

Country Fact Sheet *Ukraine*

Introduction

This Country Fact Sheet (CFS) provides an overview of the situation of waste statistics, as of 1 August 2017. The CFS has been completed by the Consultant for the project *Implementation of the Shared Environmental Information System principles and practices in the Eastern Partnership countries (SEIS East) - Waste Statistics*.

"This report has been prepared by Wim Van Breusegem and Jürgen Gonser. Its contents are the sole responsibility of ADE and Gopa and can in no way be taken to reflect the views of the European Commission."

The CFS has been completed mainly on the basis of:

- A desk based review of existing international reports on the waste statistics situation in the country. However, the information derived from these reports has been replaced with more recent and comprehensive information obtained from the countries directly, in particular during a country visit. A list of publications that were reviewed is included as Annex 1, at the end of this CFS.
- Information resulting from the validation by the Consultant of the UNSD questionnaire that was completed by the Country. The validation resulted in a Country Data Validation Report, which is attached to the Final Report of the Project.
- Information provided by the country, during the country visit and following the review of the draft CFS by the country. The draft CFS was submitted to the country for comments following the country visit, with the request to provide additional information or to confirm information that was supplied during the country visit. The country has sent comments and additional information, which allowed the Consultant to finalise the CFS. A list of officials that were met during the country visit, is included as Annex 2, at the end of this CFS.

Part I: Overview of existing waste surveys

Theme & topics	Description
Legal basis for waste statistics	<p><u>Laws and regulations governing waste management:</u></p> <ul style="list-style-type: none"> ▪ Law of Ukraine on Waste ▪ The Law on Waste is currently subject to revision and shall be harmonised with EU waste legislation <p><u>Laws and regulations governing waste data and statistics:</u></p> <ul style="list-style-type: none"> ▪ The Law on State Statistics ▪ Regulations of state agencies authorized to collect data on waste management: <ul style="list-style-type: none"> ○ Orders Nos. 233, of 21 June 2010, and 492, of 9 December 2010, respectively on the approval of form No. 1-Waste (annual), entitled “Waste management”, and of an annex to that form ○ Order No. 308 issued by the Ministry of Construction, Architecture and Housing, of 19 September 2006, on the approval of form No. 1-TPV, entitled “Report on solid waste management”, and the instructions issued for its use.
Overview of waste surveys / data sources	<p><u>Statistical Waste Survey (since 2010)</u></p> <ul style="list-style-type: none"> ▪ Annual data collection by the State Statistics Service of Ukraine (SSSU), based on Form No. 1 – Waste, introduced in 2010. ▪ The SSSU brought Form No. 1 in line with the requirements of the EU Waste Statistics Regulation. ▪ The survey covers all types of waste, except nuclear waste, and all waste generating sectors, i.e. all economic activities (classified according to NACE Rev. 2) and households. ▪ The Statistical Waste Survey replaced two previous surveys (survey on secondary raw materials; survey on hazardous waste) which were ceased in 2009. Data until 2009 are not comparable with the data produced since 2010. ▪ The UNSD questionnaire 2016 is completed exclusively with data from the Statistical waste survey, including the parts on municipal waste <p><u>Municipal solid waste collection and treatment (since 2006)</u></p> <ul style="list-style-type: none"> ▪ Administrative data collected annually by the Ministry of Regional Development, Construction and Housing and Communal Services of Ukraine (MinRegion) ▪ Data is collected on the basis of form No. 1-TPV “Report on solid waste management” which was approved in 2006. ▪ Data are not used by the SSSU for the production of official statistics but only by MinRegion for its own purposes. ▪ Data reporting by the companies that are handling municipal waste is voluntary at the moment, as there is no legal basis for a mandatory reporting.

