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REGIONAL TRAINING ON THE PRODUCTION AND USE OF WASTE AND CIRCULAR ECONOMY STATISTICS AND INDICATORS

SESSION 3: MAIN CONCEPTS, TERMS, DEFINITIONS AND CLASSIFICATIONS IN WASTE STATISTICS

20-21 June 2024, Vienna International Centre (VIC), Vienna

THE EU **WASTE STATISTICS REGULATION**: MAIN PURPOSE, CONTENT, LESSONS LEARNED

In this presentation:

- European Waste Legislation, overview
- Role of Eurostat and the European Statistical System
- Objectives of Regulation (EC) No 2150/2002 on Waste Statistics
- The datasets to be reported – the questionnaires
- Quality reporting and validation
- Dissemination and use of waste statistics
- Beyond the Waste Statistics Regulation – key waste streams
- Lessons learned ...
- ... challenges / latest developments in measuring Circular Economy (Link to Session 7)

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

European Waste Legislation, overview

Waste Framework Directive

The Waste Framework Directive sets the basic concepts and definitions related to waste management, including definitions of waste, recycling and recovery

Targets

The Waste framework Directive sets targets for EU countries

Member States shall take the necessary measures to achieve them



End-of-waste criteria

Specify when certain waste ceases to be waste and becomes a product, or a secondary raw material

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Role of Eurostat and the European Statistical System (ESS)

Implementing the Statistical Law:

The European Statistical System (ESS) provides policy makers as well as the general public within the European Union with high quality statistics. A basic legal framework, taking the form of a Regulation on European statistics, ensures the efficient functioning of the ESS for that purpose

[Regulation \(EC\) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics.](#)

Waste Statistics Regulation

Member States have to report statistical data every second year on

- waste generation
- waste treatment
- waste management facilities
- + quality reports

[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](#)

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Objectives

- To produce regular Community statistics - every second year, from 2006 - on the generation and management of waste from businesses and private households
- Be the framework for the production and methodology development of EU statistics on the generation, recovery and disposal of waste
- The statistics serve for monitoring the implementation of EU environmental policies and shall allow for the calculation of reliable indicators, in particular for important indicators sets such as the Sustainable Development Goals indicators (SDGs), Resource Efficiency indicators and Circular Economy indicators
- Data generated once by the Waste Statistics Regulation shall be used to support other reporting obligations, at EU and International level
- The resulting statistics and indicators can be used by EU and International partners for policy reviews
- High quality standards and new methodology under development shall increase the usefulness and quality of waste- and circular economy statistics

THE EU WASTE

A new manual

- 211 pages

<https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-gq-24-009>

The image shows a screenshot of the Eurostat website. The top navigation bar includes the Eurostat logo and the European Union flag. Below the navigation bar, there is a breadcrumb trail: Home > Publications > Manuals and guidelines. The main content area features the title "Manual for the implementation of Regulation (EC) No 2150/2002 on waste statistics" with a date of 16 May 2024. A blue button labeled "Open this publication" is visible. Below the button is a "Summary" section with a paragraph of text: "The manual is primarily aimed at... statistics, as a 'handbook'. This... 'Circular Economy Package'. M... module aimed at better linking o...". At the bottom of the summary section is a small thumbnail image of the manual cover. The cover itself is blue and white, featuring the Eurostat logo, the title, and the text "2024 edition" and "MANUALS AND GUIDELINES". The background of the cover is a photograph of a waste sorting facility with a conveyor belt filled with plastic waste.

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

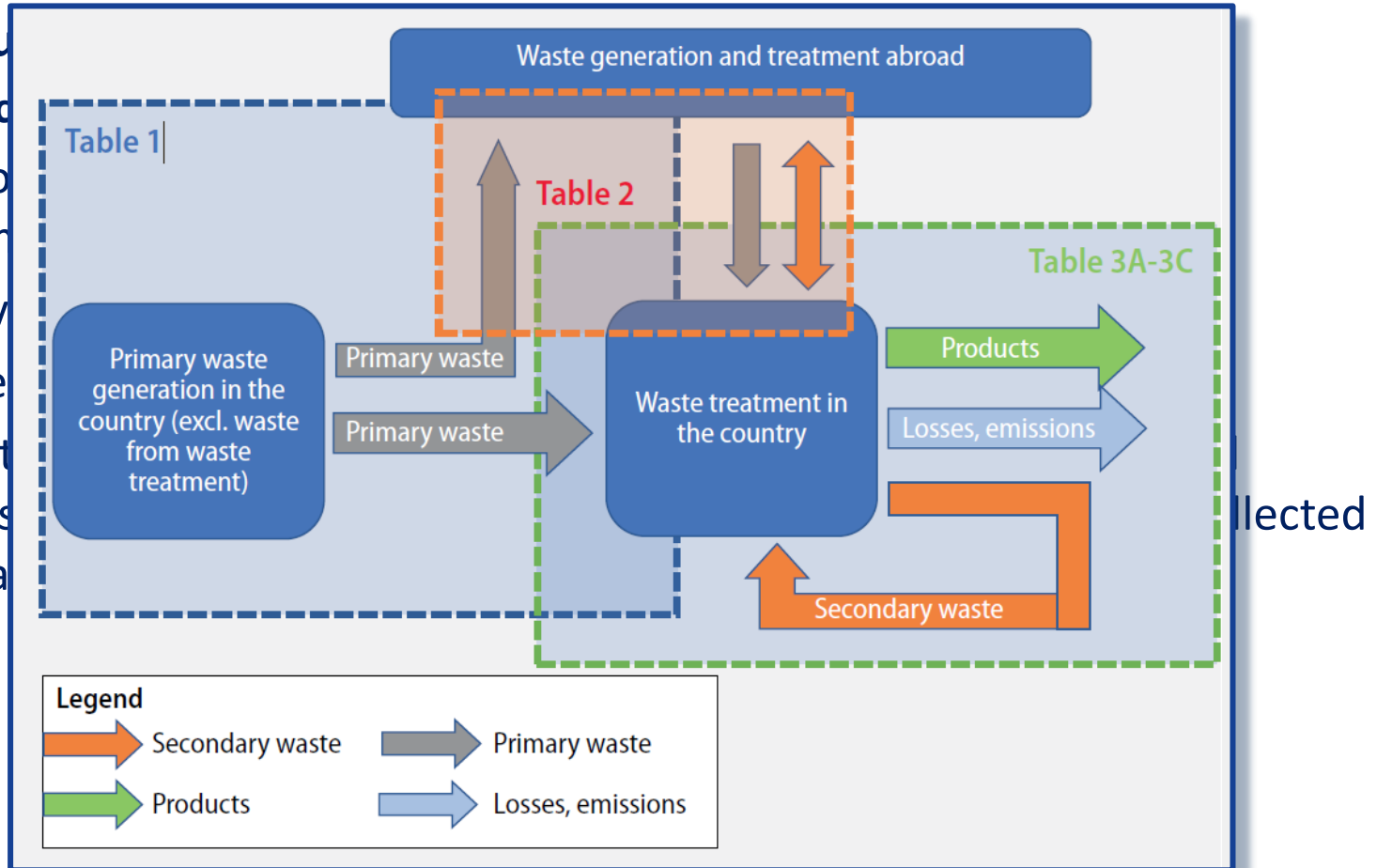
A new manual for waste statistics, published 16 May 2024

- 211 pages, 6 chapters, 6 annexes
- Key resource to produce waste statistics
- Focus is on harmonisation and quality to ensure that Countries produce high-quality, comparable data
- Primarily aimed at national experts in the field of waste statistics
- Covers terms and definitions and important classifications
- **NEW:** Addresses **challenges of monitoring the Circular Economy:**
 - How to improve the information on the material flows back to the economy?
 - Improve the link between data on generation and treatment =
 - “waste balance approach” ...
 - ... additional data needed for this purpose (e.g. data on imports and exports for treatment, data on pre-treatment of waste, ...), to be collected by an additional questionnaire module (*voluntary*)

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

A new manu

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- ... addit exports by an a



THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Data to be produced by Countries: Waste generation – Treatment – Treatment facilities

Set 1. Waste generation by waste category (EWC-STAT) and economic activities (NACE), tonnes/year

