tobacco
2401 20 95	-- Other
2401 30 00	- Tobacco refuse
2402	Cigars, cheroots, cigarillos and cigarettes, of tobacco or of tobacco substitutes
2402 10 00	- Cigars, cheroots and cigarillos, containing tobacco
2402 20	- Cigarettes containing tobacco
2402 20 10	-- Containing cloves
2402 20 90	-- Other
2402 90 00	- Other
2403	Other manufactured tobacco and manufactured tobacco substitutes; 'homogenised' or 'reconstituted' tobacco; tobacco extracts and essences
	- Smoking tobacco, whether or not containing tobacco substitutes in any proportion
2403 11 00	-- Water-pipe tobacco specified in subheading note 1 to this chapter
2403 19	-- Other
2403 19 10	--- In immediate packings of a net content not exceeding 500 g
2403 19 90	--- Other
	- Other
2403 91 00	-- 'Homogenised' or 'reconstituted' tobacco
2403 99	-- Other
2403 99 10	--- Chewing tobacco and snuff
2403 99 90	--- Other
5601	Wadding of textile materials and articles thereof; textile fibres, not exceeding 5 mm in length (flock), textile dust and mill neps
5601229000	wadding of textile materials and articles thereof – other

Annex 3.10 – Sold production, exports and imports by PRODCOM list (NACE Rev. 2) – 2019 annual data (DS-066341)

Source: Eurostat, https://ec.europa.eu/eurostat/web/prodcom/data/database

- ':' data is not available
- EXP_ QUANTITY: this field gives the volume of exports derived from the External Trade statistics.
- EXP_VALUE: this field gives the value of exports in Euro, derived from the External Trade statistics.
- IMP_ QUANTITY: this field gives the volume of imports derived from the External Trade statistics.
- IMP_VALUE: this field gives the value of imports in Euro, derived from the External Trade statistics.
- PROD_QUANTITY: this field gives the volume of production in the unit indicated in UNIT.
- PROD_VALUE_EUR: this field gives the value of production in Euro.
- UNIT: This field indicates the unit in which the volume data is expressed. The volumes of production, imports and exports are all expressed in the unit shown.

EXPQNT (kg)	EXPVAL (EUR)	IMPQNT (kg)	IMPVAL (EUR)	PRODQNT (kg)	PRODVAL (EUR)	QNTUNIT	PRODCOM 2019 / NIP 2019 code
HEADING 20.16							
726100	839290	16715700	17463960	0	0	kg	20161035 - Linear polyethylene having a specific gravity < 0,94, in primary forms
1037200	973930	35885500	36400830	0	0	kg	20161039 - Polyethylene having a specific gravity < 0,94, in primary forms (excluding linear)
4934100	5705590	37818200	42349370	0	0	kg	20161050 - Polyethylene having a specific gravity of >= 0,94, in primary forms
1200	1470	1273700	2571150	0	0	kg	20161070 - Ethylene-vinyl acetate copolymers, in primary forms
355400	421040	52828900	53415060	0	0	kg	20161090 - Polymers of ethylene, in primary forms (excluding polyethylene, ethylene-vinyl acetate copolymers)
464000	757120	9976000	12290050	0	0	kg	20162035 - Expansible polystyrene, in primary forms
683300	660370	2393400	2845330	0	0	kg	20162039 - Polystyrene, in primary forms (excluding expansible polystyrene)
6300	21490	358000	976050	0	0	kg	20162050 - Styrene-acrylonitrile (SAN) copolymers, in primary forms
153800	261680	916000	1715040	0	0	kg	20162070 - Acrylonitrile-butadiene-styrene (ABS) copolymers, in primary forms
101900	76920	2925500	3170990	0	0	kg	20162090 - Polymers of styrene, in primary forms (excluding polystyrene, styrene-acrylonitrile (SAN) copolymers, acrylonitrile-butadiene-styrene (ABS) copolymers)
22100	7700	4309600	3681220	0	0	kg	20163010 - Polyvinyl chloride, not mixed with any other substances, in primary forms
608200	448200	211500	223460	300000	323729	kg	20163023 - Non-plasticised polyvinyl chloride mixed with any other substance, in primary forms
215500	257990	1944400	2077060	240000	258983	kg	20163025 - Plasticised polyvinyl chloride mixed with any other substance, in primary forms
21100	73940	691000	733730	0	0	kg	20163040 - Vinyl chloride-vinyl acetate copolymers and other vinyl chloride copolymers, in primary forms
100	3440	6800	49040	0	0	kg	20163060 - Fluoropolymers
0	130	7300	41790	0	0	kg	20163090 - Polymers of halogenated olefins, in primary forms, n.e.c.

EXPQNT (kg)	EXPVAL (EUR)	IMPQNT (kg)	IMPVAL (EUR)	PRODQNT (kg)	PRODVAL (EUR)	QNTUNIT	PRODCOM 2019 / NIP 2019 code
62600	264350	168200	527050	0	0	kg	20164013 - Polyacetals, in primary forms
200100	407270	1309700	3053960	0	0	kg	20164015 - Polyethylene glycols and other polyether alcohols, in primary forms
23000	24920	117200	478510	0	0	kg	20164020 - Polyethers, in primary forms (excluding polyacetals, polyether alcohols)
75200	321720	2390500	7226990	0	0	kg	20164030 - Epoxide resins, in primary forms
75100	178350	306400	864880	0	0	kg	20164040 - Polycarbonates, in primary forms
4099500	5380530	689000	1338190	5532000	7410700	kg	20164050 - Alkyd resins, in primary forms
381200	377330	18342500	18213730	0	0	kg	20164062 - Polyethylene terephthalate in primary forms having a viscosity number of >= 78 ml/g
5938100	3596180	708300	816370	5591000	3305814	kg	20164064 - Other polyethylene terephthalate in primary forms
7566900	11543030	2327200	5123460	0	0	kg	20164070 - Unsaturated liquid polyesters, in primary forms (excluding polyacetals, polyethers, epoxide resins, polycarbonates, alkyd resins, polyethylene terephthalate)
200	2200	524300	2236010	0	0	kg	20164080 - Unsaturated polyesters, in primary forms (excluding liquid polyesters, polyacetals, polyethers, epoxide resins, polycarbonates, alkyd resins, polyethylene terephthalate)
62900	288440	1061800	4348380	8851000	14820050	kg	20164090 - Polyesters, in primary forms (excluding polyacetals, polyethers, epoxide resins, polycarbonates, alkyd resins, polyethylene terephthalate, other unsaturated polyesters)
2685700	2506890	17429400	22132220	0	0	kg	20165130 - Polypropylene, in primary forms
8008200	10293890	25441100	35814530	0	0	kg	20165150 - Polymers of propylene or of other olefins, in primary forms (excluding polypropylene)
17900	32410	1448900	1792220	0	0	kg	20165230 - Polymers of vinyl acetate, in aqueous dispersion, in primary forms
20000	49950	2658700	4970560	0	0	kg	20165250 - Polymers of vinyl acetate, in primary forms (excluding in aqueous dispersion)
943800	2334980	77100	799180	0	0	kg	20165270 - Polymers of vinyl esters or other vinyl polymers, in primary forms (excluding vinyl acetate)
45300	158800	130100	598360	0	0	kg	20165350 - Polymethyl methacrylate, in primary forms
2277700	4140150	12492700	14890300	1802000	2876064	kg	20165390 - Acrylic polymers, in primary forms (excluding polymethyl methacrylate)
216200	836140	1993900	7470710	0	0	kg	20165450 - Polyamide -6, -11, -12, -6,6, -6,9, -6,10 or -6,12, in primary forms
64800	395110	397200	1500350	0	0	kg	20165490 - Polyamides, in primary forms (excluding polyamide -6, -11, -12, -6,6, -6,9, -6,10 or -6,12)
13500	93190	9848800	4636320	0	0	kg	20165550 - Urea resins and thiourea resins, in primary forms
348000	320630	2153800	868410	0	0	kg	20165570 - Melamine resins, in primary forms
57500	159230	1003900	1969510	0	0	kg	20165630 - Amino resins, in primary forms (excluding urea and thiourea resins, melamine resins)