Theme & topics	Description
	<p><u>Statistical surveys until 2009, carried out by the SSSU:</u></p> <ul style="list-style-type: none"> ▪ Survey on solid household waste, using the form No. 14-mtp “Report on Generation, Use and Supply of Secondary Raw Materials and Production Wastes” <ul style="list-style-type: none"> ○ The survey was based on the nomenclature of secondary raw materials and production waste which was applied until 2009. The nomenclature included only separately collected waste, which correspond to code 771 of the current Waste Classifier. ○ The change from the Survey on solid household waste to the Statistical Waste Survey caused a break in time series for municipal waste. ▪ Survey on hazardous waste, using the form No.1-hazardous wastes “Report on Generation, Treatment and Recovery of Wastes of Hazard Classes I-III
Institutions involved	<p><u>State Statistics Service of Ukraine (SSSU) (http://www.ukrstat.gov.ua/)</u></p> <ul style="list-style-type: none"> ▪ Responsible for the production of environment statistics, including waste statistics. ▪ Carries out the annual Statistical survey on the generation and management of waste ▪ Production of MSW data (since 2010) ▪ Publication of waste data on its web-site and in the Statistical Yearbook. ▪ Organisational structure: <ul style="list-style-type: none"> - Central: <ul style="list-style-type: none"> ○ Waste statistics are produced by the Division for Environment Statistics; only 1 official is working full time on waste statistics, supported by the Head of the Division. ○ The Central Computing Centre (CCC) is annexed to the SSSU headquarter. It processes the data which come from the regional offices, conducts editing and validation and delivers data for tabulation and analysis to the departments in the Central Office. The office is also responsible for developing and maintaining specific IT solutions related to data collection and control. - Territorial: <ul style="list-style-type: none"> ○ The SSSU has 28 regional statistical offices which collect the data, validate it, and then supply it in aggregated form to the Central Computing Centre (CCC). <p><u>Ministry of Regional Development, Construction and Housing and Communal Services of Ukraine (http://www.minregion.gov.ua/)</u></p> <ul style="list-style-type: none"> ▪ Collects data on municipal waste (MW) collection and management for its own purposes, i.e. for the monitoring of MW management and as basis for the development of waste policies. ▪ MinRegion maintains a database of MW data from all regions of Ukraine since 2006. Publishes MW data in the annual state of the environment reports.
Classifications used	<u>Economic activities:</u>

Theme & topics	Description
	<ul style="list-style-type: none"> ▪ The national Classification of Types of Economic Activity (CTEA-2010) is harmonised with NACE Rev.2 and applied since 2010. ▪ From 2004 to 2009, CTEA was based on NACE Rev.1. <p><u>Waste types:</u></p> <ul style="list-style-type: none"> ▪ For the Statistical Waste Survey two waste classifications are used in parallel: <ul style="list-style-type: none"> - the State waste classification (waste classifier) DK 005-96, which is approved by the Order of the State Standardisation Committee of Ukraine No. 89 dated 29.02.1996 (as amended) - the European Waste Catalogue for Statistics (EWC-Stat) which ensures the compliance of waste statistics with EU requirements. Since 2014, EWC-Stat version 4 is applied, before version 3 was applied. ▪ For administrative purposes, e.g. for the issuance of authorisations to generate and manage waste, the State waste classifier is used. ▪ The waste classifier is a process-oriented classification that is not compatible with the EWC-Stat. ▪ Ukraine intends to replace the state waste classifier with the European List of Wastes as part of the revision of the Law on Waste. <p><u>Hazardous waste:</u></p> <ul style="list-style-type: none"> ▪ For the Statistical Waste Survey the toxicological waste classification is used which distinguishes for hazard classes: <ul style="list-style-type: none"> - Class 1 hazard – exceptionally high hazard - Class 2 hazard – high hazard - Class 3 hazard – moderate hazard - Class 4 hazard – low hazard <p>When compared to international waste statistics, the waste of the fourth class is considered as non-hazardous.</p> ▪ The Basel Convention classification is used for the transboundary movement of wastes and for the issuance of the associated authorisations, as well as for the licensing of operations involving hazardous wastes. <p><u>Waste treatment:</u></p> <ul style="list-style-type: none"> ▪ For the Statistical waste survey, the SSSU uses since 2010 the list of recovery and disposal operations (R and D codes) according to Annex II of the EU Waste Statistics Regulation (2150/2002/EU). ▪ The R and D codes are not yet provided by Ukrainian waste legislation but shall be introduced with the revision of the Law on Waste. <p>Two other relevant national classifications are:</p> <ul style="list-style-type: none"> ▪ Territorial Units for Statistics of Ukraine(CTUSU) ▪ Business legal structures(CBLS).

Theme & topics	Description
Waste indicators	<ul style="list-style-type: none"> ▪ In accordance with the Plan of State Statistical Observations, which is annually approved by the Cabinet of Ministers, the State Statistics Service develops and disseminates the following indicators: <ul style="list-style-type: none"> ○ Waste generation, ○ Utilization, ○ Incineration, ○ Removal to the managed dump-sites, ○ Total waste volume accumulated in the managed dump-sites during the whole period of exploitation. ▪ Data are presented by region, degree of hazard, economic activity, waste classification DK 005-96 and category of waste material.

