

**Joint Partnership between the Eastern Countries and the
European Union**

**Implementation of the Shared Environmental
Information System principles and practices in the
Eastern Partnership countries (SEIS II East) -
waste statistics**

Draft Final Report

**Framework Contract EuropeAid 132633/C/SER/multi,
LOT 11 - MACRO ECONOMY. STATISTICS, PUBLIC FINANCE
MANAGEMENT
SPECIFIC CONTRACT NR 2015/367-903 - ESTAT NR CONTRACT
14465.2015.002-2015.829**

February 2017



**This project is financed by
the European Union**



**Implemented by ADE in collaboration
with GOPA**

"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."

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1. Introduction

1.1 This report

This Final Report has been prepared 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* and reports.

A draft of this Final Report was submitted for comments to Eurostat on 12 January 2018, and was discussed at a final project meeting at Eurostat on 19 January 2018.

All comments received at the final project meeting have been appropriately incorporated in this final version of the Report.

1.2 Project background

The Shared Environmental Information System (SEIS) is a European Union initiative to modernise and simplify the collection, exchange and use of the data and information required for designing and implementing environmental policy.

The implementation of the SEIS principles is a collaborative initiative of the EC, and the European Environment Agency (EEA) and its Eionet (European environment information and observation network) of 39 countries, formalized through the Commission's Communication in February 2008.

The EU funded a project *Towards a Shared Environmental Information System (SEIS) in the European Neighbourhood*" (ENPI-SEIS)¹, which was implemented by the EEA. ENPI-SEIS supported the environmental and statistical authorities in 16 partner countries, both in the East and South European Neighbourhood regions, for managing and sharing environmental data and information, in compliance with the SEIS principles. During the implementation of ENPI-SEIS, a pilot set of regional environmental indicators to be used in decision-making was developed, produced, and shared².

ENPI-SEIS is being followed up by the project *Implementation of the Shared Environmental Information System principles and practices in the Eastern Partnership countries (SEIS II East project)*,

The SEIS II East project continues to address organisational, administrative and technical aspects related to the production of environmental indicators, in the six EaP (Eastern Partnership) countries: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine.

¹ <http://enpi-seis.pbe.eea.europa.eu/>

² Progress in the production and sharing of core environmental indicators in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia, UNECE, March 2015 (prepared within the ENPI-SEIS project)

The SEIS II East project is implemented by the EEA, with the exception for the theme Waste, which is covered by the current Project. The Project is implemented for Eurostat by the Consultant, in close consultation with the EEA. The EEA is responsible for the overall coordination of the project and for the implementation of the horizontal component and the thematic components air, land cover, water and biodiversity.

Relevant frameworks and processes, other than Eurostat, for the production of waste statistics and indicators include:

- UNECE, as part of the pan-European process, has developed a list of 36 environmental indicators under 10 thematic areas, including waste, in collaboration with the Working Group on Environmental Monitoring and Assessment (WGEMA) and the Joint Task Force on Environmental Statistics and Indicators (JTF). The list includes the following waste indicators³:
 - I1. Waste generation (updated October 2014): The amount of waste generated in a country per year – in total, by economic sectors and households, per unit of GDP, per capita, etc.
 - I2. Management of hazardous waste (updated October 2014): This indicator specifies the stock of hazardous waste within a country, as defined by the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention), as well as the amounts generated, exported, imported, and treated in a country – in total and by methods of treatment (recycling, incineration, landfilling, and other methods).
 - I3. Waste reuse and recycling: waste reused or recycled as a share of the total waste in a country – in total, by sector (industrial and municipal waste) and by negative impact (hazardous waste).
 - I4. Final waste disposal: The share of the total amount of waste generated – in total, broken down by sector (industrial and municipal waste) and broken down by negative impact (hazardous waste) – that is finally disposed of by:
 1. incineration (without energy recovery or use as a fuel),
 2. landfilling on a controlled or non-controlled site,
 3. composting,
 4. reuse or recycling,
 5. other disposal.

The Joint Task Force prepared Online Guidelines for the Application of Environmental Indicators in Eastern Europe, Caucasus, Central Asia and South-Eastern Europe. In the Online Guidelines, each indicator is presented through three files: description of the indicator, table for the production of the indicator, and glossary of terms.

Other guidelines that have been produced include:

³ <https://www.unece.org/env/indicators.html>

- Guidelines for the application of environmental indicators in EECCA (which include an introduction to indicators and incorporate the Online Guidelines).
 - Guidelines for the preparation of indicator-based environment assessment reports
 - Recommendations to Governments of EECCA countries for the application of environmental indicators and the preparation of indicator-based environmental assessment reports
- Sustainable Development Goals⁴: The Sustainable Development Goals (SDGs) cannot be met unless waste management is addressed as a priority⁵. One of the goals for which waste information is needed to check progress in achieving the targets, is Goal 12 (Responsible Consumption and Production), in particular the following targets:
- 12.4: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
 - 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
- UN Framework for the Development of Environmental Statistics (FDES)⁶: The Framework for the Development of Environment Statistics (FDES 2013) is a flexible, multi-purpose conceptual and statistical framework that is comprehensive and integrative in nature. It marks out the scope of environment statistics and provides an organizing structure to guide the collection and compilation of environment statistics at the national level. It brings together data from the various relevant subject areas and sources. Sub-component 3.3 covers *Generation and Management of Waste*.
- UN System of Environmental-Economic Accounting⁷ (SEEA): The SEEA contains the internationally agreed standard concepts, definitions, classifications, accounting rules and tables for producing internationally comparable statistics on the environment and its relationship with the economy. The SEEA framework follows a similar accounting structure as the System of National Accounts (SNA) and uses concepts, definitions and classifications consistent with the SNA in order to facilitate the integration of environmental and economic statistics.

1.3 Project objectives

The overall objective is to further mainstream waste information into knowledge-based waste policy-making and good governance.

⁴ <https://sustainabledevelopment.un.org/sdgs>

⁵ <https://wasteaid.org.uk/waste-sustainable-development-goals/>

⁶ <https://unstats.un.org/unsd/ENVIRONMENT/FDES/FDES-2015-supporting-tools/FDES.pdf>

⁷ <https://unstats.un.org/unsd/envaccounting/seea.asp>

The specific objective is to provide methodological support for the regular production of waste statistics, in compliance with the SEIS principles.

