

Ukraine Waste Statistics on the Way Toward International Standards

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Regulatory Framework on Waste Management in Ukraine

- Law of Ukraine “On Wastes”
- Bylaws (laws, government regulations)

Regulatory Framework on Waste Statistics of Ukraine

- Law of Ukraine “On Information”
- Law of Ukraine “On Government Statistics”
- Regulations of state agencies authorized to collect statistics on waste management

General Provisions of the Law of Ukraine “On Wastes”

Article 1. Key Definitions.

Wastes are any substances, materials and items produced when manufacturing or using, and goods (products) that wholly or partly have lost its consumer properties and are not used in further by place of their generation or detection and that are disposed, intended to be or shall be disposed by its owner through recovery or removal.

Hazardous wastes are wastes that have physical, chemical, biological or any other hazardous characteristics that do or can be of serious hazard to environment and health of population, and that require specific approaches and means for their management.

Domestic wastes are wastes produced during human life and activity in residential and non-residential premises (solid, bulky, repair-related, liquid wastes except for ones related to manufacturing activity of an enterprise) and not used by place of their accumulation.

Waste management is a collection, transport, storage, treatment (recycling), recovery, disposal, control and landfill.

Recovery is a use of wastes as secondary material or energy resources.

Article 17. Obligations of Economic Agents on Waste Management.

There are primary obligations among them:

- prevent and reduce volumes of wastes;
- determine composition and features of wastes produced, and the level of hazard to environment and health of population as agreed with the designated authorized agency on environment;
- based on raw material balance of production, identify and maintain primary current record of amount, type and composition of wastes produced, recovered, controlled and disposed, and **perform statistical accounting in the prescribed manner.**

General Provisions of the Law of Ukraine “On Government Statistics”

Statistical monitoring is performed by government statistical agencies through statistical accounting, one-time surveys, census (interrogations), sampling observations, etc.

Statistical monitoring is divided into government and other statistical monitoring.

Government statistical monitoring is performed by government statistical agencies as per plan approved by state agencies. **(Article 9)**

One of the key tasks of government statistical agencies is a collection, processing, analysis, dissemination, storage, protection and use of statistics on mass economic, social, demographic, **environment** phenomena and processes in Ukraine and in its regions, assurance of reliability and objectivity of statistics. **(Article 12)**

*General Provisions of the Law of Ukraine “On Government
Statistics”*

(Contin.)

One of the rights of government statistical agencies is a right to study status of primary and statistical accounting, verify primary and statistical data provided by respondents. **(Article 13)**

Statistics not prohibited to be disseminated by government statistical agencies includes primary data obtained by government statistical agencies from respondents during government statistical monitoring on state of environment, particularly, earth, water, outdoor air, and factors that affect or can affect the state of environment and health of population, except for legal restraints. **(Article 22)**

User Needs

Before 2009, there were three major sources of statistics on waste generation and management in Ukraine:

government statistical monitoring:

- No. 1-hazardous wastes (annual) “Report on Generation, Treatment and Recovery of Wastes of Hazard Classes I-III”
- No. 14-mtp (semi-annual) (annual) (the first half of the year, year) “Report on Generation, Use and Supply of Secondary Raw Materials and Production Wastes”

management reporting:

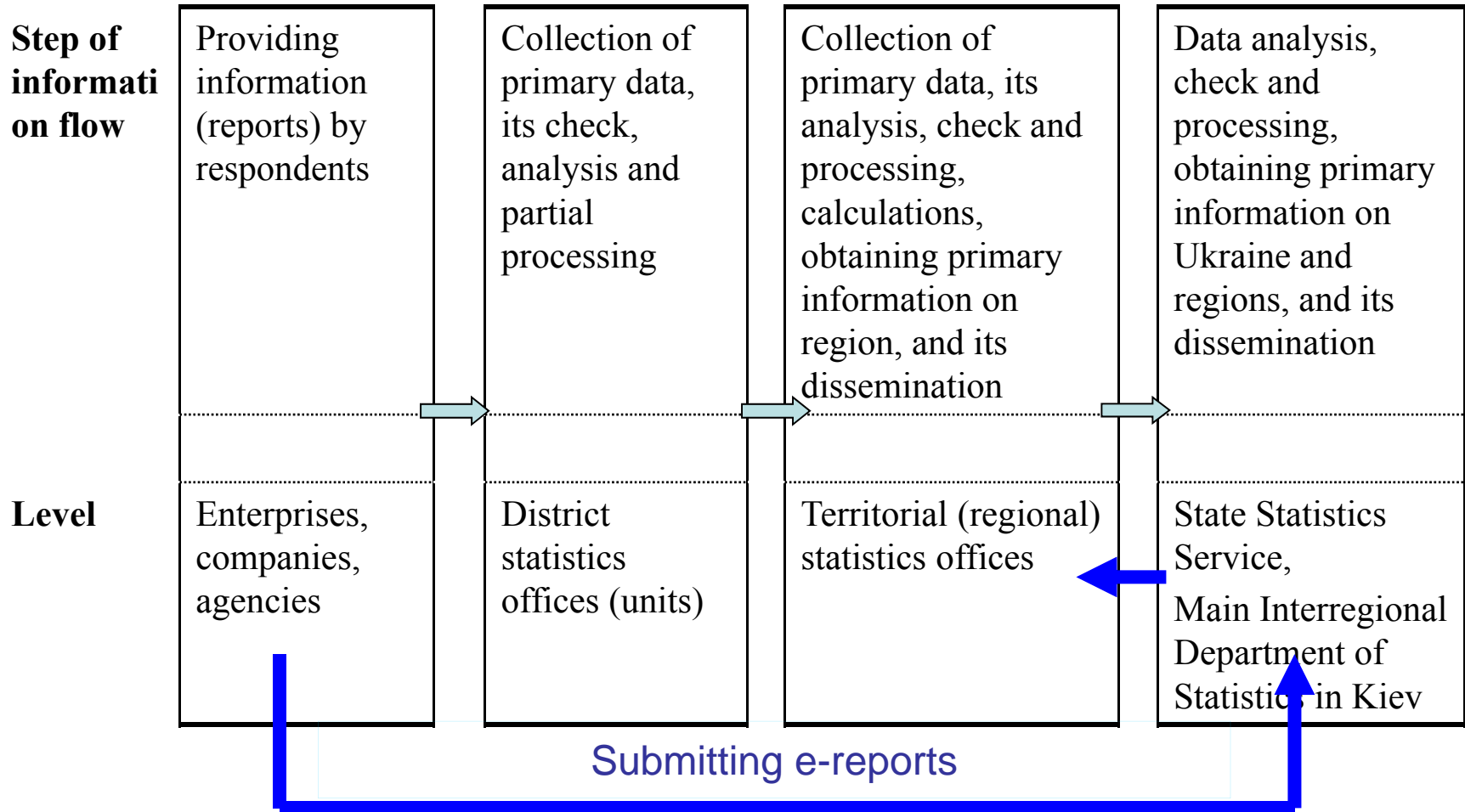
- No. 1-tpv (annual) “Report on Solid Domestic Waste Management”

Form No. 1-wastes “Waste Management”

- Introduced since 2010
- Government statistical monitoring to collect waste data
- The form is unified, brought into compliance with international standards on accounting of waste generation and management and allows obtaining information from enterprises by place of their activity
- Frequency – annual
- Respondents: legal entities, their separate subdivisions (that generate, recover, treat, store wastes) which activity is related to waste management of hazard classes I-IV
- Lists of the units to be monitored are generated at the central level by government statistical agencies with the participation of territorial authorities of the Ministry of Natural Resources

In 2010, list included over 24.2 thou of units, among which over 16.2 (or 67%) enterprises submitted the reports completed.