Part II: Statistical Waste Survey (SSSU)

Theme & topics	Description
Purpose and use of the data	<ul style="list-style-type: none"> ▪ The Statistical Waste Survey is the one source of official statistical data on waste in Ukraine. ▪ The data are used to produce statistics on the generation and management of production waste, of municipal waste and of hazardous waste. ▪ MinEcology declared that the data are used for the preparation of reports and for answering questions on waste.
Definition and scope	
Existing definition(s)	<ul style="list-style-type: none"> ▪ The waste legislation is not yet not harmonised with EU requirements. ▪ Definitions used for statistical purposes are not the same as those that are provided by waste legislation, which creates confusion among reporting units.
Scope of data collection: Waste types	<ul style="list-style-type: none"> ▪ The survey covers all waste types, except radioactive waste ▪ Data on municipal waste are solely based on the EWC-Stat category '10.1 household and similar wastes'; data on other EWC-Stat categories are not considered in the compilation of the municipal waste data.
Scope of data collection : Origin	The survey covers waste from all waste generating sectors, i.e. it covers waste from all economics activities (based on NACE Rev.2) and from households.

Theme & topics	Description
of waste	
Data / information collected	<ul style="list-style-type: none"> ▪ The survey collects data on waste generation, waste collection and on waste management by means of one reporting form, the form No. 1 – Wastes, entitled “Waste management”. ▪ Data are collected, inter alia, on the following variables: <ul style="list-style-type: none"> - Generation of waste, by type of waste - Storage of waste at the beginning and at the end of the year - Waste treated, by type of treatment - Waste obtained from others, by type of origin (production, households, services, other countries) - Waste handed over to others ▪ Data are collected in tonnes. Where the waste is not weighed the reporting units are requested to estimate the tonnage on the basis of the volume (m³).
Time schedule of survey	<ul style="list-style-type: none"> ▪ The regional statistical offices inform the reporting units on their reporting obligation by 31 December of the reference year. ▪ The reporting units have to submit the completed questionnaire to the regional statistical offices by 28 February of the following year. ▪ The regional statistical offices submit data to Central Computing Centre: <ul style="list-style-type: none"> - by 14 April (first submission) - by 10 May (submission of revised data) ▪ SSSU publishes the data on 20 May
Documentation on survey methodology	The methodologies that are used to develop waste statistics are not yet documented in writing, or at least not comprehensively.
Data collection	
Data sources(s) / reporting unit	<ul style="list-style-type: none"> ▪ Data are collected from waste generators, waste collectors, waste transporters and waste treatment facilities with the same form. ▪ The selection of surveyed companies is based on a list which was compiled by MinEcology and its regional offices on the basis of the permits for waste generation and waste management they granted. In 2013, however, the regional offices of MinEcology were abolished and no new waste permits were issued since then. Considering that the issues were valid for a maximum of three years, companies are working without permits at least since 2016. ▪ This means that the statistical survey is based on a provisional list. SSSU and its regional offices are updating the list in an informal way with information from: <ul style="list-style-type: none"> ○ MinEcology; ○ The regional governments (oblasts);

Theme & topics	Description
	<ul style="list-style-type: none"> ○ The Statistical Business Register: the information is used to eliminate companies that have closed down and to add companies to the list that are active in the field of waste management (i.e. companies that are assigned to NACE E38). ▪ Overall, about 22 000 companies, out of a total of 640 000 companies registered in the Business Register, are included in the survey.
Data collection methods	<ul style="list-style-type: none"> ▪ Data collection is carried out as a sample survey, given that not all companies registered in the Business Register are surveyed. ▪ Statistical unit = local unit of the companies
Frequency	Annual
Data collection tools	<ul style="list-style-type: none"> ▪ Reporting units have the choice between paper forms and electronic reporting. ▪ For electronic reporting, the companies have to procure the services of one of five service companies that have been licensed by SSSU to provide electronic reporting services (in all areas, not only environment) to companies. Electronic reporting means in this case that the companies can submit the completed forms electronically. ▪ The establishment of a web-based portal for online-reporting is under development
Data collection process	<ul style="list-style-type: none"> ▪ The regional statistical offices inform the reporting units on their reporting obligation. ▪ The reporting units submit the paper questionnaire to the regional statistical offices or to the service company that they have hired, report electronically to the Central Computer Centre: ▪ Support to the reporting units: <ul style="list-style-type: none"> ○ Support is provided through FAQs published on the SSSU's web-site. ○ Formerly, support was also provided through written instructions that were formally approved by Order. (Order no. 492). However, no instructions are currently officially published, because the SSSU was requested by the Ministry of Justice to withdraw the formally approved instructions because they were reportedly not in line with the current waste legislation. For the time being, the reporting units have therefore to rely on the FAQ or on the instructions they may have available from previous years. ○ Reporting units can contact the regional statistical offices or the SSSU in writing or by phone if they have questions. Enterprises regularly ask for support in the coding of waste types (for some it is difficult to choose the correct code from Waste Classification DK 005-96) and of waste treatment operations. ▪ In case of non-responses, the regional statistical offices send reminders to the companies. The SSSU has the legal possibility to charge fines to companies that are obliged to report. This is usually not done because the fines are not effective (too low) and because it is the policy line to pursue a friendly, cooperative approach.
Data processing	