Waste item	EWC-Stat Ver. 4	Description	activity item number																		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	01.1	Spent solvents																			
2	01.2	Acid, alkaline or saline wastes																			
3	01.2	Acid, alkaline or saline wastes																			
4	01.3	Used oils																			
5	01.4, 02, 03.1	Chemical wastes																			
6	01.4, 02, 03.1	Chemical wastes																			
7	03.2	Industrial effluent sludges																			
8	03.2	Industrial effluent sludges																			
9	03.3	Sludges and liquid wastes from waste treatment																			
10	03.3	Sludges and liquid wastes from waste treatment																			
11	05	Health care and biological waste																			
12	05	Health care and biological waste																			
13	08.1	Metallic wastes, ferrous																			
14	08.2	Metallic wastes, non-ferrous																			
15	08.3	Metallic wastes, mixed ferrous																			
16	07.1	Glass wastes																			
17	07.1	Glass wastes																			
18	07.2	Paper and cardboard wastes																			
19	07.3	Rubber wastes																			
20	07.4	Plastic wastes																			
21	07.5	Wood wastes																			
22	07.5	Wood wastes																			
23	07.6	Textile wastes																			
24	07.7	Waste containing PCB																			
25	08 (excl. 08.1, 08.41)	Discarded equipment (except vehicles, batteries/accumulators)																			

Set 2. Waste treatment by waste category (EWC-STAT) and treatment category, tonnes/year

Waste item	EWC-Stat Ver. 4	Description	treatment item number							
			1	2	3a	3b	4	5		
Treatment categories →			Hazardous	Dry	Energy recovery (R1)	Waste incineration (D10)	Recycling (R2 – R11)	Backfilling	Landfilling (D1, D5, D12)	Other disposal (D2, D3, D4, D6, D7)
1	01.1	Spent solvents	H							
2	01.2	Acid, alkaline or saline wastes								
3	01.2	Acid, alkaline or saline wastes	H							
4	01.3	Used oils	H							
5	01.4, 02, 03.1	Chemical wastes								
6	01.4, 02, 03.1	Chemical wastes	H							
7	03.2	Industrial effluent sludges		T						
8	03.2	Industrial effluent sludges	H	T						
9	03.3	Sludges and liquid wastes from waste treatment		T						
10	03.3	Sludges and liquid wastes from waste treatment	H	T						
11	05	Health care and biological waste								
12	05	Health care and biological waste								
13	06.1	Metallic wastes, ferrous								
14	06.2	Metallic wastes, non-ferrous								
15	06.3	Metallic wastes, mixed ferrous								
16	07.1	Glass wastes								
17	07.1	Glass wastes								
18	07.2	Paper and cardboard wastes								
19	07.3	Rubber wastes								
20	07.4	Plastic wastes								
21	07.5	Wood wastes								
22	07.5	Wood wastes								
23	07.6	Textile wastes								
24	07.7	Waste containing PCB								
25	08 (excl. 08.1, 08.41)	Discarded equipment (except vehicles, batteries/accumulators)								

Set 3. Number and capacity of recovery and disposal facilities (per NUTS 2 region) and population served by collection scheme (national)

Treatment categories →	1		2		3		4										Population served by collection
	Energy recovery (R1)		Waste incineration (D10)		Recovery (R2 – R11)		Landfilling (D1, D5, D12)										
	no. of facilities	capacity t/a	no. of facilities	capacity t/a	3a	3b	landfills for haz. waste			landfills for non-haz waste			landfills for inert waste			landfills total	
Regions, NUTS 2 level	no. of facilities	capacity t/a	no. of facilities	capacity t/a	no. of facilities	no. of facilities	rest capacity m²	closed	no. of facilities	rest capacity m²	closed	no. of facilities	rest capacity m²	closed	no. of facilities	rest capacity m²	%
Region 1																	
Region 2																	
Region 3																	
08 (excl. 08.1, 08.41)																	
08 (excl. 08.1, 08.41)																	
08.1																	
08.1																	
08.41																	
08.41																	
National total																	

Shaded cells: No data required

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

To be produced by Countries: Waste generation

... by Economic activity: NACE classification

- Waste generation need to be broken down according to the source (businesses or households) that generated them. Waste generated by businesses is broken down by economic activity in **18 categories** based on the statistical classification of economic activities (**NACE Rev. 2**, Statistical Classification of Economic Activities in the European Community)
- Households are the **19th category**

NACE vs. ISIC:

- *“Categories of NACE are defined either to be identical to, or to form subsets of, single ISIC categories. The first level and the second level of ISIC Rev. 4 (sections and divisions) are identical to sections and divisions of NACE Rev. 2. The third and fourth levels (groups and classes) of ISIC Rev. 4 are subdivided in NACE Rev. 2 according to European requirements. Groups and classes of NACE Rev. 2 can always be aggregated into the groups and classes of ISIC Rev. 4 from which they were derived”*

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

To be produced by

Sources for waste ge
Annex I on waste ge

Item No	NACE Rev.2
Section A: Agriculture, forestry and fishing	
1	01+02
Section B: Mining and quarrying	
2	04 to 09
Section C: Manufacturing	
3	10+11
4	13+14
5	16
6	17+18
7	19
8	20+21
9	23
10	24+25

Item No	NACE Rev.2 divisions	Code Description
11	26+27+28+29+30	Manufacture of computer, electronic and optical products + electrical equipment + machinery and equipment + motor vehicles, trailers and semi-trailers + other transport equipment
12	31+32+33	Manufacture of furniture + other manufacturing + repair and installation of machinery and equipment
Section D: Electricity, gas, steam and air conditioning supply		
13	34+35	Electricity, gas, steam and air conditioning supply
Section E: Water supply, sewerage, waste management and remediation activities		
14	36+37+39	Water collection, treatment and supply + Sewerage + Remediation activities and other waste management services
15	38	Waste collection, treatment and disposal activities; materials recovery
Section F: Construction		
16	41+42+43	Construction
Section G to U: Services activities		
17	Sections G - U Excluded 46.77	Wholesale and retail trade; Repair of motor vehicles, motor cycles + Transportation and storage + Accommodation and food service activities + Information and communication + Financial and insurance activities + Real estate activities + Professional, scientific and technical activities + Administrative and support service activities + Public administration and defence; compulsory social security + Education + Human health and social work activities + Arts, entertainment and recreation + Other service activities + Activities of households as employers; undifferentiated goods – and services –producing activities of households for own use + Activities of extraterritorial organisations and bodies
18	46.77	Wholesale of waste and scrap

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

To be produced by Countries: **Waste generation, by**

... **51 Waste categories** – on the basis of the Statistical European Waste Classification (EWC-Stat) (for hazardous / non-hazardous waste)

EWC-Stat vs. European List of Wastes:

- *“The Waste Statistics Regulation obliges Member States to report statistical data on waste generation and waste treatment according to the statistical waste nomenclature EWC-Stat. EWC-Stat is a mainly substance-oriented aggregation of the waste types defined in the European List of Wastes (LoW). The result is a 1:n-relationship between EWC-Stat and European List of Wastes which allows for the unambiguous conversion of the waste types classified according to the List of Wastes into the EWC-Stat waste categories”*

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

To be produced by Countries: **Waste generation, by**

... **51 Waste categories** – on the basis of the Statistical European Waste Classification (EWC-Stat)

Waste item		Activity item number		NACE Rev. 2 →																		
EWC		Code		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 TA																		
1	01.1	12	05																			
2	01.2	13	06.1																			
3	01.2	14	06.2																			
4	01.3	15	06.3																			
5	01.4, 02, 03.1	16	07.1																			
6	01.4, 02, 03.1	17	07.1																			
7	03.2	18	07.2																			
8	03.2	19	07.3																			
9	03.3	20	07.4																			
10	03.3	21	07.5																			
		22	07.5																			
		23	07.6																			
		24	07.7																			
		25	08 (e)																			
		26	08 (e)																			
		27	08.1																			
		28	08.1																			
		29	08.41																			
		30	08.41																			
		31	09.1	Animal and mixed food waste																		
		32																				
		33																				
		34																				
		35																				
		36																				
		37																				
		38																				
		39																				
		40	50 12.8, 13	Mineral waste from waste treatment and stabilised wastes																		
		41	51 12.8, 13	Mineral waste from waste treatment and stabilised wastes																		
		42																				
		43	TN	Total, non-hazardous																		
		44	TH	Total, hazardous																		
		45	TT	Total, general																		
		46																				
		47	12.6	Soils																		
		48	12.7	Dredging spoils																		
		49	12.7	Dredging spoils																		

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

To be produced by Countries: **Waste treatment facilities and their capacity**

... at **NUTS 2 level** – Regional breakdown

Treatment item number	1		2		3a	3b	4										
Treatment categories →	Energy recovery (R1)		Waste Incineration (D10)		Recovery (R2 – R11)	Backfilling	Landfilling (D1, D5, D12)										
							Landfills for haz. waste			Landfills for non-haz. waste			Landfills for inert waste		Landfills total		
Regions, NUTS 2 level	no. of facilities	capacity t/a	no. of facilities	capacity t/a	no. of facilities	no. of facilities	no. of facilities	rest capacity m ³	closed	no. of facilities	rest capacity m ³	closed	no. of facilities	rest capacity m ³	closed	no. of facilities	rest capacity m ³
Region 1																	
Region 2																	
Region 3																	
...																	
...																	
...																	
National total																	

Shaded cells: No data required.