General Diagram of Statistics Flow as per Form No.1-wastes



Use of Classifications when Generating Statistical Reports as per Form No. 1-wastes

National (state) classifications of:

- Types of economic activity (CTEA), harmonized with NACE
- Territorial Units for Statistics of Ukraine (CTUSU)
- Business legal structures (CBLs)
- Waste classifier (DK 005-96)
- Hazard classes of wastes

Local classifications and lists:

- List of waste groups by hazardous components
- List of waste categories by material (introduced since 2010)
includes 31 categories that comply with 48 categories of EWC-StatRev.3 in which 4 categories are related to hazardous wastes only, 10 – to non-hazardous only, 17 – to hazardous and non-hazardous
- List of waste recovery and disposal procedures (introduced since 2010)

Form No. 1-wastes
Chapter I. Waste Management Sites*
1. Waste Management Plants

Line code	Installation types	Quantity	Total capacity, t/year
A	B	1	2
1.1	Waste incineration plants to produce power		
1.2	Waste incineration plants for waste heat treatment		
1.3	Waste recovery (treatment) plants		
1.4	Other waste recovery plants (except for incineration)		

Form No. 1-wastes
Chapter I. Waste Management Sites*

2. Specially Designated Locations and Sites for Waste Recovery

Line code	Index name	Quantity	Volume, cub m		Area, sq m	
			designed	residual	designed	residual
A	B	1	2	3	4	5
2.1	Total					
2.2	including domestic wastes					
*Indices of area, volume and capacity are presented in integral numbers						

Chapter II. Waste Management

(tones, with three characters after comma)

Index name	Line code	Waste (n)
Code and name of wastes as per State classifier of wastes (DK 005-96)	A	
Code and name of category of material of wastes	B	
Code and name of waste group by main hazardous component	C	
Code and name of hazard class	D	
Total wastes as the beginning of the year	10	
Generated	11	
Additional accounting	12	
Obtained outside (sum of 14-17 lines)	13	
including from production industry	14	
from households	15	
from services	16	
from other countries	17	
Incinerated (sum of 101, 210, 211 codes)	18	
including by procedures:	codes: 101, 210, 211	

<i>Continuation of Chapter II</i>		
Recovered (treated) (sum of 102-111 codes)	25	
including by procedures:	codes: 102 - 111	
Handed outside – total	50	
including by other countries	51	
Disposed in specially designated locations and sites (sum of 201- 204 codes)	52	
including by procedures:	codes: 201 - 204	
Disposed in unarranged storage facilities (sum of 212- 215 codes)	60	
including by procedures:	codes: 212 - 215	
Disposed for any other reasons	70	
including due to discharge, evaporation, fires, thefts	71	
Volume of wastes as of the end of the year (72=10+11+12+13-18-25-50-60-70) or (72=10+52)	72	
including in an enterprise	73	

Toxicological Classifier of Wastes

Hazard Class I – extra-hazardous

Hazard Class II – highly hazardous

Hazard Class III – moderately hazardous

Hazard Class IV – marginally hazardous

Hazard class is determined as per DSanPIN 2.2.7.029.-99 “Hygienic Requirements of Industrial Waste Management and Definition of their Class of Hazard to Health of Population” (Chapter 5) approved by the authorities of the Ministry of Health as agreed with territorial authorities of the Ministry of Natural Resources.

Information on hazard classes of particular wastes is contained in issued approval documents on waste management, particularly in licenses for disposal and limitations for generation and disposal of wastes.

Form No.1-wastes covers all national wastes (hazard classes I-IV), except for radioactive wastes.

Wastes of hazard class IV are identified as non-hazardous temporary for international statistical comparison.