EXPQNT (kg)	EXPVAL (EUR)	IMPQNT (kg)	IMPVAL (EUR)	PRODQNT (kg)	PRODVAL (EUR)	QNTUNIT	PRODCOM 2019 / NIP 2019 code
202300	129480	9814900	6090910	0	0	kg	20165650 - Phenolic resins, in primary forms
194100	778810	3626600	11910120	479000	1011519	kg	20165670 - Polyurethanes, in primary forms
109800	727780	968200	4375890	2000	14433	kg	20165700 - Silicones, in primary forms
144800	353340	1883400	5283110	0	0	kg	20165920 - Petroleum resins, coumarone-indene resins, polyterpenes, polysulphides, polysulphones, etc., n.e.c., in primary forms
:	:	:	:	:	:	:	20165940 - Cellulose and its chemical derivatives, n.e.c., in primary forms
43000	77190	815300	1358240	0	0	kg	20165945 - Petroleum resins, coumarone-indene resins, polyterpenes, polysulphides, polysulphones, etc., n.e.c., in primary forms
31300	201800	1234200	5452710	0	0	kg	20165950 - Petroleum resins, coumarone-indene resins, polyterpenes, polysulphides, polysulphones, etc., n.e.c., in primary forms
3300	43310	20200	240290	0	0	kg	20165955 - Petroleum resins, coumarone-indene resins, polyterpenes, polysulphides, polysulphones, etc., n.e.c., in primary forms
:	:	:	:	:	:	:	20165960 - Natural and modified natural polymers, in primary forms (including alginic acid, hardened proteins, chemical derivatives of natural rubber)
24500	189940	95200	954230	0	0	kg	20165965 - Petroleum resins, coumarone-indene resins, polyterpenes, polysulphides, polysulphones, etc., n.e.c., in primary forms
58400	196860	111400	403950	0	0	kg	20165970 - Ion-exchangers based on synthetic or natural polymers, in primary forms
HEADING 22.2							
31100	127700	206800	837500	0	0	kg	22211050 - Monofilament with any cross-sectional dimension > 1 mm, rods, sticks, profile shapes, of polymers of ethylene (including surface worked but not otherwise worked)
9872700	27230900	25995400	56710990	1969000	16321344	kg	22211070 - Monofilament with any cross-sectional dimension > 1 mm, rods, sticks, profile shapes, of polymers of vinyl chloride (including surface worked but not otherwise worked)
74700	385140	1011000	6911950	729000	2127575	kg	22211090 - Monofilament with any cross-sectional dimension > 1 mm; rods; sticks and profile shapes of plastics (excluding of polymers of ethylene, of polymers of vinyl chloride)
25600	452210	270900	3000110	0	0	kg	22212130 - Artificial guts (sausage skins) of hardened protein or cellulosic materials
4084400	8904650	3370000	7310640	8846000	12954966	kg	22212153 - Rigid tubes, pipes and hoses of polymers of ethylene
5262200	9725590	1803100	3908690	9900000	17296713	kg	22212155 - Rigid tubes, pipes and hoses of polymers of propylene
718300	1041310	5264800	6708180	1786000	2620857	kg	22212157 - Rigid tubes, pipes and hoses of polymers of vinyl chloride
120400	253370	4009000	5741830	184000	378628	kg	22212170 - Rigid tubes, pipes and hoses of plastics (excluding of polymers of ethylene, of polymers of propylene, of polymers of vinyl chloride)
211500	571950	701100	2606220	0	0	kg	22212920 - Flexible tubes, pipes and hoses of plastics, with a burst pressure >= 27,6 MPa
488600	5591130	1419800	8292660	0	0	kg	22212935 - Flexible tubes, pipes and hoses of plastics, not reinforced or otherwise combined with other materials, without fittings