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

To be produced by Countries: Summary of reporting dimensions

	Waste Generation	Waste treatment	Treatment infrastructure and collection
Data Set	1 GEN	2 TRT	3 FAC
	Generation of waste	Treatment of waste	Number and capacity of disposal and recovery operations
Sectors	19 items – 18 economic activities (NACE) – 1 sector 'households'	6 items – Incineration – Energy recovery – Recycling – Backfilling – Landfilling – Other forms of disposal	5 items – Incineration – Energy recovery – Recycling ⁽²⁾ – Backfilling ⁽²⁾ – Landfilling ⁽³⁾
No. of waste categories (EWC-Stat)	51	51	NA
Reporting units ⁽¹⁾	tonnes	tonnes	tonnes/year m ³
Geographical level	National	National	NUTS 2

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Dissemination of the results – Statistics and indicators – database

Generation of waste by waste category, hazardousness and NACE Rev. 2 activity (online data code: env_wasgen) (Source of data: Eurostat)

Settings: Default presentation






























































Table | Line | Bar | Map

GEO	TIME	2010	2012	2014	2016	2018	2020
European Union - 27 countries (from 2020)	000	2 212 900 000	2 242 540 000	2 243 790 000	2 250 910 000	2 338 230 000	2 153 950 000
European Union - 28 countries (2013-2020)	000	2 454 710 000	2 483 800 000	2 506 780 000	2 530 980 000	2 620 400 000	:
Belgium	916	61 345 083	53 839 470	57 965 392	63 152 384	68 187 479	68 061 598
Bulgaria	316	167 396 268	161 252 166	179 677 011	120 508 475	129 751 823	116 387 358
Czechia	995	23 757 566	23 171 358	23 394 956	25 381 426	37 847 614 (b)	38 486 186
Denmark	208	16 217 736	16 713 822	20 808 843	20 981 931	21 445 206	20 135 564
Germany	355	363 544 995	368 022 172	387 504 241	400 071 672	405 523 624	401 156 266
Estonia	955	19 000 195	21 092 343	21 804 040	24 277 879	23 185 581	16 170 358
Ireland	816	19 807 586	12 713 021	15 166 830	15 251 689	13 986 757	16 192 833
Greece	963	70 432 705	72 328 280	69 758 068	72 332 353	45 240 333	28 358 097 (b)
Spain	157	137 518 982	118 561 669	110 518 494	128 958 523	137 822 935	105 624 359
France	210	355 081 245	344 440 922	324 462 969	322 685 297	343 307 326	310 373 987
Croatia	152	3 157 672	3 611 678	3 724 563	5 366 953	5 543 310	6 003 760
Italy	461	158 627 618	154 427 046	157 070 348	163 827 838	172 502 773	174 007 620
Cyprus	781	2 372 750	1 875 308	1 978 999	2 467 042	2 302 144	2 221 809
Latvia	984	1 498 200	2 309 581	2 621 495	1 909 631	1 773 726	2 852 792
Lithuania	952	5 578 134	5 678 751	6 200 450	6 674 238	7 080 538	6 695 731
Luxembourg	144	10 441 469	8 397 228	7 072 758	10 020 519	9 014 397	9 215 222
Hungary	197 (e)	16 735 423	16 310 151	16 650 639	15 938 077	18 369 585	17 150 400
Malta	391 (e)	1 352 994	1 456 213	1 672 810	1 951 928	2 507 070	3 528 663
Netherlands	905	121 145 468	121 194 466	132 302 297	141 024 020	145 245 469	125 138 771
Austria	766	46 799 579	48 045 809	55 868 298	61 225 037	65 666 128	68 996 834
Poland	938	158 661 957	162 382 959	179 179 899	182 005 677	175 473 691	170 233 070
Portugal	923	13 648 079	13 359 517	14 368 003	14 739 135	15 894 873 (b)	16 601 514
Romania	507	201 432 951	249 354 926	176 607 415	177 562 905	203 017 193	141 364 457
Slovenia	401	5 986 106	4 546 506	4 686 417	5 494 362	8 220 679	7 518 375
Slovakia	908	9 384 112	8 425 384	8 862 778	10 606 966	12 481 870	12 775 926
Finland	854	104 336 944	91 824 193	95 969 888	122 869 183	128 251 735	116 002 531
Sweden	590	117 645 185	156 306 504	167 026 886	141 625 718	138 667 585	151 823 198
Iceland	584	510 941	529 351	815 148	1 067 319	1 293 511	1 060 903
Liechtenstein	937	312 180	466 547	569 067	502 581	437 823	542 691
Norway	543	9 432 997	10 721 599	10 614 914	11 131 594	14 137 710	14 040 663
United Kingdom	127	241 808 706	241 500 743	262 992 726	272 064 636	282 393 639	:
Bosnia and Herzegovina	:	:	4 456 556	5 540 772	6 127 022	6 747 605	6 753 458
Montenegro	:	:	1 014 139	1 092 741	1 132 587	1 222 578	1 246 833
North Macedonia	466	2 327 590	8 472 343	2 186 612	1 424 859	1 140 253	1 484 596
Albania	:	:	:	:	:	:	:
Serbia	:	33 615 918	55 002 570	49 128 311 (b)	48 965 314	51 102 914	58 637 622
Türkiye	502	63 540 624	67 383 777	73 075 119	75 534 641	97 294 071	107 608 312
Kosovo*	:	:	1 166 619	1 039 803	2 855 990	2 961 225	2 592 828

Municipal waste by waste management operations (env_wasmun)

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Dissemination of the results – Statistics and indicators – database

- ☐  Waste (env_was)
 - ☐  Waste generation and treatment (env_wasgt) 
 -  [↓ Generation of waste by waste category, hazardousness and NACE Rev. 2 activity \(env_wasgen\)](#)  
 -  [↓ Treatment of waste by waste category, hazardousness and waste management operations \(env_wastrt\)](#)  
 -  [↓ Management of waste excluding major mineral waste, by waste management operations \(env_wasoper\)](#)  
 -  [↓ Management of waste excluding major mineral waste, by waste management operations and waste flow \(env_wasflow\)](#)  
 -  [↓ Number and capacity of recovery and disposal facilities by NUTS 2 regions \(env_wasfac\)](#)  
 -  [↓ Management of waste by waste management operations and type of material - Sankey diagram data \(env_wassd\)](#)  
 - ☐  Waste streams (env_wasst)
 -  [↓ Food waste and food waste prevention by NACE Rev. 2 activity - tonnes of fresh mass \(env_wasfw\)](#)  
 -  [↓ Trade in waste by type of material and partner \(env_wastrdmp\)](#)  
 -  [↓ Packaging waste by waste management operations \(env_waspac\)](#)  
 -  [↓ Recycling rates of packaging waste for monitoring compliance with policy targets, by type of packaging \(env_waspacr\)](#)  
 -  [↓ Consumption of lightweight plastic carrier bags by their wall thickness \(env_waspcb\)](#)  
 -  [↓ Waste electrical and electronic equipment \(WEEE\) by waste management operations - open scope, 6 product categories \(from 2018 onwards\) \(env_waseleeos\)](#)  
 -  [↓ Waste electrical and electronic equipment \(WEEE\) by waste management operations \(env_waselee\)](#)  
 -  [↓ Sales and collection of portable batteries and accumulators \(env_waspb\)](#)  
 -  [↓ Recycling of batteries and accumulators \(env_wasbat\)](#)  
 -  [↓ End-of-life vehicles by waste management operations - detailed data \(env_waselv\)](#)  
 -  [↓ End-of-life vehicles - reuse, recycling and recovery, totals \(env_waselvt\)](#)  
 -  [↓ Transboundary shipments of notified waste by partner, hazardousness and waste management operations \(env_wasship\)](#)  
 -  [↓ Municipal waste by waste management operations \(env_wasmun\)](#)  