Theme & topics	Description
Data entry	<ul style="list-style-type: none"> ▪ Paper questionnaires are entered manually at the regional statistical offices. ▪ Electronically reported data are submitted directly to the CCC.
Data validation	<ul style="list-style-type: none"> ▪ Data validation is carried out by the regional offices, by the CCC and by the Environment Statistics Division of the SSSU. The validation comprises automatic checks (logical and arithmetical checks) and the comparison with data reported in previous years (visual checks). ▪ The regional statistical offices provide explanations on changes in the waste generation and management indicators when they submit the data.
Data compilation	<ul style="list-style-type: none"> ▪ After validation, the regional offices supply the data in aggregated form to the CCC. ▪ The CCC merges the regional databases, carries out further validation checks and sends the data to the SSSU, Division for Environment Statistics. ▪ The SSSU analyses the data at the level of regional aggregates. In case of inconsistencies, it will ask the regional offices for clarification. ▪ The data from the sample survey are not grossed up and non-responses are not imputed. The published data thus reflect the aggregate of the data reported by the responding companies but not the total amount of waste that is generated in the country by all companies and households. ▪ An estimation of the total amount of waste is not done so far because the quality of available data is insufficient and because no estimation methodology is established. ▪ For municipal waste, the published data reflect the amounts collected. No estimate is produced for MW generated in areas not covered by a collection service.
Data quality	
General aspects	
Relevance	<ul style="list-style-type: none"> ▪ MinEcology, which is in principle the main user of the data, would like to use the statistical data for the monitoring/supervision of waste management. This would require the SSSU to provide MinEcology with individual company data. However, this would be in conflict with the statistical principle of confidentiality. ▪ Waste management planning is weak in Ukraine, and it thus seems that the available data are not used for evidence-based policy making. It is not clear whether the statistical data are used to support investment decisions by the public and private sector.
Completeness	<ul style="list-style-type: none"> ▪ Important data gaps exist with regard to: <ul style="list-style-type: none"> - Information on the coverage of the MW collection system; - MW data at the level of cities and regions.
Accuracy	Sampling errors: The selection of reporting units is not transparent at the moment and is not done according to statistical criteria.

Theme & topics	Description
	<p>Coverage errors:</p> <ul style="list-style-type: none"> ▪ Coverage problems for municipal waste: <ul style="list-style-type: none"> - Narrow definition of MW= The coverage of the EWC-Stat category <i>10.1 household and similar wastes</i> which builds the basis for the determination of MW, is narrower than the definition of MW. - Undercoverage: <ul style="list-style-type: none"> ○ SSSU assumes that not all MW collectors and all facilities that receive MW are actually reporting ○ The published data reflect the amount of MW that is collected; it does not consider the uncollected amounts from areas not served by a collection system - Overestimation: <ul style="list-style-type: none"> ○ SSSU assumes that there is double-counting of MW collected and MW received by landfills / treatment installations. <p>The overall impact of the known coverage errors cannot be quantified. The comparison of the MW data produced by SSSU and those produced by MinRegion, shows that the amounts are in a similar order of magnitude. However, given that the definitions and methodology used by both organisations are different, it cannot be concluded from the comparison that the impact of the coverage errors is not significant.</p> ▪ Coverage problems for production waste: <ul style="list-style-type: none"> - Undercoverage: <ul style="list-style-type: none"> ○ Data reflect the amount of the reporting companies; data are not grossed up - Underestimation: <ul style="list-style-type: none"> ○ About 5 000 of the 22 000 reporting units report that they do not handle any waste. This reporting does not reflect the real situation, but is done to avoid waste taxes. ○ Metal waste is often considered as raw material rather than as waste and therefore not reported. - Due to the non-transparent selection of reporting units, no statement can be made on the representativeness of the sample (it is not sure whether all big waste producers are covered by the survey) and thus also not on the share of the reported waste quantities in the total quantities generated in the country. ▪ The classification of hazardous waste into three hazard classes is a challenging task for the reporting units. The classifications done by the reporting units are considered as subjective by the SSSU. <p>Measurement errors:</p> <ul style="list-style-type: none"> ▪ The volume to weight conversion by the reporting units, and by the SSSU if the data are reported in m³, is not standardised. The varying and inaccurate conversion factors may have a significant impact on the quantities reported. <p>Non-response errors:</p>