List of Waste Incineration Procedures

Code (Ukrainian)	Code (European)	Procedure name
101	R1	Use as fuel or any other means to produce power
210	D10	At-ground incineration
211	D11	At-sea incineration

List of Procedures that Can Lead to Waste Recovery (without Energy Utilization)

Code (Ukrainian)	Code (European)	Procedure name
102	R2	Solvent utilization/recovery
103	R3	Recirculation/utilization of organic materials not used as solvents
		including
1031	-	production of recovered oils
1032	-	organic waste composting
1033	-	fermentation of organic wastes
1034	-	other types of preliminary treatment of organic wastes
1035	-	recovery of material in organic wastes
104	R4	Recirculation/utilization of metals and its compounds
		including
1041	-	collection and preliminary treatment of scrap metal and metal-containing wastes
1042	-	Recovery of material in scrap metal and metal-containing wastes

List of Procedures that Can Lead to Waste Recovery (without Energy Utilization)

(Continuation)

Code (Ukrainian)	Code (European)	Procedure name
105	R5	Recirculation/utilization of other inorganic material
		including
1051	-	collection and preliminary treatment of inorganic wastes
1052	-	recovery of material in inorganic wastes
106	R6	Acid and base regenerating
107	R7	Recuperation of components used to control pollution
108	R8	Recuperation of catalyst components
109	R9	Redistillation of the used petrochemicals
110	R10	Soil treatment that positively influences on agriculture or improves environmental situation
111	R11	Use of wastes produced from any of 101-110 procedures

List of Waste Recovery Procedures in Specially Designated Locations or Sites

Code (Ukrainian)	Code (European)	Procedure name
201	D1	Soil disposal or discharge on the ground
202	D3	Depth injection
203	D4	Surface impoundment
204	D5	Discharge to specially equipped landfills

List of Waste Recovery Procedures in Unarranged Storage Facilities

Code (Ukrainian)	Code (European)	Procedure name
212	D2	Soil treatment
213	D6	Discharge in water, except for seas
214	D7	Sea disposal, including disposal into the sea-bed
215	-	Accidental landfill disposal

Waste Generation in Ukraine in 2010 by Sources

(thou tones)

Line No.	Description and code NACE, REV. 1.1 – 2002	Total, hazard classes I-IV	Including	
			Hazard classes I-III	Hazard class IV
1	Agriculture, hunt and forestry (A, fishery B)	8,575.0	164.9	8,410.1
2	Extractive industry (C)	322,506.3	114.6	322,391.7
3	Processing industry (D except for 37)	75,357.1	1,235.7	74,121.4
4	Production and distribution of electric power, gas and water (E)	9,053.0	11.9	9,041.1
5	Construction (F)	125.4	8.8	116.6
6	Services (G – Q except for 90 and 51.57)	1,920.0	101.6	1,818.4
7	Wholesale trade of wastes and scrap (51.57)	72.6	7.5	65.1
8	<i>Total by types of activity, except for 37 and 90 codes</i>	<i>417,609.4</i>	<i>1,645.0</i>	<i>415,964.4</i>
9	Household wastes	6,722.4	0.1	6,722.3
10	<u>Total volume of wastes produced in the country (10=8+9)</u>	424,331.8	1,645.1	422,686.7
11	Sanitary services, waste removal and disposal (90)	1,552.1	7.7	1,544.4
12	Waste treatment (37)	30.3	7.1	23.2

Structure of Waste Generation in Ukraine in 2010 by Sources

(%)

Line No.	Description and code NACE, REV. 1.1 – 2002	Total, hazard classes I-IV	Including	
			Hazard classes I-III	Hazard class IV
1	Agriculture, hunt and forestry (A), fishery B)	2.0	10.0	2.0
2	Extractive industry (C)	76.0	7.0	76.3
3	Processing industry (D except for 37)	17.8	75.1	17.5
4	Production and distribution of electric power, gas and water (E)	2.1	0.7	2.2
5	Construction (F)	0.0	0.5	0.0
6	Services (G – Q except for 90 and 51.57)	0.5	6.2	0.4
7	Wholesale trade of wastes and scrap (51.57)	0.0	0.5	0.0
8	Household wastes	1.6	0.0	1.6
9	Total volume of wastes produced in the country, except for 37 and 90 codes (9 = sum of 1-8 lines)	100.0	100.0	100.0