Meeting these objectives is expected to lead to the following outcomes, in line with EU best practices:

- Improved capacities in the national administrations to produce, manage and report waste data and statistics.
- Improved quality of waste data and statistics, available to and accessible for decision-makers, civil society, and other national and international stakeholders.
- Improved comparability of waste statistics and indicators from the 6 EaP countries.
- Improved implementation of international commitments (SEIS cooperation) related to environmental reporting.

1.4 Project focus

The project focuses on waste, as covered by the UNSD questionnaire on waste, and in particular on municipal waste (MW). However, requests from countries for targeted support with respect to the production of statistics on hazardous waste and/or on waste from industry, will be appropriately addressed by the Consultant.

The specific area of interest is thus the production of statistics on municipal waste generation and management, and more in particular on the:

- Total amount of municipal waste generated in a country per year (including also an assessment of municipal waste generation in areas not covered by a municipal waste collection scheme)
- Total amount of municipal waste treated, by type of treatment
 - Recycling
 - Composting
 - Incineration (with and without energy recovery or use as a fuel)
 - Landfilling on controlled/non-controlled site
 - Other disposal
- Coverage of the municipal waste collection system (in % of population)

The Consultant focusses on MW for the following reasons:

- MW is the main waste stream for which (local) governments are responsible, and for which therefore data are required for informed waste policy-making.
- MW generation is the waste indicator that is included in the agreed set of 8 indicators agreed under ENPI SEIS-I (Synthesis Report)
- The methodologies to produce MW statistics differ from those to produce statistics on other types of waste. Accordingly, MW data are collected through specific surveys.
- Capacity building for waste statistics can be done in a more effective and efficient manner if focused on a specific waste stream. Capacity built for MW can subsequently also be used to produce statistics for other waste streams.

The Project focuses on data quality.

The Project provides support for content, but not for infrastructure, i.e. the development of the necessary IT infrastructure, which should be based on IT developments in the countries, such as e-governance initiatives. However, there is an ENPI-SEIS Working Group on Information Technology.

1.5. Synergies with other projects and initiatives

The Consultant has addressed any requests from Eurostat for consultation and cooperation with other organisations, such as the EEA or UNECE, to exploit synergies with other donor-funded activities in the waste area and related environmental statistics and accounts areas.

The Consultant participated in the 1st Project Steering Committee (PSC) meeting that was organised for the SEIS II project by the EEA in Brussels on 29-30 November 2016. During the meeting, it became clear that there are no concrete, immediate synergies between the EEA and the Eurostat work on SEIS. However, The Consultant has screened the outputs of the 1st SEIS project and has incorporated what is relevant for the Project in the Country Factsheets that have been prepared. As provided by the ToR, the Project must build upon activities undertaken within the previous ENPI-SEIS project.

Projects and initiatives that were mentioned during the 1st PSC meeting, which are interesting, but not directly relevant to this Project include:

- DG Near: EaP Green
- UNEP:
 - “Capacity building for environmental data sharing and reporting in support of SEIS”, covering 20 countries (Africa, Central-Asia etc.). The project, with EU funding, focuses on tools and web-based technologies.
 - “Building capacity for environmental statistics”, relevant to the SDGs.
 - Publication in 2016 of the Regional Environmental Outlooks.
- OECD: Green Growth indicator project, with EU funding. One of the indicators is waste intensity.
- The Bureau of the Conference of European Statisticians (CES)⁸ has decided in February 2017 on the proposal for setting up a dedicated Task Force on waste statistics.

⁸ <https://www.unece.org/stats/cesbureau.html>

In addition, The Consultant checked the group “Environment in the EU’s Eastern Neighbours”, which includes a page⁹ for each on-going regional environmental project funded by the EU. None of the ongoing projects is directly relevant for the Project.

The Consultant did not participate in the 2nd Project Steering Committee (PSC) meeting that was organised for the SEIS II project by the EEA in Minsk on 12-13 December 2017. However, the Consultant prepared a PowerPoint presentation on the Project, which was delivered by the EEA. The presentation presented an outline of the draft Waste Statistics Guidance that the Consultant had produced, and invited the participants to send their comments directly to the Consultant before 20 December 2017. However, no comments were submitted.

1.6 Institutional responsibilities in the EaP countries

The Consult prepared a tabular overview of responsibilities for waste policy and statistics in the 6 countries. There are 3 types of organisations:

1. Responsible organisations: organisations that are responsible for statistical and/or administrative surveys.
2. Supporting organisations: organisations which are not responsible for surveys, but which play a supportive role (in some countries for example, the Ministry responsible for Environment is not responsible, but supports the national statistical office in the collection of data from the reporting units).
3. Data users: organisations which are merely using the data (and that are thus not involved in the collection and processing of the waste data).

It is indicated between brackets who are the ENI SEIS II East National Focal Points for both Statistics and Environment.

The 19 officials whose name is underlined, have participated in the 2nd Regional Workshop on Waste Statistics, which was held in Kiev on 11-12 October 2019.

The officials that were met during the country missions are listed at the bottom of the Country Factsheets. Some of the officials are obviously included in this table, however not all. The officials included in this table are the main project contacts.

This tabular overview of waste statistics responsibilities is attached as Annex 1 to this Report.

⁹ <http://capacity4dev.ec.europa.eu/env-east>

2. Project Tasks

2.1 Overview

The following table provides an overview of the Project Tasks, with for each Task the outputs.

The outputs are the tools and the deliverables that have been prepared by the Consultant. The tools supported the preparation of the deliverables, which are the outputs that must be submitted to Eurostat for approval.

The first task supports the other five tasks, which all aim to build the capacity of the countries.