Theme & topics	Description
	The data are not adjusted for non-responses (no imputation or estimation); the impact on data quality is certainly significant .
	Data processing errors include: <ul style="list-style-type: none"> ▪ Data entry errors ▪ Measurement unit errors ▪ Coding errors: in the coding of the waste type, of the waste category by material and of the type of treatment operation
Timeliness and punctuality	<ul style="list-style-type: none"> ▪ Data collection follows a tight time schedule according to which data should be ready and published by 31 May of the year following the reference year. This tight schedule is being respected. ▪ The tight time schedule does not allow a proper data validation, at least at national level, with the available human resources.
Comparability and coherence	The replacement of the surveys on 'solid household waste' and on 'hazardous waste' by the Statistical Waste Survey in 2010 resulted in a significant break in time series. Data produced till reference year 2009 are not comparable with the data produced as of 2010.
Accessibility and clarity; dissemination	Data are published in: <ul style="list-style-type: none"> ▪ the Statistical Yearbook (available in English), chapter 26, section 'wastes' ▪ the Statistical Yearbook: Environment or Ukraine, chapter 5 "Wastes production, handling the wastes"
Cost and burden	Some consulting materials are located on the website of the State Statistics Service (Example: comment on the choosing the waste category according to material) http://www.ukrstat.gov.ua/druk/coment/answer/answer16.htm
Confidentiality	<ul style="list-style-type: none"> ▪ There exists a conflict between the demand of company-specific information by MinEcology and the statistical principle of confidentiality
Data management and storage	
Data management	<ul style="list-style-type: none"> ▪ The data are managed and stored by the Central Computing Centre which is responsible for developing and maintaining specific IT solutions related to data collection and control processes. In data processing, the SSSU applies the Electronic Processing Information Complex (EPIC) "Waste management". It provides arithmetic and logical controls, aggregation of data, checking of temporarily stored waste etc. Detected errors are displayed on the screen and subsequently data correction work is performed.
Data storage	The stored information is limited to the data itself; additional information gathered in the course of data validation (e.g. information from communication with the regional offices) is not stored.

Part III: Municipal waste data (MinRegion)

Theme & topics	Description
Municipal waste management	MW collection is a responsibility of the local governments, which may either collect the waste themselves (through municipal services or a municipal company), or grant private companies the permission to collect the waste on their territory.
Purpose and use of the data	Data are in principle used by MinRegion for the development of waste policies and the monitoring or waste management
Definition and scope	
Existing definition(s)	<ul style="list-style-type: none"> ▪ The definitions that are used by MinRegion are approved by the decree of the State Committee on Construction, Architecture and Housing Policy of Ukraine as of 21.03.2000 No54 “On Approval of Rules for the Provision of Services for the Collection and Transportation of Solid and Liquid Household Waste” that is: <ul style="list-style-type: none"> - <i>Solid household waste (SHW)</i> – waste generated in the course of human life and activity, which is accumulated in residential buildings, establishments, social and cultural institutions, public, educational, medical, trading and other establishments (food waste, household items, litter, fallen leaves, waste from cleaning and routine repair of flats, waste paper, glass, metal, polymers, etc.) without any further use at the source of generation. - <i>Oversized bulky SHW</i> – solid household waste with parameters exceeding 50x50x50 cm (old furniture, out of use fridges, washing machines and other household appliances, bath and sanitary equipment, tree logs, etc.). (<i>EEA report (2014, p.50)</i>) ▪ Besides that, additional definitions are included in the instructions on filling the form 1-TPV: <ul style="list-style-type: none"> - <i>Mixed SHW</i> - mixed solid household waste. - <i>Electric and electronic equipment</i> - Used electric batteries, rechargeable batteries, radio and TV sets, computers, air conditioners, fridges, washing machines, etc. - <i>Hazardous components</i> - Fluorescent mercury containing lamps, mercury containing thermometers, chemical sources of electric power (acid and tinned cells, batteries, condensers, etc.), remains of household appliances, office equipment that contain heavy metals and other toxic or poisonous substances. <p><i>Green waste</i> - Plant remains, grass, leaves, twigs, which are generated when looking after plants in the yards of houses and common green areas. (<i>EEA report (2014, p.50)</i>)</p>
Scope of data collection: Waste types	Data collection covers mixed solid household waste, separately collected recyclables, electrical and electronic equipment, street cleaning residues, green waste.
Scope of data collection : Origin	Data collection covers waste that is similar to solid household waste from all economic activities, i.e. waste from small enterprises, office buildings and institutions, and also from industrial companies.