Waste Management in Ukraine in 2010

(thou tones)

Line No.	Description and code NACE, REV. 1.1 – 2002	Total, hazard classes I-IV	Including	
			Hazard classes I-III	Hazard class IV
1	Commercial activity wastes produced within a year	419,191.8	1,659.8	417,532.0
2	Wastes imported within a year	4.1	0.0	4.1
3	Wastes exported within a year	281.3	26.6	254.7
4	Volume of wastes recovered within a year	145,710.7	642.4	145,068.3
5	including composted	147.4
6	Volume of wastes to be incinerated within a year	1,058.6	16.5	1,042.1
7	including to produce power	840.3	6.2	834.1
8	Disposed in specially designated locations and sites	336,955.1	306.3	336,648.8
9	including in specially equipped landfills	207,445.1	94.6	207,350.5
10	Disposed in unarranged storage facilities	860.9	0.4	860.5
11	including in accidental landfills	87.4	0.1	87.3
12	Disposed by other methods	1,768.0	520.3	1,247.7
13	Volume of wastes as of the end of the year	13,267,455.0	20,587.8	13,246,867.2

Generation of Industrial Wastes of Hazard Class IV in Ukraine in 2010 by Sources

(thou tones)

Line No.	Description and code NACE, REV. 1.1 – 2002	Total	In % to total
		8,453.7	11.4
2	Textile manufacture, production of clothes, fur and fur goods, manufacture of leather and leather goods and other materials (DB, DC)	53.7	0.1
3	Manufacture of timber and woodworks, except for furniture (DD)	331.2	0.4
4	Manufacture of cellulose, paper and paper products (DE)	201.4	0.3
5	Manufacture of coke, light oils and nuclear fuel (DF)	1,507.5	2.0
6	Manufacture of chemicals, chemical goods and artificial fibers (DG)	2,940.6	4.0
7	Manufacture of rubber and plastic products (DH)	29.,7	0.0
8	Manufacture of other soft mineral goods (DI)	1,179.3	1.6
9	Manufacture of base metals and metal products (DJ)	58,416.6	78.8
10	Manufacture of equipment and machinery (DK)	588.8	0.8
11	Manufacture of electric and optical equipment and transport facilities (DL, DM)	376.7	0.5
12	Manufacture not included in others (DN except for 37)	42.2	0.1
13	Total in processing industry (D except for 37) (13 = sum of 1-12 lines)	74,121.4	100.0

Industrial Waste Management in Ukraine in 2010
(code NACE, REV. 1.1 – 2002, 15-36)

(thou tones)

Line No.	Index name	Total, hazard classes I-IV	Including	
			Hazard classes I-III	Hazard class IV
1	Wastes produced within a year	75,357.1	1,235.7	74,121.4
2	Wastes recovered within a year	32,392.6	362.7	32,029.9
3	Volume of wastes to be incinerated within a year	588.5	12.4	576.1
4	including to produce power	542.0	4.9	537.1
5	Disposed in specially designated locations and sites (for permanent storage)	30,288.1	275.9	30,012.2
6	including in specially equipped landfills	12,655.2	183.8	12,471.4
7	Disposed in unarranged storage facilities	696.7	0.1	696.6
8	including in accidental landfills	3.8	0.0	3.8
9	Disposed by other methods	788.4	408.9	379.5
10	Volume of wastes as of the end of the year	1,913,037.9	19,899.9	1,893,138.0

Dissemination of Statistics as per Form No.1-wastes

- Statistical information in form of table in publications
- Statistical books
- Analytical reports, express publications

Published in paper form and placed at the web-site of State Statistics Service of Ukraine: <http://www.ukrstat.gov.ua>

- Inquiry answers in form of summary tables and data bases with regard to respondents

Additionally, primary data base as per form No. 1-wastes is provided to the Ministry of Natural Resources of Ukraine annually to be used in work

Thank you for your attention.