Tasks	Outputs
1. Review of the existing situation	Tools: <ul style="list-style-type: none"> ▪ Country Fact Sheet (CFS) check-list ▪ Country Fact Sheet template (based on the CFS check-list) Deliverable: draft Country Fact Sheets (CFS)
2. TA Desk	Deliverable: Overview of country requests and Consultant replies
3. Pilot Data Sharing exercise	Tools: <ul style="list-style-type: none"> ▪ Extended UNSD Questionnaire ▪ Validation Methodology (included in the Data Validation Report) Deliverable: <ul style="list-style-type: none"> ▪ 5 Country Data Validation Reports ▪ Regional Data Validation Report
4. Country visits	Deliverable: CFS
5. Waste Statistics Guidance	Deliverable: Waste Statistics Guidance, including a waste management glossary and a method for the estimation of un-collected waste.
6. Two regional workshops	Deliverables: <ul style="list-style-type: none"> ▪ Agenda ▪ PowerPoint presentations ▪ Workshop Reports

The Consultant's approach can be summarized as follows:

- The review of the existing situation (Task 1) was completed for each country prior to visiting that country. The final reporting was done after the Pilot Data Sharing Exercise (Task 3) and the Country Visits (Task 4), as both Tasks have also provided information for the review (which has resulted in final Country Factsheets for each country).
- The TA Desk (Task 2) has been an ongoing Task, which ran throughout the Project.
- The validation of the UNSD questionnaires, as part of the Pilot Data Sharing Exercise (Task 3), was completed prior to visiting the countries, as one of the aims of the visits was to build capacity by discussing the results of the validation with the countries.
- The Country Visits (Task 4) were planned after a draft review of the existing situation in the countries and after validation of the data submitted with the UNSD

Questionnaire. During the country visits, further information for the review was collected from officials during meetings and the results of the Pilot Data Sharing Exercise were discussed, on the basis of countries' answers to the Consultants request for clarification on the completed and submitted UNSD Questionnaires.

- The Waste Statistics Guidance (Task 5) covers 2 issues which were identified as priority issues during the country visits and the workshops, i.e. the estimation of the amounts of waste generated in areas not covered by a regular waste collection and the definition of waste treatment term.

Given that the personal contact with country officials was limited to 2 workshops and a short country visit, training and other support activities could under the Project not be delivered to individual countries. However, the Consultant has identified potential support activities, including training, that could be delivered under the ENI SEIS II project, implemented by the EEA and/or under a possible follow-up project. An overview of potential support activities is included in Chapter 3 of this Report.

Each one of the Tasks is described in more detail in the following sections. All Tasks have been completed.

2.2 Task 1: Review of the existing situation

2.2.1 Objective

The objectives of this task are to provide the understanding needed to allow the Consultant to achieve the Project's objectives and more in particular to allow the Consultant to identify for each of the six EaP countries:

- The priority data quality issues.
- The priority measures that could be undertaken by the countries to improve data quality.
- The targeted support that could be given.

Targeted support was given during the project by the Consultant, more in particular during the country visits and the 2nd Regional Workshop, through the TA Desk and the development of Waste Statistics Guidance.

Targeted support could also be given under the ongoing ENI SEIS II project and/or under a potential future EU- funded programme, for which the Consultant has identified potential support activities, which are included in Chapter 3 of this of this Report.

A full and detailed analysis of the current waste statistics situation in each of the EaP countries was not possible within the time frame of the Project.

2.2.2 Approach

The Consultant reviewed the current waste statistics situation in the six EaP countries and reported on the review in Country Fact Sheets (CFS). The ToR refers to both “short fact-based country fiches” and “fact sheets”. However, the Consultant has integrated both documents into CFSs.

The Consultant has prepared a comprehensive CFS check-list, listing all the relevant issues that should be considered when describing the existing situation in a country. The check-list has been used as follows:

- Based on the CFS check-list, the Consultant has prepared a template for the CFS, which includes a selection of priority issues from the CFS check-list.
- The CFS check-list was used during the country visits for the collection of information and identification of the main gaps and needs, as required for the completion of the CFS.

The CFSs provide an overview of the current situation of waste statistics, by briefly describing the following:

- Roles and responsibilities: Who does what to produce statistics? Who is using the information?
- Methodologies for data collection, validation and compilation. Important issues include:
 - the methodologies that are applied by the countries to assess waste generation in areas not covered by a municipal waste collection system.
 - how to count for the quantities recycled by the informal sector, which often remove basic recyclable wastes at the point of general waste collection.
- Key gaps and opportunities for improvement.
- Potential priority activities, to close the gaps, to be undertaken by the countries and/or under the SEIS II project and/or a potential future EU funded support programme.

The draft CFSs were submitted to the countries for comments following the country visits, with the request to provide additional information or to confirm information that was supplied during the country visits. All countries have sent comments and/or additional information, which have allowed the Consultant to finalise the CFSs.

The following activities have been undertaken by the Consultant to complete this Task:

Activity	Status
Preparation of a CFS check-list	Done
Development of a Country Fact Sheet (CFS) template (based on the CFS check-list)	Done
Desk review of relevant documents (see the table below).	Done
Preparation of a Data Validation Report (documenting the validation of the UNSD questionnaires).	Done
Preparation of draft CFS.	Done
Discussion on the draft CFS during the country visits	Done
Submission of the draft CFS for comments to the countries and to Eurostat.	Done
Comments from the country on the draft CFS	Done
Finalisation of the CFS, once the comments of the countries have been received.	Done

The CFSs have been completed mainly on the basis of a review of:

- The documents, listed in the table below.
- Information resulting from the validation of the UNSD questionnaires.
- Information provided by the countries, during the country visits and following their review of the draft CFS.