Theme & topics	Description
of waste	
Data / information collected	<p>The information that is collected is defined in form 1-SHW. The form consists of three chapters:</p> <ul style="list-style-type: none"> ▪ Chapter 1 on MW collection / transport ⇒ to be completed by collection companies <ul style="list-style-type: none"> - asks for information on collected amounts by type of waste (in m³ and tonnes), destination by type treatment ▪ Chapter 2 on MW processing ⇒ to be completed by collection companies <ul style="list-style-type: none"> - asks for information on amounts of waste received by type of waste, sorting output, landfilled amount, non-processed waste, ▪ Chapter 3 on monitoring of MW management ⇒ to be completed by local governments <ul style="list-style-type: none"> - asks for information on: <ul style="list-style-type: none"> ○ Number, capacity, technical standard, area (ha) of landfills in the region ○ Percentage of population covered by the collection system ○ Expenditure on waste, e.g. for construction of new landfills, recultivation, containers,
Time schedule of survey	<ul style="list-style-type: none"> ▪ Companies have to submit the completed form to the local government by 20 January. ▪ The local governments submit the data to the regional authorities by 1 February. ▪ Regional authorities submit data to the Ministry by 10 February
Documentation on survey methodology	<ul style="list-style-type: none"> ▪ There is a Methodological Guideline on the organization of the state statistical observation on waste generation and management. (http://www.ukrstat.gov.ua/metod_polog/metod_doc/2015/361/mp_vidhody.zip). This document is in Ukrainian only. ▪ In accordance with the order of the Ministry of Regional Development, Construction, Housing and Utility Services of Ukraine dated 19.09.06 No 308, the Reporting Form № 1-TPV "Report on the management of solid household wastes" and the Instruction on filling in the reporting form № 1-TPV, were approved.
Data collection	
Data sources(s) / reporting unit	<ul style="list-style-type: none"> ▪ Public and private companies that have permits for handling municipal waste (chapters 1 and 2) and local governments (chapter 3) ▪ 1600 companies are reporting, the total number of companies is not known as no permits are issued at the moment (with the exception of permits for hazardous waste management)▪
Data collection methods	<ul style="list-style-type: none"> ▪ Administrative reporting ▪ Data collection is voluntary at the moment because the order that should build the legal basis for the data collection is not yet adopted
Frequency	Annual
Data collection tools	<ul style="list-style-type: none"> ▪ Paper form: the form is available for downloading from the web-site of MinRegion. ▪ An electronic reporting system does not exist.

Theme & topics	Description
Data collection process	<ul style="list-style-type: none"> ▪ The reporting companies must: <ul style="list-style-type: none"> ○ download the reporting from the web-site of MinRegion; ○ submit the completed reporting from to the local government by 20 January of the year following the reference year. ▪ MinRegion does not know whether and how local governments deal with companies that fail to report.
Data processing	
Data entry	Data are entered into Excel by local governments
Data validation	<ul style="list-style-type: none"> ▪ MinRegion compares the data with the results from previous years at the regional level. In case of inconsistencies the regional authorities are asked for clarification. ▪ There exists no standard procedure for the checking of data; MinRegion does not know, if and how the data are validated at the local and regional level
Data compilation	<ul style="list-style-type: none"> ▪ Company data are aggregated at local level by local governments, at regional level by regional offices and finally at national level by MinRegion. ▪ MinRegion receives only regional aggregates form the regional offices but no data at local or company level ▪ It is not clear to the Consultant how non-responses are handled. .
Data quality	
General aspects	There exists no standard procedure for data validation
Relevance	Data are collected by MinRegion for its own purposes; data collection does not aim at other users.
Completeness	It is not clear whether MinRegion is able to produce a complete data set.
Accuracy	<p><u>Sampling errors:</u> not applicable</p> <ul style="list-style-type: none"> ▪ In accordance with the order No 308 of MinRegion, dated 19.09.06, the Reporting Form № 1-TPV "Report on the management of solid household wastes" and the Instruction on filling in the reporting form № 1-TPV, were approved. The Ministry annually summarizes the data by area and publishes total data on generation and management of solid household wastes on its official website (http://www.minregion.gov.ua/) in the chapter "Housing and Communal Services" under the heading "Accomplishment of Territories". ▪ All information is open for review. ▪ MinRegion is only responsible for the collection of data on solid household waste, and not for any other type of waste. <p><u>Coverage errors:</u></p>