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Dissemination of the results – Statistics and indicators – database

- Waste (env_was)
- Waste generation and treatment (env_wasgt)
- Generation of waste by waste category, hazardousness and NACE Rev. 2 activity (env_wasgen)

Users download the data from here, in various formats:

European Commission “Policy-” Directorates-General 
*Environment, Internal Market – Industry – Entrepreneurship and SMEs,
Research and Innovation, [...]*

European Environment Agency



Joint Research Centre – JRC



- End-of-life vehicles - reuse, recycling and recovery, totals (env_wasenv)
- Transboundary shipments of notified waste by partner, hazardousness and waste management operations (env_wasship)
- Municipal waste by waste management operations (env_wasmun)

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Dissemination of the results –

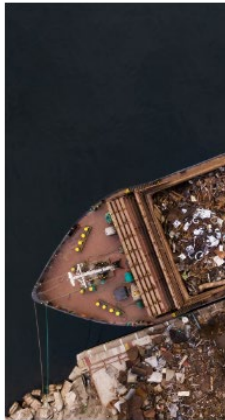
News releases



Home > News > News articles

NEWS ARTICLES | 22 May 2024

Exports in recyclable materials



In 2023, exports of recyclable materials and other secondary raw materials reached 16.7 million tonnes.

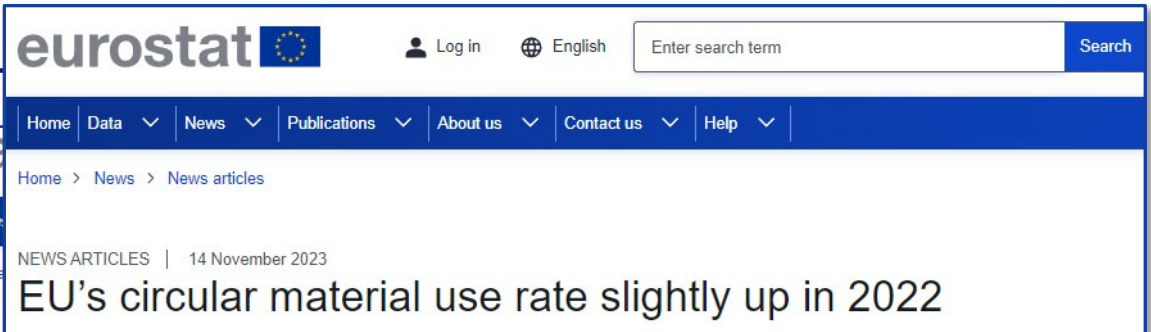
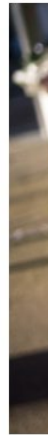
Export volume in recyclable materials increased by 74% (+16.7 million tonnes).



Home > News > News articles

NEWS ARTICLES | 8 February 2024

Municipal waste



eurostat

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NEWS ARTICLES | 14 November 2023

EU's circular material use rate slightly up in 2022



In 2022, the EU's circular material use rate (referred to as the circularity rate; the share of used material resources which came from recycled waste materials) reached 11.5%, meaning that 11.5% of material resources used in the EU came from recycled waste materials.

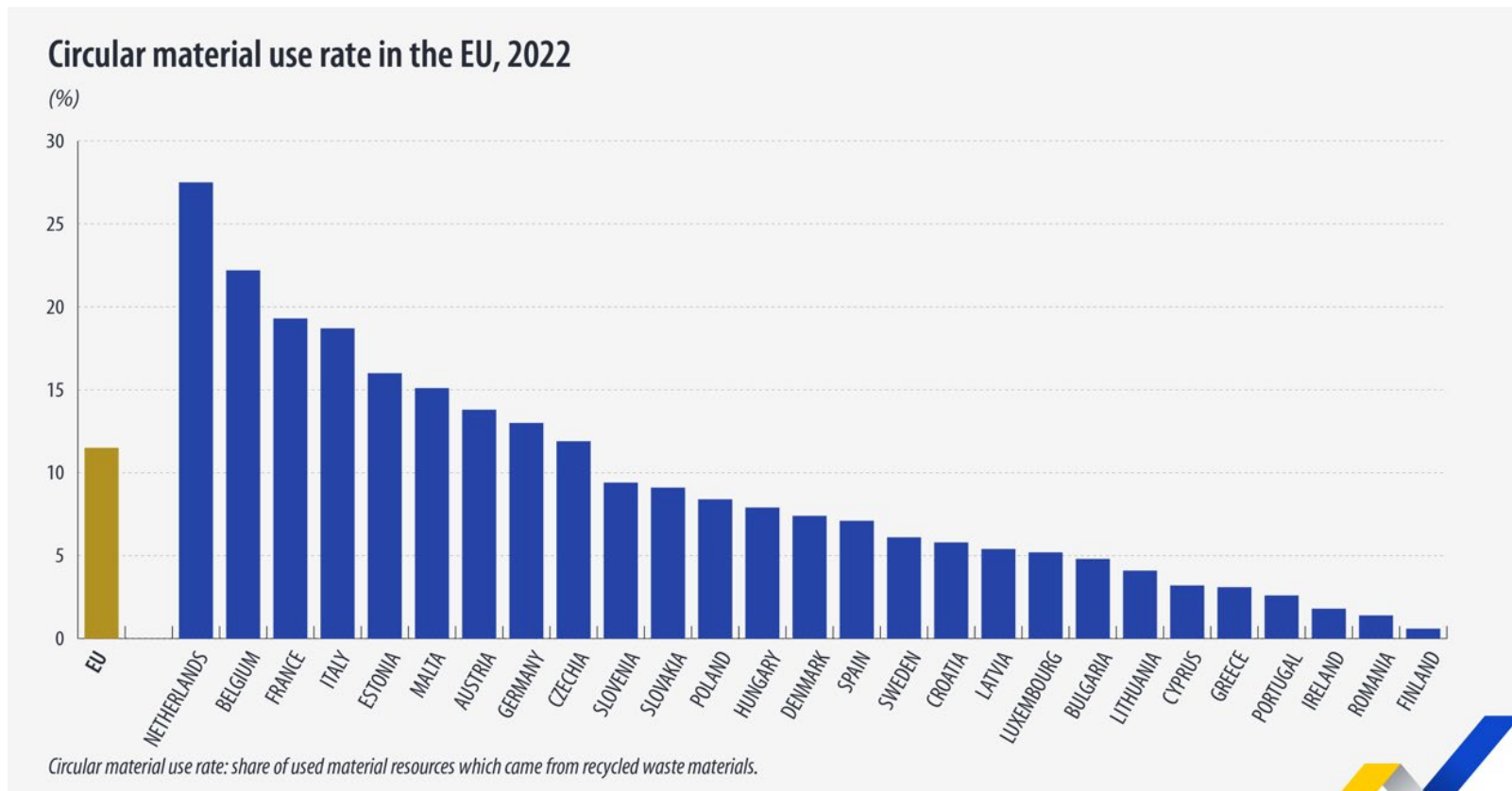
This information comes from [data on circular material use rate](#) published by Eurostat today. The article presents a handful of findings from the more detailed [Statistics Explained article](#).

Compared with 2021, the circularity rate increased by 0.1 percentage points (pp). Between 2010 and 2022, the rate increased by 0.8 pp from 10.7% to 11.5%, however, the highest shares were observed in 2018 and 2020: 11.6%.