Relevant documents for the Country Fact Sheets		
Source	Document	Relevance
ENPI SEIS	<i>ENPI-SEIS East Region Synthesis Report - Building a Shared Environmental Information System (SEIS) with the Eastern Neighbourhood - Outcome of cooperation, 2010–2014</i>	High
	<i>ENPI-SEIS- How existing municipal solid waste data in ENPI East countries can be used for the development of waste indicators, 30 April 2014.</i>	High
	<i>ENPI-SEIS Country Reports (2011, 2012), engaging the countries in reflecting on the current state-of-play and future development needs of the three SEIS components - cooperation, content and infrastructure (prepared by the NFPs, with the support of the ENPI-SEIS FW Contractors (Environment Agency Austria and Zoi Environmental Network).</i>	High
	<i>EU, EEA (2014) Armenia Country Report – Towards a SEIS in the European Neighbourhood; ENPI-SEIS implementation of priority data flows, February 2014, Yerevan, Armenia.</i>	High
	<i>EU, EEA (2014) Azerbaijan Country Report – Towards a SEIS in the European Neighbourhood; ENPI-SEIS implementation of priority data flows, May 2014, Baku, Azerbaijan.</i>	High
	<i>EU, EEA (2014) Belarus Country Report - Towards a SEIS in the European Neighbourhood; ENPI-SEIS Implementation of priority data flows, March 2014, Minsk, Belarus.</i>	High
	<i>EU, EEA (2013) Georgia Country Report – Towards a SEIS in the European Neighbourhood; ENPI-SEIS implementation of priority data flows, December 2013, Tbilisi, Georgia.</i>	High
	<i>EU, EEA (2014) Republic of Moldova Country Report – Towards a SEIS in the European Neighbourhood; ENPI-SEIS implementation of priority data flows, May 2014, Chisinau, Moldova.</i>	High
	<i>EU, EEA (2013) Ukraine Country Report – Towards a SEIS in the European Neighbourhood; ENPI-SEIS implementation of priority data flows, December 2013, Kyiv, Ukraine</i>	High
	<i>Towards a SEIS in the European Neighbourhood, final report, 29 May 2015</i>	Medium
	<i>UNECE country profiles (2010)</i>	Low
	<i>Progress in the production and sharing of core environmental indicators in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia, March 2015 (prepared by UNECE within the ENPI-SEIS project.</i>	Medium
European Commission	<i>Technical Report 2, Waste Classification Approach for ENPI East Countries, ENPI East Waste Governance Project, Kiev, December 2010.</i>	Medium
Eurostat	<i>Global Assessments of the overall state of development of statistical systems, which have been prepared for all 6 EaP countries: Belarus (2013); Georgia (2013); Moldova (2013); Ukraine (2012, 2017); Azerbaijan (2011) and Armenia (2009).</i>	High
UNECE	<i>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.</i>	High
	<i>3rd Environmental Performance Review of Belarus, 2016 (+ “Synopsis” and “Highlights”)</i>	Medium
	<i>3rd Environmental Performance Review of Georgia, 2016 (+ “Synopsis” and “Highlights”)</i>	Medium
	<i>3rd Environmental Performance Review of Moldova, 2014 (+ “Synopsis”)</i>	Medium

Relevant documents for the Country Fact Sheets		
Source	Document	Relevance
	2nd Environmental Performance Review of Azerbaijan, 2011 (+ “Synopsis”)	Medium
	1st Environmental Performance Review of Armenia, 2000	0
	2nd Environmental Performance Review of Ukraine, 2007	0
	<i>Problems with waste statistics and a proposal for action</i> , note by UNECE and the Netherlands, for the Bureau of the Conference of European Statisticians (CES) at the request of the JTF on Environmental Statistics and Indicators. (October 2016).	Low

2.2.3 Outputs

Tools: The Consultant has prepared the following tools:

- Country Fact Sheet (CFS) check-list, which is attached as Annex 2 to this Report.
- Country Fact Sheet template.

Deliverables: The Consultant has prepared a Country Fact Sheet for each of the 6 EaP countries. These Country Factsheets are attached as Annex 3 to this Report.

2.3 Task 2: Technical Assistance Desk

2.3.1 Objectives

The objectives of this task are the following:

- To build capacity by providing targeted support to the EaP countries on an ongoing basis, in response to country requests.
- To enhance the Consultant’s understanding of the issues in and the needs of the countries, which will help to tailor the Waste Statistics Guidance and the 2nd Regional Workshop.

The focus is on offering clarification and guidance on the practices followed by Eurostat and in the EU Member States.

This Task was not provided for by the ToR, but the Consultant considered that some EaP countries would welcome the opportunity provided by a TA Desk.

2.3.2 Approach

The TA Desk is managed by the Project TL, who receives the requests from the countries and coordinates the replies from the relevant experts.

The TA Desk functions in principle as follows:

- The Project TL has informed the National Focal Points of the opportunity provided by the TA Desk, and has confirmed this in several e-mails to the national waste contacts.
- The national waste contact e-mails requests for support to the Project TL.

- The TL will evaluate if the request can be addressed, and if yes, by whom.
- If the request falls within the scope of the Project, the TL transfers the request to the relevant expert: the Project TL, the Project KE, Eurostat or EEA officials.
- The Project TL informs the national waste contact by when he/she can expect a reply from whom.
- The relevant expert replies to the national waste contact, copying the Project TL on his reply.

There is no report available that summarises “EU member states practice(s)” that could be used for the Project’s purposes. For addressing the requests the Consultant primarily used available Eurostat guidance documents, listed in this Progress Report.

2.3.3 Outputs

Deliverable: The Consultant has received only one request for support (outside the specific questions, raised during the country missions), and that was from Georgia, which has asked to comment in September 2017 detail on the draft concepts for their Waste Management Information System which is currently under development.

2.4 Task 3: Pilot data sharing exercise

2.4.1 Objectives

The objectives of this task are the following:

1. To collect waste data through the UNSD questionnaire, such that the Consultant can meet the other two objectives.
2. To build capacity by identifying and discussing the key issues in the countries with respect to data quality.
3. To support the identification of priorities for country support.

The objective of the UNSD is to collect waste data for publication on its website. The Consultant and the UNSD have therefore different objectives. Nevertheless, the Consultant that the UNSD has also benefitted from the exercise, given that:

- The quality of the data reported in the UNSD/UNEP questionnaire 2016 are better than usual, due to the two sets of requests for clarification on the completed questionnaire, that the Consultant has submitted to the countries, as part of its validation. All countries have submitted 2 or 3 revised versions of the questionnaire, following the two sets of requests for clarification.
- It can be expected that the quality of the data that will be reported to the UNSD in the future, will improve following targeted support given under the Project, and in particular following the requests for clarification that have been submitted by the Consultant under the pilot data sharing exercise.

The Consultant has shared the Country Data Validation Reports with the UNSD and proposes to also share the Regional Data Validation Report, once it will have been approved by Eurostat.