EXPQNT (kg)	EXPVAL (EUR)	IMPQNT (kg)	IMPVAL (EUR)	PRODQNT (kg)	PRODVAL (EUR)	QNTUNIT	PRODCOM 2019 / NIP 2019 code
10200	186150	565100	2032550	0	0	kg	22212937 - Flexible tubes, pipes and hoses of plastics, not reinforced or otherwise combined with other materials, with fittings, seals or connectors
161400	1976300	1977500	9468900	0	0	kg	22212950 - Plastic tubes, pipes and hoses (excluding artificial guts, sausage skins, rigid, flexible tubes and pipes having a minimum burst pressure of 27,6 MPa)
918900	5049710	2645800	15601840	1071000	7790002	kg	22212970 - Fittings, e.g. joints, elbows, flanges, of plastics, for tubes, pipes and hoses
67580700	88252250	16106000	31306910	73170000	98083456	kg	22213010 - Other plates..., of polymers of ethylene, not reinforced, thickness <= 0,125 mm
8156500	11509350	7126300	11164630	8856000	13457555	kg	22213017 - Other plates..., of polymers of ethylene, not reinforced, etc., thickness > 0,125 mm
420900	1384520	6822000	17768590	0	0	kg	22213021 - Other plates..., of biaxially orientated polymers of propylene, thickness <= 0,10 mm
815100	7781710	2091700	4827930	0	0	kg	22213023 - Other plates..., of polymers of propylene, thickness <= 0,10 mm, others
:	:	:	:	:	:	:	22213025 - Strip of polymers of propylene, of a thickness of > 0.10 mm and a width of > 5 mm but <= 20 mm, of the kind used for packaging (excluding self-adhesive products)
103600	346240	1803000	3311120	0	0	kg	22213026 - Other plates..., of non-cellular polymers of propylene, thickness > 0,10 mm, n.e.c.
:	:	:	:	:	:	:	22213029 - Other stripes, thickness > 0.10 mm
128100	770130	1834100	7817440	4673000	13208689	kg	22213030 - Other plates..., of polymers of styrene, not reinforced, etc.
53900	154170	680500	2366840	0	0	kg	22213035 - Other plates, sheets, film, foil and strip, of polymers of vinyl chloride, containing >= 6 % of plasticisers, thickness <= 1 mm
151300	383090	631000	950150	0	0	kg	22213036 - Other plates, sheets, film, foil and strip, of polymers of vinyl chloride, containing >= 6 % of plasticisers, thickness > 1 mm
21400	75210	1580900	5156240	0	0	kg	22213037 - Other plates, sheets, film, foil and strip, of polymers of vinyl chloride, containing < 6 % of plasticisers, thickness <= 1 mm
23200	59510	723300	1664770	0	0	kg	22213038 - Other plates, sheets, film, foil and strip, of polymers of vinyl chloride, containing < 6 % of plasticisers, thickness > 1 mm
720800	2074980	2542700	9069050	0	0	kg	22213053 - Plates..., of polymethyl methacrylate, not reinforced, etc.
1200	19050	117900	669520	0	0	kg	22213059 - Plates..., of other acrylic polymers, not reinforced, etc., n.e.c.
56800	487800	490800	1883060	0	0	kg	22213061 - Plates, sheets, film, foil, strip of polycarbonates, non-cellular excluding floor, wall, ceiling coverings - self-adhesive, reinforced, laminated, supported/similarly combined with other materials
500	5520	22200	62410	0	0	kg	22213063 - Plates..., of unsaturated polyesters, not reinforced, etc.
736000	990850	2050400	5422830	3018000	2854347	kg	22213065 - Plates, sheets, film, foil, strip, of polyethylene terephthalate, not reinforced, etc., of a thickness <= 0,35 mm
1720900	2075230	772700	1640750	0	0	kg	22213067 - Plates, sheets, film, foil, strip, of polyethylene terephthalate, not reinforced, etc., of a thickness > 0,35 mm

EXPQNT (kg)	EXPVAL (EUR)	IMPQNT (kg)	IMPVAL (EUR)	PRODQNT (kg)	PRODVAL (EUR)	QNTUNIT	PRODCOM 2019 / NIP 2019 code
9900	34610	132600	580940	2305000	6464466	kg	22213069 - Plates, sheets, film, foil, strip of polyesters, non-cellular excluding floor, wall, ceiling coverings, self-adhesive - of polycarbonates, polyethylene terephthalate, unsaturated polyesters
2500	74110	575200	1899640	0	0	kg	22213070 - Plates, sheets, film, foil and strip, of non-cellular cellulose or its chemical derivatives, not reinforced, laminated, supported or similarly combined with other materials (excluding self-adhesive products as well as and floor, wall and ceiling coverings of HS 3918)
12300	67090	240300	1091980	0	0	kg	22213082 - Plates, sheets, film, foil, strip of polyamides, non-cellular (excluding floor, wall, ceiling coverings, self-adhesive, reinforced, laminated, supported/similarly combined with other materials)
135700	1527280	637600	4953150	0	0	kg	22213086 - Plates, sheets, film, foil and strip, of non-cellular poly(vinyl butyral), amino-resins, phenolic resins or polymerisation products, not reinforced, laminated, supported or similarly combined with other materials (excluding self-adhesive products as well as and floor, wall and ceiling coverings of H
19200	109130	115200	1150660	382000	1088000	kg	22213090 - Plates, sheets, film, foil and strip, of non-cellular plastics, n.e.c., not reinforced, laminated, supported or similarly combined with other materials (excluding self-adhesive products, floor, wall and ceiling coverings of HS 3918 and sterile surgical or dental adhesion barriers of CN 3006 10 30)
1771600	3744430	10671900	23033190	3633000	7535605	kg	22214120 - Plates, sheet, film, foil and strip of cellular polymers of styrene
186700	1328800	1058000	2723230	0	0	kg	22214130 - Plates, sheets, film, foil and strip of cellular polymers of vinyl chloride
1631400	5137150	6078900	18021650	40000	229308	kg	22214150 - Plates, sheets, film, foil and strip of cellular polyurethanes
11300	91600	219700	970960	0	0	kg	22214170 - Plates, sheets, film, foil and strip of regenerated cellular cellulose
99900	644410	2343900	6497990	0	0	kg	22214180 - Plates, sheets, film, foil and strip of cellular plastics (excluding of polymers of styrene, of polymers of vinyl chloride, of polyurethanes, of regenerated cellulose)
39300	134380	648900	1292050	0	0	kg	22214230 - Non-cellular plates, sheets, film, foil, strip of condensation or rearrangement polymerisation products, polyesters, reinforced, laminated, supported/similarly comb. with other materials)
162300	603860	156800	499900	0	0	kg	22214250 - Non-cellular plates, strips..., of phenolic resins
291900	1199930	1133800	4020750	2000	5261	kg	22214275 - Non-cellular plates, sheets, film, foil, strip of condensation or rearrangement polymerisation products, amino-resins (high pressure laminates, decorative surface one/both sides)
607600	3232130	2509600	8630180	354000	1306517	kg	22214279 - Other plates, sheets, films, foil and strip, of polymerisation products
2467000	7512990	3481300	15266340	0	0	kg	22214280 - Other plates..., non-cellular of plastics other than made by polymerisation
14653900	22306720	8925500	21766150	22959000	36534048	kg	22221100 - Sacks and bags of polymers of ethylene (including cones)
2362900	6683620	2320000	8572320	2407000	4850002	kg	22221200 - Plastic sacks and bags (including cones) (excluding of polymers of ethylene)