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Dissemination of the results – Statistics and indicators

Circular Material Use Rate, by country in 2022

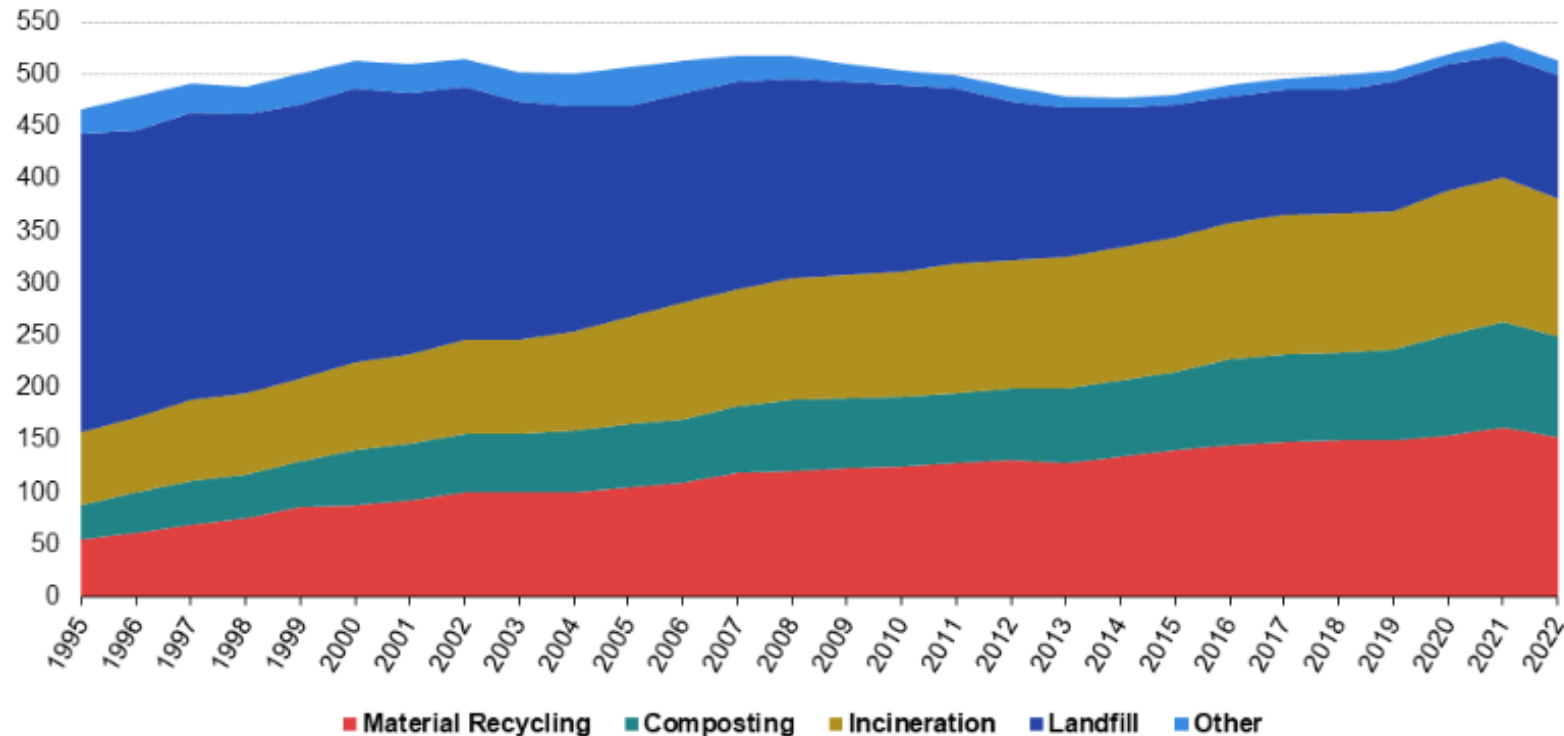


THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Dissemination of the results – Statistics and indicators

Municipal waste treatment, EU 1995 -2022

(kg per capita)



Note: estimated by Eurostat.

Source: Eurostat (online data code: env_wasmun)

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Role(s) of Eurostat – manage reporting obligations to the European Commission

Beyond the Waste Statistics Regulation – key waste streams:

- **Waste shipment across borders** – annual reporting under the Waste Shipments Regulation ((EU)2024/1157) (*implements the Basel Convention in the EU*)
- **Waste Framework Directive (2008/98/EC)** requires reporting on:
 - **Construction and demolition waste:** (generated, re-use, recycling, backfilling, material recovery, ...)
 - **Waste oils:** (generation, regeneration, recovery, disposal, ...)
 - **Food waste:** (generation by source, prevention, management)
- **Municipal waste:**
 - **Joint Questionnaire of OECD and Eurostat:** Annual reporting
 - **Landfilling, incineration, material recovery of municipal waste**
([Landfill Directive 1999/31/EC](#))
 - **Generation, collection, recycling, re-use and recovery of municipal waste**
(Waste Framework Directive 2008/98/EC)

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

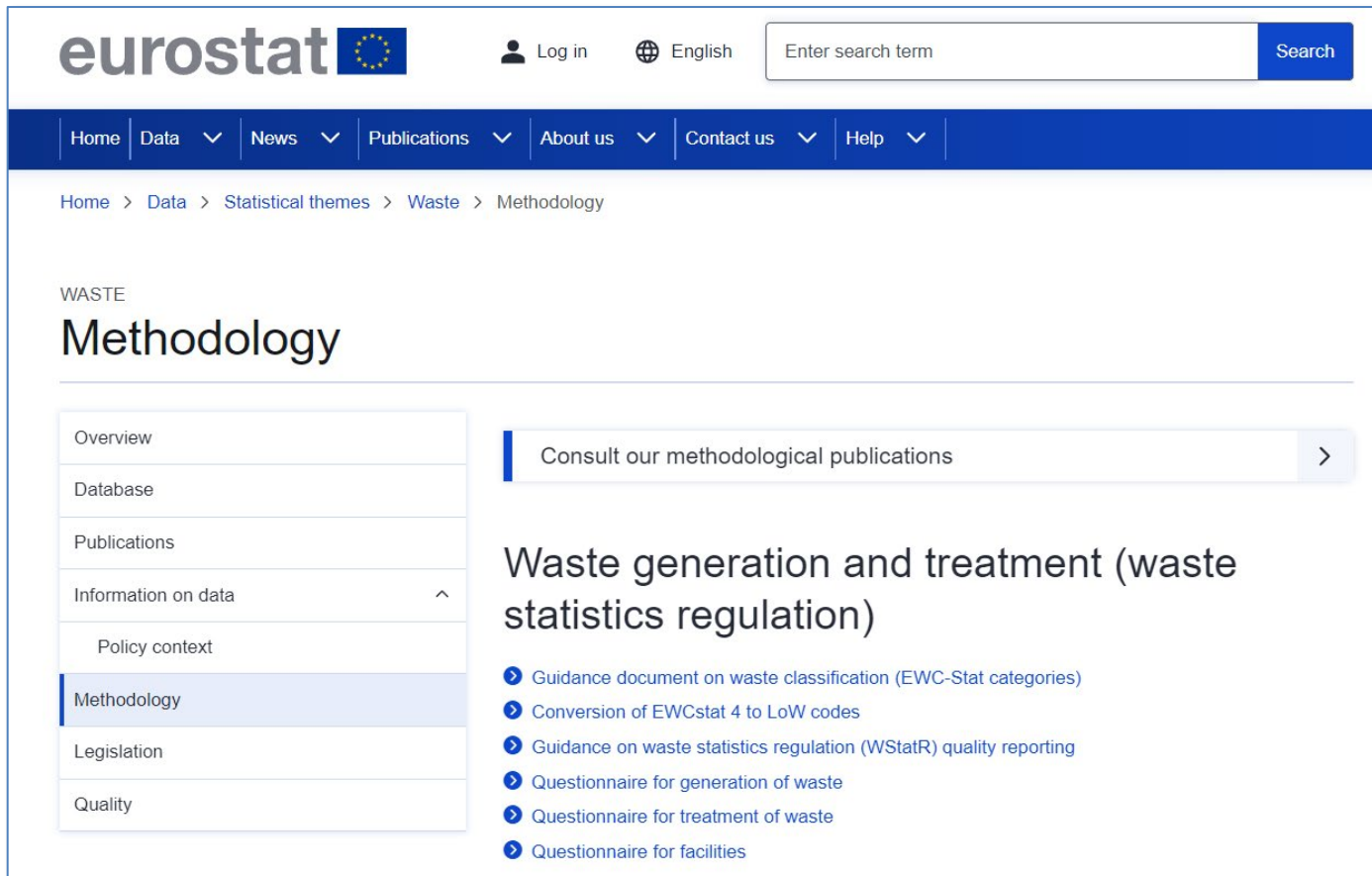
Role(s) of Eurostat – manage reporting obligations to the European Commission

Beyond the Waste Statistics Regulation – key waste streams: (contd.)