2.4.2 Approach

The pilot data sharing exercise used the UNSD questionnaire as the format for data delivery, as agreed at the first Regional Workshop (RWS) in Georgia. The Consultant made suggestions on how to adjust the questionnaire for the purpose of the project and UNSD has agreed to the suggested adjustments.

The countries were asked to return the completed questionnaires by 30 November 2016. Only Moldova submitted the completed questionnaire on time. The other countries submitted at their completed questionnaires at a later date, as follows:

- Azerbaijan: 15/12/2016
- Ukraine: 23/01/2017
- Armenia: 01/02/2017
- Belarus: 15/02/2017
- Georgia: 23/03/2017

Following the submission of the first version of the completed questionnaires, the Consultant has validated the data, which has resulted in 2 rounds of requests for clarification, as detailed below. This has made that the final versions of the questionnaires have only been received in the period September-October 2017.

The following activities were undertaken by the Consultant under this Task:

Activity	Status
Extension of the UNDS questionnaire, with waste specific sections.	Done
Compilation of a list of relevant country officials, to whom the questionnaire should be sent, from the lists provided by UNSD and EEA	Done
Sending the UNSD questionnaire to the list of country officials, with a covering letter explaining the background, the objectives of the pilot data sharing exercise and due-date for submission of completed questionnaires.	Done on 25/10/2016
Submission of the completed questionnaires to the Consultant by 30 November.	Done
Translation in Russian of the received questionnaires	Done
Contacting the national contacts of the countries that have not yet submitted the questionnaire	Done
Preparation of a validation methodology	Done
Detailed review of the completed questionnaires.	Done
Submission of a 1 st set of requests for clarification to the countries.	Done
Review of the received clarifications from the countries	Done
Preparation of a draft Country Validation Report for 5 countries, i.e. all countries, except Georgia.	
Discussion of the validation results during the country visits, on the basis of the clarification requests and the countries' answers to the requests.	Done
Submission of a 2 nd set of requests for clarification	Done
Submission of the draft country Data Validation Report to the countries for review	Done

Activity	Status
Finalisation of the country Data Validation Reports, after reception of comments from the countries	Done
Preparation of a Regional Data Validation Report	Done

The Consultant has prepared and described a validation methodology to assess the quality of reported, i.e. to detect data inconsistencies and to identify methodological shortcomings. The validation methodology considers the approaches applied by Eurostat for the validation of the municipal waste data and of the data collected under the Waste Statistics Regulation (WStatR).

Relevant Eurostat documents for data validation	
Document	Relevance
Waste Statistics 2012 in depth validation-Tests and outputs description, ICEDD, 2014	High
Validation of waste statistics – Proposed rules, version 9 April 2014	High
Validation approach for waste statistics, Doc. WASTE WG 3.2, 2013	Medium

The Consultant has reviewed all completed UNSD questionnaires, applying the validation methodology. The review started in February 2017 when all completed UNSD questionnaires (except the questionnaire from Georgia) were received, as it was more efficient to review them all together.

Data validation included:

- Check for completeness and internal coherence of the delivered data.
- Checks for data plausibility, e.g. by relating the waste data to population and by comparing the data across countries.
- Analysis of the time series for the different waste flows and sectors.
- Assessment of the methodological information provided in the questionnaire (in sheets R6 and R7).

Upon having reviewed the completed questionnaires and before finalising the Data Validation Report, the Consultant has contacted all countries in writing, with detailed requests for clarification of the completed questionnaires. All countries have replied positively and have submitted the requested clarifications. The Consultant has reviewed the provided clarifications, and has sent further requests for clarification.

These 2 rounds of requests for clarification are an important part of the capacity building effort, as they are sparking a discussion in the countries on the data (quality) and as they are bringing the countries to revise and to resubmit the questionnaires that they had originally submitted. In fact, all countries but Belarus, submitted a revised UNSD questionnaire, with their first set of clarifications. Subsequently, all countries have also submitted a 3rd version of their completed UNSD questionnaire, with their second set of clarifications.

The pilot data sharing exercise has thus not only built capacity, but also resulted in a concrete improvement of the quality of the reported data for this reporting period.

The Consultant has prepared a separate Data Validation Report for all EaP countries, with the exception of Georgia, that specifies the observations with regard to the completeness, coherence and comparability of the data and draws conclusions on the quality of the reported data and on areas for improvement. A Country Data Validation Report has not been prepared for Georgia, as the country does not yet have a waste data reporting system.

The Consultant discussed the validation results with the countries, during the country visits, and has submitted the 5 draft Country Data Validation Reports for review to the countries. After having received the comments from the countries, the Country Data Validation Reports were finalised.

The Country Data Validation Reports, which identify data quality issues, complement the County Fact Sheets, which summarise the main data quality issues and which recommend measures to address these issues.

The Consultant has summarized the country Data Validation Reports in a Regional Data Validation Report. This Regional Data Validation Report includes a cross-country comparison and a tabular summary overview of the data delivered. The box below shows the structure of the Regional Data Validation Report.

Data Validation Report: Structure	
1.	Validation approach (as applied, and as improved following application)
2.	A regional chapter, with: <ol style="list-style-type: none"> a. A comparative tabular presentation of the validated country waste data b. Common key findings and issues c. Conclusions and recommendations for improvement: comparability of data, on which and how statistical issues should be addressed; what support and guidance could be provided.

The Consultant has presented a summary of the results of the Data Sharing Exercise at the 2nd Regional Workshop in Kiev.

2.4.3 Outputs

Tools: The Consultant has prepared the following tools:

- Extended UNSD questionnaire
- Data Validation methodology (included in the Country Data Validation Reports).

Deliverables: The Consultant has prepared:

- Five Country Data Validation Reports, all of which are attached as Annex 4 to this Report.
- A Regional Data Validation Report, which is attached as Annex 5 to this Report.

2.5 Task 4: Country visits

2.5.1 Objectives

The objectives of the country visits are:

- To build the basis for ongoing cooperation between the EU and the countries, that lasts beyond the Project.
- To enhance the Consultant’s understanding of the waste statistics situation, in particular to identify the main data quality issues and measures that could be taken to address the issues, under the SEIS II East project and/or under a potential, future EU-funded programme on waste statistics.
- To build capacity by providing targeted technical assistance during the mission, by discussing:
 - The requests for clarification, regarding the completed UNSD/UNEP questionnaire on waste, that the project experts have submitted to the country.
 - Any questions that the country stakeholders may have on good EU/international waste statistics practices.