EXPQNT (kg)	EXPVAL (EUR)	IMPQNT (kg)	IMPVAL (EUR)	PRODQNT (kg)	PRODVAL (EUR)	QNTUNIT	PRODCOM 2019 / NIP 2019 code
8344200	19143060	8884900	22080240	10572000	24435211	kg	22221300 - Plastic boxes, cases, crates and similar articles for the conveyance or packing of goods
111036527	10107350	441908593	23268580	627603000	38526871	p/st	22221450 - Plastic carboys, bottles, flasks and similar articles for the conveyance or packing of goods, of a capacity <= 2 litres
74446	819340	2644417	2589780	4649000	1569277	p/st	22221470 - Plastic carboys, bottles, flasks and similar articles for the conveyance or packing of goods, of a capacity > 2 litres
119800	965710	426800	1546920	0	0	kg	22221910 - Spools, cops, bobbins and similar supports, of plastics
:	:	:	:	:	:	:	22221920 - Plastic caps and capsules for bottles
431500	2061590	5633600	21939970	440000	3188327	kg	22221925 - Plastic stoppers, lids, caps, capsules and other closures
:	:	:	:	:	:	:	22221930 - Plastic stoppers, lids, caps and other closures (excluding for bottles)
:	:	:	:	:	:	:	22221940 - Plastic netting extruded in tubular form
6148500	14148090	3484100	11708610	998000	3707913	kg	22221950 - Articles for the conveyance or packaging of goods, of plastics (excluding boxes, cases, crates and similar articles; sacks and bags, including cones; carboys, bottles, flasks and similar articles; spools, spindles, bobbins and similar supports; stoppers, lids, caps and other closures)
:	:	:	:	:	:	:	22221990 - Other articles for the conveyance or packing of goods of plastics
13944	116290	781079	3348290	0	0	m2	22231155 - Floor coverings in rolls or in tiles and wall or ceiling coverings consisting of a support impregnated, coated or covered with polyvinyl chloride
29085	109930	406621	3443590	0	0	m2	22231159 - Other floor, wall, ceiling... coverings of polymers of vinyl chloride
29663	157580	426605	2394130	697	34531	m2	22231190 - Floor coverings in rolls or in tiles; and wall or ceiling coverings of plastics (excluding of polymers of vinyl chloride)
:	20027540	:	5989630	229000	24563893	p/st	22231250 - Plastic baths, shower-baths, sinks and wash-basins
:	3969400	:	3643610	624000	3849409	p/st	22231270 - Plastic lavatory seats and covers
:	3172060	:	16227460	0	0	p/st	22231290 - Plastic bidets, lavatory pans, flushing cisterns and similar sanitary ware (excluding baths, showers-baths, sinks and wash-basins, lavatory seats and covers)
484200	1883670	1868800	5812650	537000	3180234	kg	22231300 - Plastic reservoirs, tanks, vats, intermediate bulk and similar containers, of a capacity > 300 litres
48223	11762390	150306	15199300	498096	109284484	p/st	22231450 - Plastic doors, windows and their frames and thresholds for doors
90800	660790	883300	4902640	2244000	12445767	kg	22231470 - Plastic shutters, blinds and similar articles and parts thereof
12323	219010	105327	537590	0	0	m2	22231500 - Linoleum, floor coverings consisting of a coating or covering applied on a textile backing (excluding sheets and plates of linoleum compounds)
233700	1712600	2504700	10386200	2149000	6881268	kg	22231950 - Builder¿s fittings and mountings intended for permanent installation of plastics
1578900	6581980	5985500	18652510	198000	1225854	kg	22231990 - Builders¿ ware for the manufacture of flooring, walls, partition walls, ceilings, roofing, etc., guttering and accessories, banisters, fences and the like, fitted shelving for shops, factories, warehouses, storerooms, etc., architectural ornaments such as fluting, vaulting and friezes, of plastics,

EXPQNT (kg)	EXPVAL (EUR)	IMPQNT (kg)	IMPVAL (EUR)	PRODQNT (kg)	PRODVAL (EUR)	QNTUNIT	PRODCOM 2019 / NIP 2019 code
:	:	:	:	:	0	:	22232000 - Prefabricated buildings, of plastics
:	:	:	:	:	:	:	22291000 - Plastic articles of apparel and clothing accessories (including gloves, raincoats, aprons, belts and babies¿ bibs) (excluding headgear)
:	:	:	:	0	0	kg	22291010 - Plastic articles of apparel and clothing accessories (including headgear, gloves, raincoats, aprons, belts and babies¿ bibs) (excluding safety headgear)
560000	2561890	1380300	6740740	204000	558837	kg	22292130 - Self-adhesive strips of plastic with a coating consisting of unvulcanised natural or synthetic rubber, in rolls of a width <= 20 cm
204400	1348070	784300	5773750	0	0	kg	22292140 - Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics, in rolls <= 20 cm wide (excluding plastic strips coated with unvulcanised natural or synthetic rubber)
:	:	:	:	:	:	:	22292150 - Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, in rolls of a width <= 20 cm, of condensation or rearrangement polymerisation products, whether or not chemically modified (excluding strips of plastic with a coating consisting of unvulcanized natural or synthetic rubber)
:	:	:	:	:	:	:	22292170 - Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, in rolls of a width <= 20 cm, of addition polymerisation products (excluding strips of plastic with a coating consisting of unvulcanized natural or synthetic rubber)
:	:	:	:	:	:	:	22292190 - Strips, of other plastic materials, in rolls width <= 20 cm
:	:	:	:	:	:	:	22292230 - Self-adhesive plates, sheets, film, foil, tape, strip, other flat shapes of plastic, further worked than surface-worked, or cut to shapes excluding in rolls, of a width <= 20 cm, rectangular/square
1744300	7991560	2728500	18587220	5858000	20030876	kg	22292240 - Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics, whether or not in rolls > 20 cm wide (excluding floor, wall and ceiling coverings of HS 3918)
:	:	:	:	:	:	:	22292250 - Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of condensation polymerization products and rearrangement polymerization products, whether or not chemically modified, whether or not in rolls of a width of > 20 cm, not worked, or only surface-worked, or only cut to rectan
:	:	:	:	:	:	:	22292270 - Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of addition polymerization products, whether or not in rolls of a width of > 20 cm, not worked, or only surface-worked, or only cut to rectangular, including square, shapes (excluding floor, wall and ceiling coverings of HS
:	:	:	:	:	:	:	22292290 - Other self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics, whether or not in rolls > 20 cm wide, unworked or merely surface-worked or merely cut into squares or rectangles (excluding floor, wall and ceiling coverings of HS 39.18)
4689800	8196980	15675000	25521650	1839000	5826315	kg	22292320 - Tableware and kitchenware of plastic
200300	3253250	3468900	17502120	649000	5560318	kg	22292340 - Household articles and toilet articles, of plastics (excluding tableware, kitchenware, baths, shower-baths, washbasins, bidets, lavatory pans, seats and covers, flushing cisterns and similar sanitary ware)