Theme & topics	Description
	<ul style="list-style-type: none"> ▪ In principle, the reporting is based on a legal obligation and should cover 100% of the companies. As the respective obligation is currently not in place, MinRegion cannot control whether the list of reporting units is complete and whether all companies on the list are reporting. ▪ Data include no information on waste collected and managed by the informal sector which presumably handles significant amounts of waste. <p><u>Measurement errors:</u></p> <ul style="list-style-type: none"> ▪ Some landfills have weighbridges; at other landfills the waste is measured in m³. ▪ Data are collected in tonnes and in m³. Conversion of the data in m³ is carried out by the local governments. Conversion methodologies, including standard conversion factors, have not been developed. Each local government uses its own conversion factors which may have a significant impact on the reported quantities. <p><u>Non-response errors:</u></p> <ul style="list-style-type: none"> ▪ MinRegion receives summary information from the regional state administrations through the completed reporting form № 1-TPV. Therefore, the response rate is not calculated and its impact on data quality can thus not be estimated. ▪ Analysis of the reasons for not submitting the form No. 1-waste "Waste generation and management" shows that in 2016, 5.2% of the enterprises did not report. The main reasons for not submitting the forms include demographic changes and termination of the activities of enterprises. <p><u>Processing errors:</u></p> <ul style="list-style-type: none"> ▪ MinRegion receives data from regions on paper and in electronic form (Excel or Word). This information is manually entered into the "Accomplishment" database. Mistakes may be made when entering the data entry or regarding measurement units. In order to minimize and detect processing errors, MinRegion additionally appeals to the regional state administrations (i.e. the oblast administrations) to clarify the data and the reasons for significant changes compared with the previous reporting period.
Timeliness and punctuality	<ul style="list-style-type: none"> ▪ Data collection follows a very tight time schedule according to which the data should be available to MinRegion by 20 February of the year following the reference year. ▪ MinRegion annually summarizes the data by regions and publishes summary data on the generation and management of solid household waste on its official website (http://www.minregion.gov.ua/) in the chapter "Housing and Communal Services" in the section "Accomplishment of Territories". Publication is done by the due-date and MinRegion is thus respecting the tight time schedule.
Comparability and coherence	Definitions and methodology have been consistent over time. No breaks of time series observed.
Accessibility and	According to MinRegion, the data are publicly available

Theme & topics	Description
clarity; dissemination	
Confidentiality	<ul style="list-style-type: none"> According to the order No 308 of MinRegion, dated 19.09.06, the Reporting Form № 1-TPV and the Instruction on filling in the reporting form № 1-TPV, which do not provide for restrictions imposed on the disclosure of information, were approved. MinRegion receives from regions summary information and confidentiality is therefore not an issue.
Data management and storage	
Data management	<ul style="list-style-type: none"> MinRegion receives materials from regions on paper and in electronic form (Excel or Word). The data are manually entered into the database "Accomplishment of Territories". Data processing steps (validation checks, imputation procedures, data aggregation, disguise of confidential data, etc.) are not programmed within the "Accomplishment" database. All work has to be done manually.
Data storage	<ul style="list-style-type: none"> The State Regional Administration submits summary information on the region to MinRegion, which enters the data into the "Accomplishment" database. The State Regional Administrations do not transfer lists of respondents and primary information from enterprises (such as company name, address, contact data, identification number(s), economic activity, etc.. As for KEOI "Waste Management", the catalog provides fields for company names, addresses, contact details, identification numbers, codes of economic activities. The list of respondents and other registration and identification data are updated centrally every year.

Part IV: Key potential activities

Theme & topics	Activities for improving data availability and quality
Statistical Waste Survey	
Institutional	<ul style="list-style-type: none"> The number of staff should be increased, to deal with the current understaffing, both in the central office (only 1 official is working full time on waste statistics at national level, supported by the Head of the Environment Statistics Division.) and in the regional statistical offices. The officials at the regional statistical offices must be trained, as they sometimes lack expertise and knowledge on waste (statistics): Waste data are collected and aggregated at the regional level by the regional statistical offices, and subsequently provided to SSSU. However, at regional level, there is no specific expertise on waste statistics and on waste management. The officials at the regional statistical offices must deal with all types of statistics. Cooperation between SSSU and MinRegion: assessment of how and under what conditions SSS and MinRegion could coordinate and