2.5.2 Approach

The following activities were undertaken by the Consultant to complete this Task:

Activity	Status
Preparation	
Contacting the national contacts to discuss and to agree on the Mission Brief	Done
Preparation of draft CFS (see Task 1)	Done
Preparation of the Data Validation Report (see Task 3)	Done
Country visit	
Meetings with relevant officials	Done
Follow-up	
Preparation of final draft Country Factsheet, including the names of the officials met during the country visits.	Done
Submission of the final draft Country Factsheets to the countries for comments.	Done
Finalisation of the Country Factsheets.	Done

- **Preparation:** The country visits were prepared in close cooperation with the national contacts, who were asked prior to each visit, to submit the meeting schedule to the Consultant. To support the national contacts in the preparation of the visit, the Consultant sent a Mission Brief, that detailed the objectives and the issues for discussion, and that dealt with practical issues such as interpretation. An example of such a Mission Brief is attached as Annex 6 to this Final Report.
- **Planning:** The country visits were undertaken in the period April-July 2017, following the preparation of the draft CFs and the country Data Validation Reports.

The following table shows the planning of the country visits (excluding travel time), by listing the dates on which meetings were held in each of the countries:

Country	Meetings in 2017
Ukraine	24-25 April
Belarus	27-28 April
Moldova	22-23 May
Armenia	10-11 July.
Georgia	13-14 July
Azerbaijan	18-19 July

For one of the countries, i.e. Ukraine, a preliminary meeting was held, in Kiev, with the State Statistics Service on Friday, 16 December.

- Country organisations: Generally, the Consultant took the advice of the national waste statistics contact as to who had to be met during the mission, to meet its objectives. The primary aim was to meet with all organisations that are involved in the development of waste statistics, and of municipal waste statistics in particular. However, the Consultant also suggested meeting with the (potential) users of the waste statistics, such as the waste management authorities that are using the statistics to underpin the development, implementation and monitoring of waste management policies.
- During the meetings, the Consultant focused on improving his understanding of the waste statistical system, the data quality issues and the potential measures to address the issues. The discussions aimed more particular at closing the gaps in the draft Country Fact Sheets and at addressing the outstanding requests for clarification related to the UNSD questionnaire.

The national contacts were requested to identify good interpreters, of which the Consultant has covered the cost.

- The Consultant did not prepare separate country visit reports, but has incorporated the results of the discussions and the list of officials met, in the draft Country Factsheets. Following the country visits, the draft Country Factsheets have been submitted for comments to the countries, which were requested to submit their comments by 15 September 2017. Once the comments were received, the Consultant has finalized the Country Factsheets.

2.5.3 Outputs

Tools: a Mission Brief, discussed with the countries prior to the visits, an example of which is attached as Annex 6 to this Report.

Deliverables: The Consultant has prepared Country Fact Sheets, which are attached to this Final Report as Annex 3.

2.6 Waste Statistics Guidance

2.6.1 Objectives

The objective of this task is to provide guidance on the collection and validation of data, the production of waste statistics, with a focus on MW.

2.6.2 Approach - general

The ToR prescribes to translate selected guidance documents which are available for EU Member States and suitable for training and technical support into Russian.

However, the Consultant believes that a mere translation of a set of voluminous documents will not be effective. The Consultant has therefore identified two key issues that have been qualified by the 6 EaP countries during the country missions and during the 2nd Regional Workshop as priority issues for guidance:

- The estimation of uncollected MW, i.e. of waste that is not covered by a regular MW collection system
- The definition of waste treatment terms.

At the final project meeting on 19 January 2018, it was agreed that in particular the Waste Management Glossary should not be translated in Russian and this for the following reasons:

- Countries will want to translate the glossary into their national language, which they better do from the original English version;
- An increasing number of officials in the countries understand English.

The Consultant prepared a draft method and a draft waste management glossary, which were discussed and agreed with Eurostat, and subsequently submitted to the Countries for comments on 22 January 2018, with the request to submit comments by 9 February at the latest, on the following aspects:

Estimation Method:

- Clarity: is the method clear or should further guidance be added ?
- Effectiveness: Generally, can the method achieve its objectives or should certain aspects of the methods be improved?
- Applicability in the EaP countries: More specifically, can the method be applied in the 6 EaP countries, or should certain aspects of the method be tailored to the situation in the countries?

Waste Management Glossary:

- Scope: are there any key terms missing that are currently not commonly understood and lead to misunderstandings?
- Clarity: are all definitions clear?

The following 4 countries commented that they found the method most useful: Moldova, Belarus, Armenia and Georgia. Ukraine and Azerbaijan did not submit any comments.

2.6.3 Development of a methodology for the estimation of generated and uncollected MW: approach

Background

- The annual data collection of Eurostat on municipal waste covers the EU Member States, the EFTA countries and some further countries.
- This data collection asks for the amount of ‘municipal waste (MW) generated’ which comprises the amount of ‘MW collected’ plus the ‘MW from areas not served by a municipal waste collection service’ (referred to as “uncollected waste” in the following)
- Eurostat thus asks the countries to produce an estimate on the ‘uncollected waste’ and to add this estimate to the collected amount.

Objective

The objective of the document is to give guidance on how to produce an estimate on the ‘MW from areas not served by a municipal waste collection service’

This document does not provide one standard approach but describes and discusses different options. The countries will be able to select the option that suits best their country specific context.

Approach

Relevant variables

The estimate of the uncollected waste consists of two variables:

- The population, i.e. the number of inhabitants, that is not covered by a municipal collection service;
- The average amount of waste generated per inhabitant.

Both variables have to be accurately determined in order to achieve a relatively reliable estimate. Therefore, their determination is discussed in the following two separate chapters.

The coverage of the MW collection system

This chapter lists the possible sources for the information on the collection coverage and discusses their pros and cons.