- **Waste electrical and electronic equipment (WEEE):**
EEE placed on the market, WEEE generated, collected, recycled, by EEE product ...
([Directive 2012/19/EU](#) E-waste recycling rate)
- **Batteries:** Batteries and accumulators placed on the market, collected, recycled
([Regulation \(EU\) 2023/1542](#))
- **Packaging and packaging waste:** Packaging waste by material, recycling, repair, reusable packaging. Consumption of lightweight plastic carrier bags
([Directive 94/62/EC](#))
- **End-of-Life Vehicles:** Materials from de-pollution, shredding, re-use, recovery, recycling
([Directive 2000/53/EC](#))
- *Upcoming:* **Textiles waste**

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Role(s) of Eurostat – develop and publish guidance for reporting



The screenshot shows the Eurostat website interface. At the top, there is a navigation bar with the Eurostat logo, a 'Log in' button, a language selector set to 'English', and a search bar. Below the navigation bar is a menu with options: Home, Data, News, Publications, About us, Contact us, and Help. The main content area shows a breadcrumb trail: Home > Data > Statistical themes > Waste > Methodology. The title 'WASTE Methodology' is displayed. On the left, a sidebar menu lists various categories: Overview, Database, Publications, Information on data, Policy context, Methodology (highlighted), Legislation, and Quality. To the right of the sidebar, there is a call-to-action button that says 'Consult our methodological publications'. Below this, the main heading is 'Waste generation and treatment (waste statistics regulation)'. Underneath, a list of six links is provided, each with a blue arrow icon: 'Guidance document on waste classification (EWC-Stat categories)', 'Conversion of EWCstat 4 to LoW codes', 'Guidance on waste statistics regulation (WStatR) quality reporting', 'Questionnaire for generation of waste', 'Questionnaire for treatment of waste', and 'Questionnaire for facilities'.

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Role(s) of Eurostat – develop and publish guidance for reporting

The screenshot displays the Eurostat website interface. On the left, the 'eurostat' logo is visible, along with navigation links for 'Home', 'Data', and 'News'. Below these, a breadcrumb trail reads 'Home > Data > Statistical themes'. The main content area is titled 'WASTE Methodology'. A vertical sidebar on the left lists navigation options: Overview, Database, Publications, Information on data, Policy context, Methodology (highlighted), Legislation, and Quality. The main content area is divided into two sections. The top section, 'Waste shipment across borders', includes three links: 'Guidance document on the waste shipment regulation', 'Questionnaire for reporting waste shipments under the Basel convention', and 'Additional questionnaire for reports'. The bottom section, 'Key waste streams', lists ten categories, each with a dropdown arrow: Batteries, Construction and demolition waste, End of life vehicles, Food waste and food waste prevention, Mineral and synthetic lubrication and industrial oils and waste oils, Municipal waste, Packaging, including plastic waste, and Waste electrical and electronic equipment.

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Role(s) of Eurostat – access to the questionnaires

The image displays two overlapping Excel spreadsheets from Eurostat, used for waste statistics reporting. The left spreadsheet, titled "WASTE GENERATION by waste category (EWC-STAT) and economic activity (NACE)", lists various waste categories (W011 to W05) and their corresponding economic activities. The right spreadsheet, titled "WASTE Recovery & Incineration", provides a detailed breakdown of waste recovery and incineration facilities, including capacity and facility numbers, categorized by country (Austria and Poland) and waste type (Recovery - recycling and Recovery - backfilling).

Country	Waste Category	Waste Type	Capacity (tonnes per year)	Facilities (number)	Explanatory footnote
AUSTRIA	W011	AT	ÖSTERREICH		
		AT1	OSTÖSTERREICH		
		AT11	Burgenland		
		AT12	Niederösterreich		
		AT13	Wien		
		AT2	SÜDÖSTERREICH		
		AT21	Kärnten		
		AT22	Steiermark		
		AT3	WESTÖSTERREICH		
		AT31	Oberösterreich		
		AT32	Salzburg		
		AT33	Tirol		
		AT34	Vorarlberg		
		POLSKA	W011	PL	MAKROREGION POLUDNIOWY
PL2	Małopolskie				
PL21	Małopolskie				
PL22	Śląskie				
PL4	MAKROREGION PÓLNOČNO-ZACHODNI				
PL41	Wielkopolskie				
PL42	Zachodniopomorskie				
PL43	Lubuskie				
PL5	MAKROREGION POLUDNIOWO-ZACHODNI				
PL51	Dolnośląskie				
W05	Health care and biological wastes				Hazardous
			Non-hazardous		

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Quality reports

The screenshot shows the Eurostat website interface. At the top, there is a navigation bar with the Eurostat logo, a search bar, and links for 'Log in' and 'English'. Below the navigation bar is a menu with 'Home', 'Data', 'News', 'Publications', 'About us', 'Contact us', and 'Help'. The breadcrumb trail indicates the current location: 'Home > Data > Statistical themes > Waste > Methodology'. The main heading is 'WASTE Methodology'. A sidebar on the left contains a list of menu items: 'Overview', 'Database', 'Publications', 'Information on data', 'Policy context', 'Methodology', 'Legislation', and 'Quality'. The 'Methodology' item is selected. A callout box with a blue border and a right-pointing arrow contains the text 'Guidance on waste statistics regulation (WStatR) quality reporting'. Below the callout box, there is a search bar with the text 'Consult our methodological publications' and a right-pointing arrow. The main content area displays the title 'Waste generation and treatment (waste statistics regulation)' and a list of links: 'Questionnaire for generation of waste', 'Questionnaire for treatment of waste', and 'Questionnaire for facilities'.

THE EU WA
Quality re

SE, CONTENT, LESSONS LEARNED

Guidance on WStatR quality reporting in ESS-MH

ESS-MH, the European Statistical System Metadata Handler, is the web-based tool for editing and submitting statistical quality reports to Eurostat. The underlying structure implements the ESQRS (ESS Standard Quality Report Structure), which is a general SDMX standard for quality reports.

In short, ESS-MH is intended to replace the Word templates for quality reporting that were used before. According to Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on Europe...

established as the standard in SDMX-ML format (SDMX) because it creates an SDMX...

The old template for the q transfer of metadata into t time. Please, do not use th

Using ESS-MH requires an l transmission and/or access

How to access ESS-MH

To start ESS-MH, log in at

After your ECAS authentica

WASTE_ESQRS_A_XX_2014

where XX is the county cod case. If you used already th been pre-filled with the co edit and update the report

Structure of the report

The focus in the quality rep accuracy, timeliness etc.) a

For your orientation, a det WStatR quality report tem with a detailed description

One constraint to ESS-MH i be easily transferred into t with five worksheets taken structure. The corresponde

Annex to ESS-MH repo

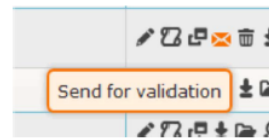
Annex 1: Description of me waste generation

Annex 2: Waste generation in the economy - sample survey	Table 4
Annex 3: Waste Generation in the economy on the basis of information on waste treatment	Table 5
Annex 4: Waste generation in the economy on the basis of models or other methods	Table 6
Annex 5: Determination methods for waste generated by households	Table 8

You can add the annexes to the quality report in ESS-MH by clicking on tab "3 – Annexes" in ESS-MH and then selecting the file(s) to attach to your report.

Submitting the quality report

When you have finished editing the quality report, please save it first and then click on "Send for validation" in the list of metadata files.



Help

If you are looking for help on ESS-MH in general, please consult the document "ESS-MH User Guide.pdf". Eurostat also offers webinars on how to use ESS-MH. For further information you can contact ESTAT-metadata@ec.europa.eu.

quality reporting

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Quality reporting – consult chapter 4 of the waste statistics manual

4

The quality report

The quality report is structured according to the order of the contents as described in the Annex of Regulation 1445/2005.

Code	Explanation
WASTE_WSTARSI_A_XX_2022_0000	where XX is the country code, indicate your country's quality report for a reference year, 2022 in this case.
	Part I: Description of the data
	a) Country name and reference year.
	b) Description of data sets submitted; the transmission format defines the three data sets which must be submitted. The description should be quite general at this stage and should refer to any derogations which apply to the submission of (parts of the) data sets.
	c) Transmission date.
	d) Name of the contact person/coordinator in the Member State and contact details (phone number and e-mail address, institution and function).
	e) Description of the parties involved/sources used in the collection of data. How do the parties and sources relate to the domains of the Waste Statistics Regulation? What is the legal basis of the data source? How is continuity assessed? (see table 36)
	f) The tables in Section 4.3 may be helpful with a view to describing the methods in a systematic way:
	1) Table 38 on classifications used (WSTARSI 3.2.1)
	2) Table 37 (WSTARSI 3.1.2.) and Table 39 to Table 41 on waste generation by businesses (WSTARSI 3.1.3., 3.1.4., 3.1.5.)