Theme & topics	Activities for improving data availability and quality
	cooperate, to avoid duplication of efforts, to strengthen each other and to achieve common objectives, i.e. high quality waste (statistical) data and information. Such an assessment may for example result in only one organisation collecting MW data, which can be used for the production of statistics.
Definitions and classifications	<ul style="list-style-type: none"> ▪ Data collection according to EU standards is hampered by the fact that the existing legal definitions are not in line with the EU definitions. ▪ The SSSU has tried to harmonise the statistical survey with EU requirements but the proper implementation remains difficult as long as the EU definitions and classifications are not incorporated in national legislation. ▪ The definitions used should be reviewed and brought in line with EU definitions. As such, the Statistical Waste Survey does not use a definition of MW that is in line with the MW definition of Eurostat and UNSD. ▪ The simultaneous use of different waste classifications (two non-compatible waste nomenclatures plus a sophisticated hazardous waste classification) is difficult to handle and may lead to misclassifications by the reporting units. ▪ Training of staff in the central and regional offices of the SSSU by experts from the EU with the aim to strengthening the understanding of SSSU with regard to the application of EU concepts and definitions, in particular with regard to the WStatR and the classification of waste treatment operations.
Coverage	<ul style="list-style-type: none"> ▪ Double-counting Under the Statistical Waste Survey, there is double-counting of MW collected and MW received at treatment facilities. This double counting should be appropriately dealt with. ▪ Undercoverage: The published data are based on a sample survey and thus reflect only the amounts reported by the responding companies. Estimations of the total amounts should be made.
Conversion factors	Instructions on the conversion from volumes to weight should be developed.
Reporting units	<ul style="list-style-type: none"> ▪ Selection of reporting units: The selection of reporting is currently not transparent because no permits are issued. ▪ Reporting Instructions: The instructions for the reporting units need to be updated. (under preparation) ▪ Understaffing and lack of expertise and knowledge hampers the provision of ad-hoc support to reporting units.
Tools	<ul style="list-style-type: none"> ▪ A comprehensive external audit of the Statistical Waste Survey system, focussing on compliance with EU requirements and on data quality. The audit should include the review and improvement of the reporting form for the Statistical Waste Survey ▪ Some quality problems like the double-counting of MW collected and treated, or imbalances between waste generation and waste treatment, may result from shortcomings of the reporting form. ▪ Online reporting: Introduction of a web-based online-reporting system would enhance the efficiency of reporting. (under preparation).
Validation	The integration of additional validation checks in the database (e.g. comparison of data with previous years) would improve and facilitate the validation.

Annex 1: List of publications

The following publications have been reviewed for the preparation of the country mission and the completion of the Country Factsheet:

1. EUROPEAN UNION, EEA (2014) European Neighbourhood and Partnership Instrument – Shared Environmental Information System: How existing municipal solid waste data in ENPI East countries can be used for the development of waste indicators, Final Report. European Environment Agency, Denmark
2. EUROPEAN UNION, EEA (2015) Towards a Shared Environmental Information System (SEIS) in the European Neighbourhood, Final Report. European Environment Agency, Denmark
3. EUROPEAN UNION, UNECE (2015) Advancing the production and sharing of an extended set of 14 environmental indicators in the countries of the Eastern European Neighbourhood. European Environment Agency, Denmark
4. EUROPEAN UNION, EEA (2015) ENPI-SEIS East Region Synthesis Report - Building a Shared Environmental Information System with the Eastern Neighbourhood - Outcome of cooperation, 2010–2014. Luxembourg: Publications Office of the European Union, 2015
5. EUROPEAN UNION, UNECE (2012) Conference of European Statisticians: Review of Waste Classification Procedures and Identification of Alternative Approaches
6. UNECE (2012) Desk Study: Assessment of the capacity of countries of EECCA to produce statistics on sustainable development and environmental sustainability – Topic 1 – waste statistics (under the UN Development Account project.)
7. UNECE (2015) Progress in the production and sharing of core environmental indicators in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia. Geneva: United Nations Economic Commission for Europe
8. Prokopenko, O. (2016) Progress on Waste Statistics in Ukraine. Presentation held at the 1. Regional SEIS East workshop, 6./7. June 2016, Batumi, Georgia
9. Guseva, N.Y.(2012) Ukraine Waste Statistics on the Way Toward International Standards. Presentation held at the Workshop on Waste Statistics, 11./13. April 2012, Geneva, Switzerland
10. EUROPEAN UNION, EEA (2012) European Neighbourhood and Partnership Instrument – Shared Environmental Information System – Country Report of Ukraine. European Environment Agency, Denmark
11. EUROSTAT, EFTA, UNECE (2012) Adapted Global Assessment of the National Statistical System of Ukraine. UKRAINE
12. EUROSTAT, EFTA, UNECE (2017) Adapted Global Assessment of the National Statistical System of Ukraine. UKRAINE

Annex 2: List of stakeholders met during the country mission (24-25 April 2017)

Statistics State Statistics Service of Ukraine (SSSU)

1. Oleg Prokopenko, Director, Department for Agricultural and Environment.
2. Husieva Nataliia, Department for Agricultural and Environment, Head of Ecology Statistics Division.
3. Andriy Ishchenko - First Deputy Chair, State Statistics Service of Ukraine.
4. Natalia Vlasenko - consultant, State Statistics Service of Ukraine.
5. Oleksander Sokolenko - Department for Agriculture and Environment Statistics, chief economist Division for Ecology Statistics.

Ministry of Ecology and Natural Resources

6. Evgeniy Shmurak - chief Specialist, Waste treatment Division, Department of waste management and ecosecurity.

Ministry for Regional Development, Building and Housing

7. Diana Novikova - chief Specialist, Household waste management Division, Department for Accomplishment of Territories and Utility Services.