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:	:	:	:	:	:	:	22292350 - Household and toilet articles, of regenerated cellulose
:	:	:	:	:	:	:	22292390 - Other toiletry and household articles of plastics n.e.c.
:	101630	:	1830530	:	539009	:	22292400 - Plastic parts for lamps, lighting fittings and illuminated signs and name-plates
181900	558510	947700	3168200	51000	168339	kg	22292500 - Office or school supplies of plastic (including paperweights, paper-knives, blotting pads, pen-rests and book marks)
227200	1446020	370000	3801660	214000	258444	kg	22292610 - Plastic fittings for furniture, coachwork or the like
20600	359800	518400	2756290	32000	593503	kg	22292620 - Statuettes and other ornamental articles of plastic (including photograph, picture and similar frames)
800	16310	35000	343670	0	0	kg	22292630 - Perforated buckets and similar articles used to filter water at the entrance to drains, of plastic
5500	67110	103000	1407500	0	0	kg	22292910 - Hard rubber or plastic combs, hair-slides and the like (excluding electro-thermic hairdressing apparatus)
:	:	:	:	0	0	kg	22292915 - Hairpins, curling pins, curling grips, hair-curlers and the like, and parts thereof, of plastic (excluding electro-thermic hairdressing apparatus)
:	591850	:	11879330	0	0	p/st	22292920 - Outer soles and heels of plastics
131000	705870	1110600	6369100	8000	42894	kg	22292950 - Other articles made from sheet
:	:	:	:	:	:	:	22292990 - Other articles of plastics or other materials
:	36938930	:	83687320	:	23109405	:	22292995 - Other articles of plastic n.e.c (excluding appliances identifiable for ostomy use)
:	:	:	:	:	97658	:	22299110 - Plastic parts for machinery and mechanical appliances, excluding internal combustion piston engines, gas turbines
:	:	:	:	:	0	:	22299125 - Plastic parts for apparatus of HS 8509 and 8516
:	:	:	:	:	0	:	22299127 - Plastic parts for turntables, record players, cassette-players, magnetic tape recorders, other sound or video recording/reproducing apparatus excluding pick-up cartridges
:	:	:	:	:	0	:	22299130 - Plastic parts for apparatus of HS 8525 to 8528
:	:	:	:	:	0	:	22299140 - Plastic products, parts of apparatus of HS 8535 to 8537, and 8542
:	:	:	:	:	1555653	:	22299150 - Plastic parts for locomotives or rolling stock, railway or tramway track fixtures and fittings, mechanical signalling, safety or traffic control equipment
:	:	:	:	:	80773524	:	22299160 - Plastic parts and accessories for all land vehicles (excluding for locomotives or rolling stock)
:	:	:	:	:	0	:	22299180 - Plastic parts for aircraft and spacecraft
:	:	:	:	:	973481	:	22299193 - Plastic parts for electrical machinery and equipment, sound recorders and reproducers, television image and sound recorders and reproducers
:	:	:	:	:	711395	:	22299197 - Plastic parts for optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus

EXPQNT (kg)	EXPVAL (EUR)	IMPQNT (kg)	IMPVAL (EUR)	PRODQNT (kg)	PRODVAL (EUR)	QNTUNIT	PRODCOM 2019 / NIP 2019 code
CODE 31031250							
:	429690	:	7465160	22227	664454	p/st	31031250 - Mattresses of cellular plastics (including with a metal frame) (excluding water-mattresses, pneumatic mattresses)
FISHING GEAR							
141.800	1.330.960	22.900	368.660	235.297	3.815.013	kg	13941233 - Made-up fishing nets from twine, cordage or rope of man-made fibres (excluding fish landing nets)
2.500	46.650	52.100	501.020	0	0	kg	13941235 - Made-up fishing nets from yarn of man-made fibres (excluding fish landing nets)
33.800	469.130	62.400	427.190	0	0	kg	13941253 - Made-up nets from twine, cable or rope of nylon or other polyamides (excluding netting in the piece produced by crochet, hairnets, sports and fishing nets)
19.300	66.490	115.800	634.670	0	0	kg	13941255 - Made-up nets of nylon or other polyamides (excluding netting in the piece produced by crochet, hairnets, sports and fishing nets, those made from twine, cable or rope)
70.700	263.430	389.800	1.918.720	0	0	kg	13941259 - Knotted netting of textile materials (excluding made-up fishing nets of man-made textiles, other made-up nets of nylon or other polyamides)
39.100	740.650	206.500	2.608.780	0	0	kg	13941280 - Articles of twine, cordage, rope or cables
TOBACCO							
121.000	61.310	11.018.000	2.940.740	0	0	p/st	12001130 - Cigars, cheroots and cigarillos containing tobacco or mixtures of tobacco and tobacco substitutes (excluding tobacco duty)
9.650.548.000	113.393.050	3.983.271.000	70.653.830	11.857.000.000	27.763.956	p/st	12001150 - Cigarettes containing tobacco or mixtures of tobacco and tobacco substitutes (excluding tobacco duty)
100	8.140	0	0	0	0	kg	12001170 - Cigars; cheroots; cigarillos and cigarettes containing only tobacco substitutes (excluding tobacco duty)
CODE 17221240							
527200	3012470	1594300	9310740	1248942	4153310	kg	17221240 - Wadding; other articles of wadding

***Annex 3.11* – Report on marine waste in middle and south part of Croatian Adriatic coast**
Source: Institute for oceanography and fisheries, Split, 2020.

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Šetalište I. Meštrovića 63,
P.P. 500
21000 SPLIT, HRVATSKA
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Izvješće

o obavljenim poslovima s rokom dospijeća 30. studenog 2020. godine

Aktivnost 1.3.1. Aktivnost praćenja i promatranja parametara za ocjenu stanja deskriptora D10 Okvirne direktive o morskoj strategiji te prikupljanja podataka u svrhu provedbe Plana monitoringa Jadrana za 2020. godinu

Aktivnost 1.3.1.5. Podaci praćenja otpada u moru (prema Prilogu II) sa svim potrebnim metapodatcima i Izvješće o obavljenim poslovima u okviru ove aktivnosti te usporedba s rezultatima iz prošle godine

Otpad u moru: srednji i južni Jadran:

U okviru Aktivnosti 1.3.1. tijekom 2020. godine provedene su sve planirane aktivnosti praćenja i promatranja parametara potrebnih za ocjenu stanja deskriptora D10 (Otpad u moru) prema Okvirnoj direktivi o morskoj strategiji. Prema tom su cilju prikupljani podaci u svrhu provedbe Plana monitoringa Jadrana za 2020. godinu prema predviđenom hodogramu. Navedene su aktivnosti uspješno nastavljene nakon što su 2017. godine po prvi puta provedene na hrvatskoj strani Jadrana prema definiranoj metodologiji provođenja. Zbog kompliciranе situacije uzrokovane pandemijom COVID-19 virusa proveden je samo dio planiranih praćenih parametara (parametri količina i sastav krutog otpada na morskom dnu, te količina i sastav mikroplastike u ribama – zbog nemogućnosti odlaska na teren radi ograničenog kretanja). Praćeni parametri su provedeni kako slijedi:

- količina i sastav krutog otpada naplavljenog na obali,
- količina i sastav krutog otpada na površini mora,
- količina i sastav krutog otpada na morskom dnu,

- količina, raspodjela i sastav mikroplastike u pješčanom sedimentu na plažama i na površini mora,
- količina i sastav mikroplastike u ribama.

Provedeni parametri su monitorirani na za to određenim lokacijama provođenjem specifične metodologije koja ovisi o pojedinoj skupini otpada koji se prati, te su obuhvatili određivanje i analizu stanja predviđenih pokazatelja. Obzirom na nepostojanje prethodne baze sustavnih podataka kao i definiranog programa praćenja, naše su spoznaje o ovom deskriptoru još uvijek vrlo oskudne. Jedan od glavnih nedostataka vrednovanja ranije navedenih parametara u odnosu na utjecaj na okoliš jest i još uvijek nerazrađeni sustav graničnih vrijednosti za pojedine parametre, što je izraženo i na razini EU. Stoga, trenutačno još uvijek nije moguće na pouzdan način izraziti kvalificiranje eventualnog stupnja opterećenosti/onečišćenosti.

Zamjetno je kolebanje vrijednosti količina otpada naplavljenog na plažama, sa ipak blagim porastom trenda opterećenja na pojedinim monitoriranim područjima – onima pod utjecajem donosa otpada sa otvorenog mora.

Aktivnost 3.2. Aktivnost obrade, validacije i unosa podataka praćenja i promatranja parametara deskriptora D10 za 2020. godinu u Izvještajni sustav monitoringa Jadrana

Aktivnost 3.2.1. Podaci praćenja parametara iz aktivnosti 3.1. obrađeni, provjereni i uneseni u Izvještajni sustav monitoringa Jadrana.

Rezultati monitoriranja svih parametara su upisani u strukturu u postojeću bazu pokazatelja, kojoj će još biti potrebno dodatno prilagođavanje uzevši u obzir specifičnu strukturu i osobitosti pojedinih parametara. Svi rezultati su upisani i pripremljeni u obliku i vrijednostima preporučenim EU MSFD TG10 „Smjernice o praćenju otpada iz mora u europskim morima (2013.)“; (*Guidance on Monitoring of Marine Litter in European Seas, 2013*), uzimajući u obzir nacrt UNEP/MAP MEDPOL „Dokument o praćenju ekološkog cilja 10: otpad iz mora (2014)"; (UNEP/MAP MEDPOL Monitoring Guidance Document on Ecological Objective 10: Marine Litter (2014), čija je primjenjivost na našoj obali ispitana na terenu kroz projekt DeFishGear (Vlachogianni i sur., 2016).

– količina i sastav krutog otpada naplavljenog na obali

Metodologija primijenjena za monitoriranje ovog parametra pripremljena je temeljem preporuka EU MSFD TG10 „Smjernice o praćenju otpada iz mora u europskim morima (2013.)“; (*Guidance on Monitoring of Marine Litter in European Seas, 2013*), OSPAR „Smjernice za praćenje otpada iz mora na plažama u OSPAR-ovom pomorskom području (2010); (*OSPAR “Guideline for Monitoring Marine Litter on the Beaches in the OSPAR Maritime Area (2010)*) i NOOA „Praćenje i procjena otpada iz mora: preporuke za praćenje trendova otpada iz mora u morskom okolišu (2013.); (*NOOA „Marine Debris Monitoring and Assessment: Recommendations for Monitoring Debris Trends in the Marine Environment“ (2013),* uzimajući u obzir nacrt UNEP/MAP MEDPOL „Dokument o praćenju ekološkog cilja 10: otpad iz mora (2014)"; (UNEP/MAP MEDPOL Monitoring Guidance Document on Ecological Objective 10: Marine Litter (2014), čija je primjenjivost na našoj obali ispitana na terenu kroz projekt DeFishGear (Vlachogianni, 2015a).

Tablica 1. Nazivi i geografski položaj postaja, te datumi i vrijeme uzorkovanja i mjerenja parametara deskriptora D10 za potrebe *Aktivnosti 3.2.1.*

mjerni parametar - ***količina i sastav krutog otpada naplavljenog na obali***										
postaja	**vrijeme mjerenja**	**dubina uzorkovanja (m)**	**početne koordinate transekta**		**završne koordinate transekta**		**metoda mjerenja**	**broj uzoraka**	**broj analiza**	**validacijski faktor**
			širina	***dužina***	***širina***	***dužina***				
Nin	02.06.2020 12:00 h	0	44,247	15,197	44,246	15,198	vizualni cenzus na linearnom transektu (prebrojavanje, vaganje)	1	1	1
Prapratna	03.06.2020 11:00 h	0	42,817	17,675	42,817	17,676	vizualni cenzus na linearnom transektu (prebrojavanje, vaganje)	1	1	1
Stončica	12.06.2020 11:00 h	0	43,064	16,241	43,064	16,241	vizualni cenzus na linearnom transektu (prebrojavanje, vaganje)	1	1	1
Prapratna	23.10.2020 13:00 h	0	42,817	17,675	42,817	17,676	vizualni cenzus na linearnom transektu (prebrojavanje, vaganje)	1	1	1

Nin	22.10.2020 10:00 h	0	44,247	15,197	44,246	15,198	vizualni cenzus na linearnom transektu (prebrojavanje, vaganje)	1	1	1
Stončica	27.11.2020 14:00 h	0	43,064	16,241	43,064	16,241	vizualni cenzus na linearnom transektu (prebrojavanje, vaganje)	1	1	1

– količina i sastav krutog otpada na površini mora

Metodologija primijenjena za monitoriranje ovog parametra pripremljena je temeljem preporuka EU MSFD TG10 „Smjernice o praćenju otpada iz mora u europskim morima (2013.)"; (*Guidance on Monitoring of Marine Litter in European Seas, 2013*) i NOOA „Praćenje i procjena otpada iz mora: preporuke za praćenje trendova otpada iz mora u morskom okolišu (2013.); (*NOOA „Marine Debris Monitoring and Assessment: Recommendations for Monitoring Debris Trends in the Marine Environment" (2013),* uzimajući u obzir nacrt UNEP/MAP MEDPOL „Dokument o praćenju ekološkog cilja 10: otpad iz mora (2014)"; (UNEP/MAP MEDPOL Monitoring Guidance Document on Ecological Objective 10: Marine Litter (2014), čija je primjenjivost na našoj obali ispitana na terenu kroz projekt DeFishGear (Vlachogianni, 2015b).