➔ **Guidance on waste statistics regulation (WStatR) quality reporting**

4.1. Legal basis and content of the quality report

In order to take advantage of the sources available at national level and take proper account of differences in (economic) structure, the Member States are left to decide which methods of data collection are most suitable. However, this is not conducive to the drawing up of harmonised waste statistics. The quality report, which each Member State is expected to submit together with the data, seeks to supply the information necessary for assessing the quality of statistics at both national and Community level. In many Member States, different parties are involved in the collection of data. The Member States must decide themselves which organisation will coordinate the submission of the quality report.

The national quality report for the EU waste statistics should be used.

The content of the quality report for waste statistics is laid down in Commission Regulation (EC) No 1445/2005. The Regulation contains an Annex where the contents are described in detail in two Parts. Part I of the quality report presents a general description of the data and gives an overview of the methods applied. Part II of the report follows the standard elements used to define quality in the European Statistical System. This chapter is strictly structured according to the order in which the contents are described in the Regulation or refers to the numbering of the elements within the Annex of the Regulation.

The quality reports to be submitted, however, have to be structured according to the ESS Standard for Quality Reports Structure (see chapter 3.2). This structure differs from that laid down in the abovementioned regulation. For this reason, the numbering of all elements described according to the new structure is mentioned throughout this document.

Many elements are set out in the aforementioned Commission Regulation and in this manual. Depending on the methods used in each Member State, various elements will not apply or will be less relevant. Please select the elements which apply to your Member State and adjust them where necessary and indicate "not applicable" or "not relevant" to the elements which are not applicable or not relevant in your country, as appropriate. Although

of which are NACE categories) and non-hazardous waste generated by enterprises. The key variable hazardous waste generated by households is added for completeness and symmetry; it is not particularly important in itself.

For the treatment of waste, the key variables consist of "hazardous"/"non-hazardous" combined with four waste treatment operations (the two disposal operations are combined).

made to the data collected through the Joint Questionnaire. Also, changes expected in the next reference year should be reported, again with an assessment of the impact on data quality.

Table 46 where the amounts in wet matter have to be provided for the waste categories W032, W033, W11 and W127, which are delivered in dry matter in the submitted data files.

In this section, the countries are asked to provide the results of their own data validation, either based on the standard validation rules (see chapter 6.1) or by their own approach.

Time required for response	Measures taken to minimise the burden
20 minutes/per unit (national average)	Improved online reporting for KOSTRA.
300 minutes/unit	
80 minutes/unit	Data reported to the Norwegian Environment Agency are gathered and pre-filled in the questionnaires. Only about 1300 got a form to fill out from Statistics Norway. The rest had already reported to the Norwegian Environment Agency.

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

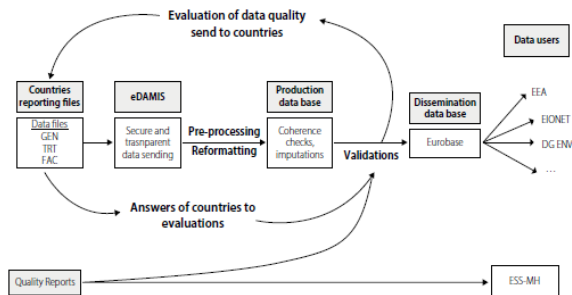
Data validation – consult chapter 6 of the waste statistics manual

6

Quality control and dissemination of results

This chapter deals with the control of data quality and the dissemination of data. Figure 12 presents the main steps that occur between data reception and dissemination by Eurostat.

FIGURE 12
Schematic presentation of the structure of the chapter



The first part of this chapter explains the standard validation rules which the countries are encouraged to apply during their preparation of the data, and the results of which could be presented in the quality report. The second part describes, how data are pre-processed, reformatted, uploaded in the production data base, validated and exported to the dissemination data base. The third part of this chapter deals with the dissemination of the results.

6
Quality control and dissemination of results

rules

The standard validation rules are adjusted regularly and in consultation with the countries on the basis of the experience gained. Information on the standard validation rules is available at CircaB/C (*)

6.2. Quality control: data collection, validation and feedback

6.2.3 Validation and feedback to reporting countries

- **Immediate validation**, processed in the questionnaire
- **Quick validation** and evaluation report
- **In-depth validation**, e.g. cross-checks with other reporting obligations, coherence tests, plausibility tests [...]

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Lessons learned – Challenges ahead

With the Waste Statistics Regulation the EU has a reliable tool at hand to measure trends in waste generation and how waste is managed. Complemented with data on key waste streams waste statistics provide essential information to understand how our economies can become more circular, *however ...*



- Monitoring the Circular Economy still requires better information about the material flows back to the economy
- The link between data on waste generation and waste treatment needs to be improved (“balancing principle”)
- Important indicators require annual data, therefore Eurostat will carry out interpolations for the years between the reference years
- Focus will be set on data quality and timeliness of priority waste flows (*as potential secondary raw materials*): Metal, glass, paper, plastics, wood and the mixed waste categories from which these materials are separated

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

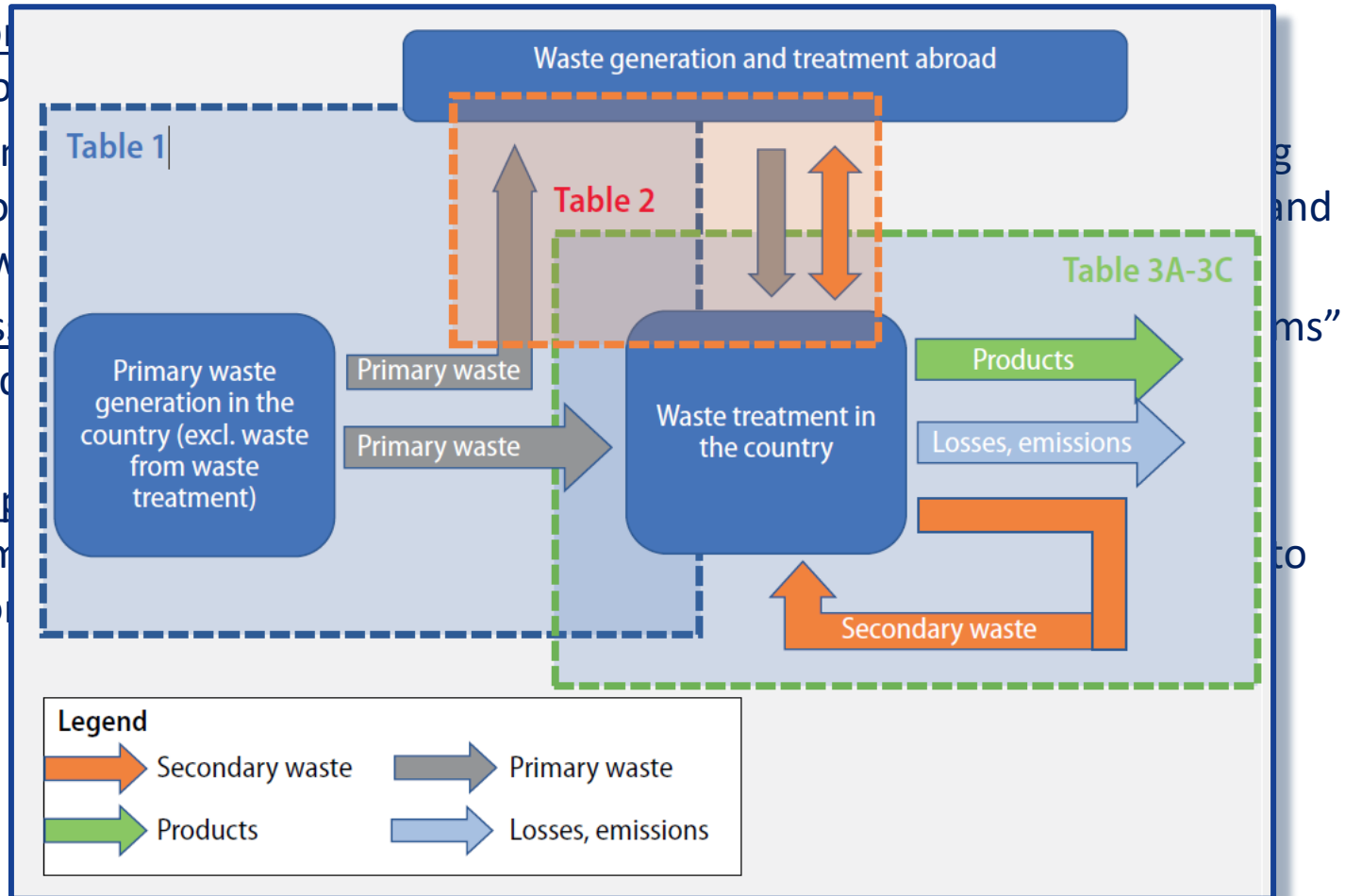
Lessons learned – Challenges ahead (*contd.*)

- Waste exported for treatment and/or imported from treatment abroad: Trade statistics alone is not sufficient or not available
- Better information is needed on pre-treatment operations, outputs of the existing treatment operations (e.g. incineration) and better distinction between primary and secondary wastes
- Material losses in the course of waste treatment and other “complex waste streams” (Sludges and liquid wastes - “dry or wet”, agricultural waste) should be better understood
- Different reporting practices on “heavy waste streams” (such as mineral waste) hamper comparison. Example: Attribution of construction and demolition waste to “recycling on site” or to “backfilling”?