Possible information sources include:

- Municipalities, i.e. municipal service departments or companies. They will either collect the waste themselves or contract a private company to collect upon its behalf. In principle, they should thus have the information on collection coverage. This is the most direct, and therefore, the preferred source as municipalities are legally responsible for MW collection and management in all EaP countries.
- Private waste collection companies, which collect upon behalf of municipalities

- Household surveys, which ask households about the services that they are supplied with.

The generation of uncollected waste

This chapter describes different options how to determine the average generation of waste per inhabitant, with a focus on waste generation in rural areas.

It distinguishes between the development of:

- waste generation rates determined on the basis of the regular MW data collection survey, and in more in particular on actual information on the amounts of waste collected in rural areas;
- waste generation rates determined on the basis of waste characterization studies;

References

The list of references includes:

- The reports and documents reviewed for the preparation of this guidance document;
- Supplementing literature on the detailed description of methods for waste characterization studies. Waste characterisation studies are usually carried out to produce information on the amounts and composition of municipal waste as a basis for the preparation of waste management plans. The methodological framework of such studies is too complex to be described in detail in this guidance document.

2.6.4 Preparation of a waste glossary

Objective

The specific objective of the Waste Glossary is to enable a common understanding of the waste management terms that are essential to produce comparable waste statistics, in line with the provisions of the Waste Statistics Regulation.

Currently, a common understanding is lacking in particular of the terms for the different types of waste management operations. The glossary thus focusses on these terms, but also contains definitions of waste.

Content

The Waste Glossary defines a selection of key waste management terms. The main terms that are defined, are for waste treatment operations, as these are often not commonly understood and leading to misunderstandings.

The Glossary contains legal definitions, provided for by EU Directives or draft Directives.

The definitions are complemented by clarifications where needed, to ensure that the definition is understood. The clarifications come mainly from the following three documents:

- *Guidelines on the interpretation of key provisions of Directive 2008/98/EC on waste*, European Commission, DG Environment, June 2012 (WFD Guidance).
- *Manual on waste statistics - A handbook for data collection on waste generation and treatment*, Eurostat, 2013. (Waste Statistics Manual).
- *Guidance on municipal waste data collection*, Eurostat, 2017.

As part of the clarification, a table is included, that lists all the R& D codes of the WFD, with for each code examples of common operations that are covered by the Code.

The following table lists the terms that are included in the glossary:

Waste streams	Treatment operations	Responsible persons
<ul style="list-style-type: none"> ▪ Waste ▪ By-product ▪ Hazardous waste ▪ Non-hazardous waste ▪ Municipal waste ▪ Bio-waste 	<ul style="list-style-type: none"> ▪ Waste hierarchy ▪ Re-use ▪ Waste management ▪ Waste storage ▪ Collection and Separate collection ▪ Preparation prior to recovery or disposal ▪ Treatment <ul style="list-style-type: none"> – Recovery <ul style="list-style-type: none"> ▪ Preparing for re-use ▪ Recycling ▪ Organic recycling ▪ Other recovery: <ul style="list-style-type: none"> • Incineration with efficient energy generation • Processing of fuels • Backfilling – Disposal <ul style="list-style-type: none"> ▪ Incineration ▪ Landfill 	<ul style="list-style-type: none"> ▪ Waste producer ▪ Waste holder ▪ Dealer ▪ Broker

2.6.5 Outputs

Deliverables: a Waste Statistics Guidance document in English, with two components:

- A waste management glossary, which is attached to this Report as Annex 7
- Guidance on the estimation of un-collected waste, which is attached to this Report as Annex 8.

2.7 Two Regional Workshops

2.7.1 First Regional Workshop

Objectives

The 1st Regional Workshop had the following objectives:

- to ensure a common understanding of the project objectives, the project activities and the schedule.
- to provide technical input (training material) in form of presentations
- to take stock of the countries' needs as a basis for the development of targeted support during the country visits;
- to provide for a clear understanding of the data sharing exercise to be carried out (i.e. the parameters to be reported, the standardised reporting formats, etc.).

Approach

The workshop was organised in Chakvi, Georgia on 6-7 June 2016.

The Consultant delivered PowerPoint presentations on the following topics:

1 st RWS: PPT topics
1. Waste Studies
2. Review of methodologies for data production
3. SEIS East project: overview of activities
4. SEIS East project: outlook of activities
5. Waste statistics in the EU with focus on municipal waste statistics
6. Nomenclature of waste
7. Main findings
8. Pilot Data Sharing Exercise
9. Coverage of municipal waste collection
10. Expert's conclusions of the workshop
11. Conversion factors for determining the amounts of waste collected

All countries delivered a presentation on waste statistics, with the exception of Georgia, which presented an overview of waste management legislation in their country which provides the basis for their future waste information system.

The Consultant translated all his presentations in Russian and e-mailed them to all participants, in both Russian and English. Similarly, the Consultant translated all country presentations in English.

Outputs

The Consultant has delivered the following:

- 1st Regional Workshop
- Minutes of the 1st Regional Workshop, including the conclusions of the workshop.
- 11 PowerPoint presentations in English and in Russian.

2.7.2 Second Regional Workshop

Objective

The second Regional Workshop had the following objectives are:

- To build capacity by presenting and discussing the lessons learned and the areas of improvement for all six EaP countries.
- To discuss the outline of the Waste Statistics Guidance, with the main topics that will be covered.
- To discuss recommendations for a potential EU-funded programme on waste statistics.

Approach

The workshop was organised in Kiev, on 11-12 October 2017.

The RWS was led by the Consultant, more particularly by the Team Leader.

The PowerPoint presentations that the Consultant delivered were primarily based on the Country Fact Sheets and the Validation Report. In addition, the Consultant prepared a review of international activities in waste statistics. The final PowerPoint presentation summarized the potential support activities that were identified during the Workshop.