Tablica 2. Nazivi i geografski položaj postaja, te datumi i vrijeme uzorkovanja i mjerenja parametara deskriptora D10 za potrebe *Aktivnosti 3.2.1.*

mjerni parametar – količina i sastav krutog otpada na površini mora										
postaja	**vrijeme mjerenja**	**dubina uzorkovanja (m)**	**početne koordinate transekta**		**završne koordinate transekta**		**metoda mjerenja**	**broj uzoraka**	**broj analiza**	**validacijski faktor**
			širina	**dužina**	**širina**	**dužina**				
Dugi otok	29.06.2020. 10:55-11.55 h	0	43,843	15,182	43,885	15,132	vizualni cenzus na linearnom transektu (prebrojavanje)	1	1	1
Pelegrin	02.07.2020. 10:10-11:10 h	0	490990.91	4793242 .13	490901. 12	4786799.2 2	vizualni cenzus na linearnom transektu (prebrojavanje)	1	1	1
Mljet	09.07.2020. 11:00-12:00 h	0	566772.12	4737684 .74	572364. 43	4735074.9 3	vizualni cenzus na linearnom transektu (prebrojavanje)	1	1	1
Dugi otok	02.11.2020. 11:40-12:40 h	0	43,843	15,182	43,885	15,132	vizualni cenzus na linearnom transektu (prebrojavanje)	1	1	1
Pelegrin	19.11.2020. 10:05-11:05 h	0	490990.91	4793242 .13	490901. 12	4786799.2 2	vizualni cenzus na linearnom transektu (prebrojavanje)	1	1	1
Mljet	26.11.2020. 12:15-13:15 h	0	566772.12	4737684 .74	572364. 43	4735074.9 3	vizualni cenzus na linearnom transektu (prebrojavanje)	1	1	1

– količina i sastav krutog otpada na morskom dnu

Metodologija primijenjena za monitoriranje ovog parametra pripremljena je temeljem preporuka EU MSFD TG10 „Smjernice o praćenju otpada iz mora u europskim morima (2013.)“; (*Guidance on Monitoring of Marine Litter in European Seas, 2013*), NOOA „Praćenje i procjena otpada iz mora: preporuke za praćenje trendova otpada iz mora u morskom okolišu (2013.); (*NOOA „Marine Debris Monitoring and Assessment: Recommendations for Monitoring Debris Trends in the Marine Environment“ (2013)* i MEDITS „Međunarodno istraživanje koćaricama u Mediteranu, uputstvo za rukovanje“ (*International bottom trawl survey in the Mediterranean, Instructional Manual*), uzimajući u obzir nacrt UNEP/MAP MEDPOL „Dokument o praćenju ekološkog cilja 10: otpad iz mora (2014)"; (UNEP/MAP MEDPOL Monitoring Guidance Document on Ecological Objective 10: Marine Litter (2014), čija je primjenjivost na našoj obali ispitana na terenu kroz projekt DeFishGear (Vlachogianni i Somarakis, 2015).

Tablica 3. Nazivi i geografski položaj postaja, te datumi i vrijeme uzorkovanja i mjerenja parametara deskriptora D10 za potrebe *Aktivnosti 3.2.1.*

mjerni parametar – količina i sastav krutog otpada na morskom dnu										
postaja	**vrijeme mjerenja**	**dubina uzorkovanja (m)**	**početne koordinate transekta**		**završne koordinate transekta**		**metoda mjerenja**	**broj uzoraka**	**broj analiza**	**validacijski faktor**
			širina	**dužina**	**širina**	**dužina**				
sjeverni Jadran	02.09.2020. 10:50 h	43	44,825	13,526	44,858	13,518	prebrojavanje i vaganje otpada prikupljenog u koćarskoj lovini za vrijeme potega na linearnom transektu	1	8	1
srednji Jadran	03.09.2020. 07:00 h	217	43,418	15,422	43,378	15,391	prebrojavanje i vaganje otpada prikupljenog u koćarskoj lovini za vrijeme potega na linearnom transektu	1	8	1
južni Jadran	04.09.2020. 09:00 h	140	42,650	17,273	42,644	17,140	prebrojavanje i vaganje otpada prikupljenog u koćarskoj lovini za vrijeme potega na linearnom transektu	1	8	1

- količina, raspodjela i sastav mikroplastike na pješčanim plažama

Metodologija primijenjena za monitoriranje ovog parametra pripremljena je temeljem preporuka EU MSFD TG10 „Smjernice o praćenju otpada iz mora u europskim morima (2013.)"; (*Guidance on Monitoring of Marine Litter in European Seas, 2013*) i NOOA „Praćenje i procjena otpada iz mora: preporuke za praćenje trendova otpada iz mora u morskom okolišu (2013.); (*NOOA „Marine Debris Monitoring and Assessment: Recommendations for Monitoring Debris Trends in the Marine Environment" (2013),* uzimajući u obzir nacrt UNEP/MAP MEDPOL „Dokument o praćenju ekološkog cilja 10: otpad iz mora (2014)"; (UNEP/MAP MEDPOL Monitoring Guidance Document on Ecological Objective 10: Marine Litter (2014), čija je primjenjivost na našoj obali ispitana na terenu kroz projekt DeFishGear (Palatinus i sur, 2016).