THE EU WASTE STATISTICS REGULATION: MAIN PURPOSE, CONTENT, LESSONS LEARNED

Lessons learned – Challenges ahead (contd.)

- Waste export statistics also
- Better information on treatment of secondary waste
- Material losses (Sludges and emissions) not understood
- Different reporting hamper complete “recycling of waste”

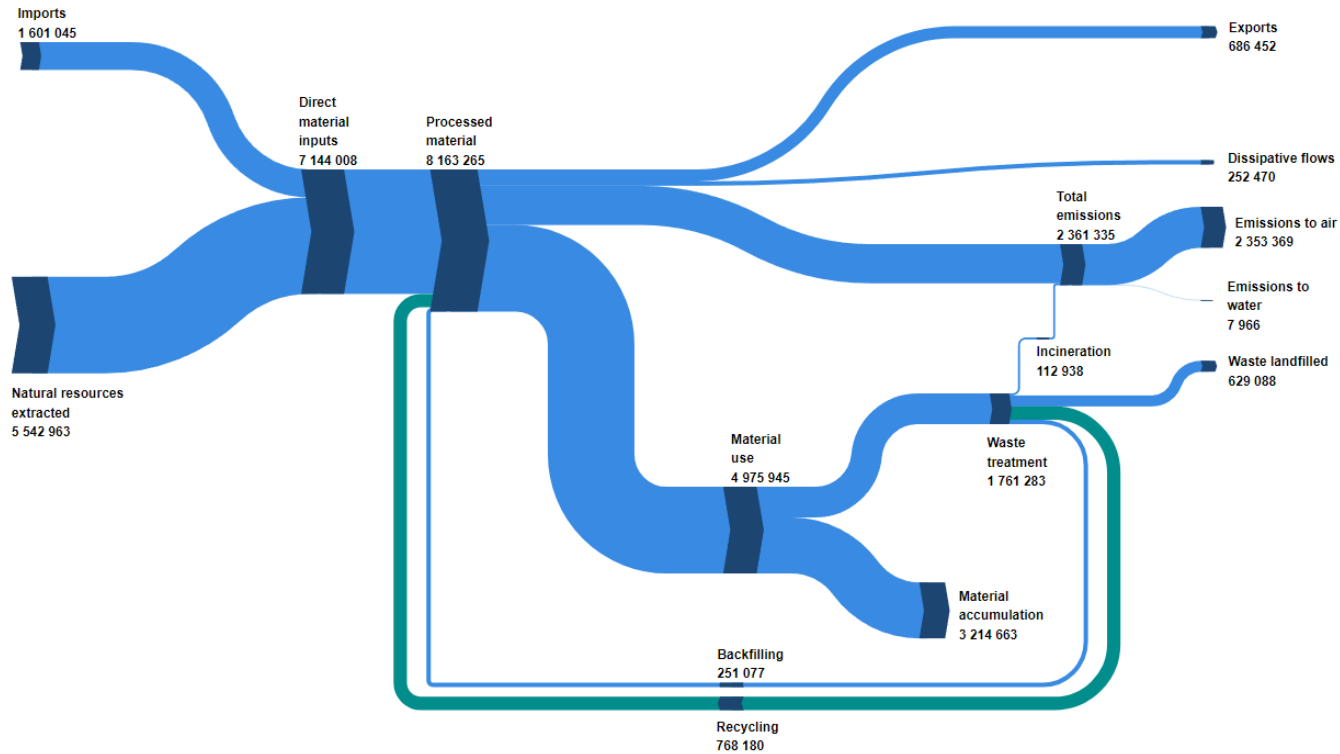


Material flow diagram

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European Union - year 2022
Thousand tonnes



Legend

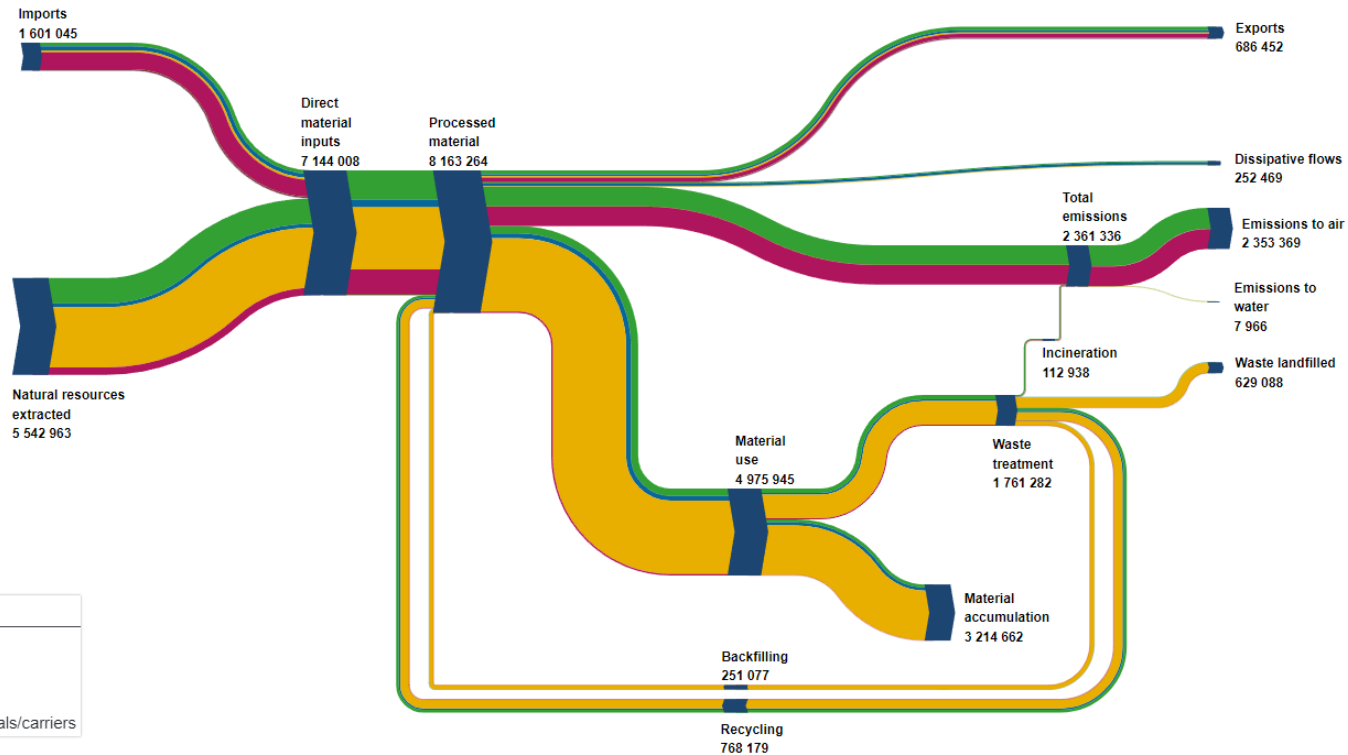
- Total



+
 100%
 -

Material flow diagram

European Union - year 2022
Thousand tonnes



- Legend**
- Biomass
 - Metal ores
 - Non-metallic mineral
 - Fossil energy materials/carriers



REGIONAL TRAINING ON THE PRODUCTION AND USE OF WASTE AND CIRCULAR ECONOMY STATISTICS AND INDICATORS

Thank you !

Working Group on Environmental Monitoring and Assessment

wgemasec@un.org

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