Tablica 4. Nazivi i geografski položaj postaja, te datumi i vrijeme uzorkovanja i mjerenja parametara deskriptora D10 za potrebe *Aktivnosti 3.2.1.*

mjerni parametar – količina, raspodjela i sastav mikroplastike na pješčanim plažama								
postaja	**vrijeme mjerenja**	**dubina uzorkovanja (m)**	**koordinate**		**metoda mjerenja**	**broj uzoraka**	**broj analiza**	**validacijski faktor**
			širina	***dužina***				
Nin	02.06.2020. 14:30 h	0	44,246	15,197	prosijavanje pješčanog sedimenta, mikroskopska analiza (prebrojavanje)	3	1	1
Prapratna	03.06.2020. 15:00 h	0	42,817	17,676	prosijavanje pješčanog sedimenta, mikroskopska analiza (prebrojavanje)	3	1	1
Neretva	03.06.2020. 18:00 h	0	43,019	17,446	prosijavanje pješčanog sedimenta, mikroskopska analiza (prebrojavanje)	3	1	1
Zaglav	12.06.2020. 09:00 h	0	43,033	16,228	prosijavanje pješčanog sedimenta, mikroskopska analiza (prebrojavanje)	3	1	1
Nin	22.10.2020. 14:00 h	0	44,246	15,197	prosijavanje pješčanog sedimenta, mikroskopska analiza (prebrojavanje)	3	1	1
Neretva	23.10.2020. 10:30 h	0	43,019	17,446	prosijavanje pješčanog sedimenta, mikroskopska analiza (prebrojavanje)	3	1	1
Prapratna	23.10.2020. 17:30 h	0	42,817	17,676	prosijavanje pješčanog sedimenta, mikroskopska analiza (prebrojavanje)	3	1	1
Zaglav	27.11.2020. 11:10 h	0	43,033	16,228	prosijavanje pješčanog sedimenta, mikroskopska analiza (prebrojavanje)	3	1	1

- količina, raspodjela i sastav mikroplastike na površini mora

Metodologija primijenjena za monitoriranje ovog parametra pripremljena je temeljem preporuka EU MSFD TG10 „Smjernice o praćenju otpada iz mora u europskim morima (2013.)"; (*Guidance on Monitoring of Marine Litter in European Seas, 2013*) i NOOA „Praćenje i procjena otpada iz mora: preporuke za praćenje trendova otpada iz mora u morskom okolišu (2013.); (*NOOA „Marine Debris Monitoring and Assessment: Recommendations for Monitoring Debris Trends in the Marine Environment" (2013),* uzimajući u obzir nacrt UNEP/MAP MEDPOL „Dokument o praćenju ekološkog cilja 10: otpad iz mora (2014)"; (UNEP/MAP MEDPOL Monitoring Guidance Document on Ecological Objective 10: Marine Litter (2014), čija je primjenjivost na našoj obali ispitana na terenu kroz projekt DeFishGear (Palatinus i sur, 2016).

Tablica 5. Nazivi i geografski položaj postaja, te datumi i vrijeme uzorkovanja i mjerenja parametara deskriptora D10 za potrebe *Aktivnosti 3.2.1.*

mjerni parametar – količina, raspodjela i sastav mikroplastike na površini mora										
postaja	**vrijeme mjerenja**	**dubina uzorkovanja (m)**	**početne koordinate transekta**		**završne koordinate transekta**		**metoda mjerenja**	**broj uzoraka**	**broj analiza**	**validacijski faktor**
			širina	**dužina**	**širina**	**dužina**				
Dugi otok	29.06.2020. 10:56-11:26 h	0	43,854	15,182	43,867	15,155	uzorkovanje neustonskom Manta mrežom, prebrojavanje uzorka pod stereomikroskopom u laboratoriju	1	1	1
Hvarski kanal	02.07.2020. 10:05-10:35 h	0	490990.91	4793242.13	491067.98	4790131.59	uzorkovanje neustonskom Manta mrežom, prebrojavanje uzorka pod stereomikroskopom u laboratoriju	1	1	1
Mljet	09.07.2020. 10:30-11:00 h	0	566772.12	4737684.74	568993.72	4736484.61	uzorkovanje neustonskom Manta mrežom, prebrojavanje uzorka pod stereomikroskopom u laboratoriju	1	1	1
Dugi otok	02.11.2020. 11:40-12:10 h	0	43,854	15,182	43,867	15,155	uzorkovanje neustonskom Manta mrežom, prebrojavanje uzorka pod stereomikroskopom u laboratoriju	1	1	1
Hvarski kanal	19.11.2020. 10:00-10:30 h	0	490990.91	4793242.13	491067.98	4790131.59	uzorkovanje neustonskom Manta mrežom, prebrojavanje uzorka pod stereomikroskopom u laboratoriju	1	1	1
Mljet	26.11.2020. 12:15-12:45 h	0	566772.12	4737684.74	568993.72	4736484.61	uzorkovanje neustonskom Manta mrežom, prebrojavanje uzorka pod stereomikroskopom u laboratoriju	1	1	1

– količina i sastav progutanog morskog otpada

Metodologija primijenjena za monitoriranje ovog parametra pripremljena je temeljem preporuka EU MSFD TG10 „Smjernice o praćenju otpada iz mora

– količina i sastav progutanog morskog otpada

Metodologija primijenjena za monitoriranje ovog parametra pripremljena je temeljem preporuka EU MSFD TG10 „Smjernice o praćenju otpada iz mora u europskim morima (2013.)“; (*Guidance on Monitoring of Marine Litter in European Seas, 2013*) uzimajući u obzir nacrt UNEP/MAP MEDPOL „Dokument o praćenju ekološkog cilja 10: otpad iz mora (2014)"; (UNEP/MAP MEDPOL Monitoring Guidance Document on Ecological Objective 10: Marine Litter (2014), čija je primjenjivost na našoj obali ispitana na terenu kroz projekt DeFishGear (Anastasopoulu i Mytilineou, 2015).

Tablica 6. Nazivi i geografski položaj postaja, te datumi i vrijeme uzorkovanja i mjerenja parametara deskriptora D10 za potrebe *Aktivnosti 3.2.1.*

mjerni parametar ***– količina progutane mikroplastike u probavnom traktu riba (Sardina pilchardus)***								
postaja	**vrijeme mjerenja**	**dubina uzorkovanja (m)**	**koordinate**		**metoda mjerenja**	**broj uzoraka**	**broj analiza**	**validacijski faktor**
			širina	**dužina**				
sjeverni Jadran	27.08.2020. 01:00 h	0	44,402	14,006	uzorkovanje mrežom plivaricom, laboratorijska analiza (izoliranje iz probavnog trakta, prebrojavanje pod stereomikroskopom u laboratoriju)	30	1	1
srednji Jadran	31.08.2020. 12:30 h	0	43,253	15,784	uzorkovanje mrežom plivaricom, laboratorijska analiza (izoliranje iz probavnog trakta, prebrojavanje pod stereomikroskopom u laboratoriju)	30	1	1
južni Jadran	07.09.2020. 01:30 h	0	42,555	17,900	uzorkovanje mrežom plivaricom, laboratorijska analiza (izoliranje iz probavnog trakta, prebrojavanje pod stereomikroskopom u laboratoriju)	30	1	1

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