The Consultant delivered PowerPoint presentations on the following topics:

2 nd RWS: PPT topics	
1.	Project presentation: progress and way-forward
2.	Review of international activities in waste statistics
3.	Country Factsheets: Overview of data collection approaches in EaP-countries and key quality issues
4.	Data sharing exercise: Data validation and key observations
5.	Workshop conclusions: Priorities for country support

In addition the following PowerPoint presentations were delivered:

1. General aspects of quality reporting, by Karin Blumenthal, Eurostat
2. EEA cooperation with the Eastern Partnership countries on Shared Environmental Information System (SEIS) – ENI SEIS II East project, by Galina Georgieva, European Environment Agency
3. Waste Data Base, by Irma Gurguliani, Deputy Head, Waste and Chemicals Management Service, Ministry of Environment and Natural Resources Protection of Georgia

The Consultant translated all the presentations in Russian, with the exception of the presentations by the European Environment Agency and by the Ministry of Environment and Natural Resources Protection of Georgia.

The Consultant has e-mailed all PowerPoint presentations to all participants, in both Russian and English.

Outputs

The Consultant has delivered the following:

- 2nd Regional Workshop
- A Workshop Report, which has been submitted to Eurostat on 31 October 2017.
- 5 PowerPoint presentations in English and in Russian, which have been submitted to Eurostat in English and in Russian on 25 October 2017.

3. Key conclusions and recommendations

3.1 Conclusions

Key conclusions from the review of the existing situation in the countries (as reflected by the Country Fact Sheets) and from the Pilot Data Sharing Exercise include:

Existing practices do not allow to achieve the following objectives of statistics:

- Production of high-quality data.
- The production of harmonised waste statistics, that are comparable across the EaP countries, and across EU and EaP countries.
- The production of efficient and effective (fit for purpose) waste statistics. Development of a vision on fit for purpose, relevant statistics requires that the key policy questions to which the waste indicators should provide quantitative answers are defined. An example of a key policy question relates to prevention: Is the country reducing the generation of municipal waste?

To understand why the existing practices do not allow achieving the objectives of statistics, the Country Fact Sheets and the Data Validation Reports should be reviewed. Some of the main barriers to achieving the objectives are:

- Lack of an international framework for waste statistics.
- Definitions used are not aligned and do not fully comply with the EU.
- Limited scope of the statistics (e.g. the process of waste management is not fully covered; only regulated waste is covered).
- Incomplete coverage of reporting units (low-response rates) and lack of established approaches for imputation and extrapolation
- Several waste flows which are difficult to measure, are sometimes included, sometimes excluded in the total figures (e.g. hazardous household waste)
- Lack of nationally and regionally agreed volume-to-weight conversion factors.
- Lack of harmonised and well-established classifications for waste and for treatment operations
- Lack of resources within the national statistical offices, including a shortage of staff
- Insufficient understanding of EU concepts in the area of waste management and waste statistics
- Lack of waste related knowledge, in particular among the staff of statistical institutions.

3.2 Recommendations

The Project's recommendations are formulated as recommendations for follow-up activities.

The following should be considered when defining follow-up activities:

- Follow-up activities must build upon country reviews and results of the SEIS II-East-waste project (“the project”), aim at harmonisation with EU standards and focus on the key issues that have been identified during the project.
- The needs for support and the support activities may differ per country. The support must be demand driven. Country specific ToRs (with objectives, activities & topics and outputs) must be discussed and agreed with each individual country before any support activity is initiated.

The following sections briefly describe the various types of support activities, with for each the potential topics that could be covered by the activity.

The recommended order in which the activities could be undertaken: First the short-term missions, during which targeted TA can be provided and the need for training of a larger group of officials than that involved in the mission, can be defined and the training can be organised. The knowledge and expertise that has been transferred through the missions and the trainings, can be incorporated in guidance, and presented and discussed at a regional workshop, after which the guidance can be finalised.

3.2.1. Short-term missions

Target audience: Key staff of the national statistical offices, as identified during the project.

Potential topics:

- Detailed review of existing survey approaches in the country and development of targeted recommendations, in particular regarding:
 - Definitions: The definitions used in the different countries are not aligned and do not fully comply with the EU. Better alignment, and the resulting harmonised definitions, is a prerequisite for better comparison and sharing across the wider European region.
 - Waste classifications:
 - While there is a high policy interest in statistics on waste recycling, the boundary between waste and product in statistics is often not clear (e.g. when does waste become raw material).
 - Some countries have started using the EU classifications, but use and understand them differently. Proper application of the classifications by both the statistical offices and the reporting units would require guidance, which is currently lacking.
 - Scope of statistics: If a problem is not properly defined, it will not be, properly, managed. The extent of the problem is not clearly defined in all countries, as

the scope of official waste statistics is restricted to regulated waste streams (which are relatively simple to measure via surveys and administrative data). Waste statistics exclude data on informal management, which is important in the EaP countries.

- Identification of and communication with reporting units, including approaches to developing a comprehensive register of reporting units and to increasing response rates, such as effective communication of the reporting obligation or provision of support of reporting units (e.g. help-desk; guidance material)
 - Collection of data from problematic sectors (in terms of data provision), such as the construction and demolition and the agricultural sector. In several countries, non-responses are a problem in all economic sectors, but the number of non-responding companies is in some particularly high in the construction and demolition sector.
 - Reporting formats, which should meet standard quality criteria.
- Development of a methodology for the preparation and application of volume-to-weight conversion factors for municipal waste. Statistics in EaP countries often rely on the conversion from volume (m³) into mass (tonnes). Hence, the validity of the conversion factors for data accuracy is crucial.
 - Assistance to develop systems for online reporting, which are being considered in several of the countries.
 - The documentation of survey methodologies: Few countries have a document that fully describes the survey methodology (including among other the scope of a MW survey, the data parameters and the underlying definitions the responsibilities, the tasks of all institutions involved). Often countries wrongly consider the reporting instructions for the reporting units as the documentation of the methodology.
 - Detailed review and improvement of data validation, incl. development of a country validation plan, with clearly defined responsibilities at each level of the data collection process and a set of checks; establishment of a procedure for consequent follow-up of identified quality issues (non-responses; potential errors, etc.).
 - Quality reporting, including a template for a data quality report and guidance to completing the data quality report, to encourage self-assessment. In the EU, Member States send a quality report, together with their yearly statistics. They are also invited to comment on the consistency of the produced statistics with trade statistics, environment-economic accounting including national accounts, and the production of structural indicators. These endeavours contribute greatly to overall data quality.
 - Development of methodologies for the collection of data, which have been identified by the country as key for the policy makers, but which are currently missing, such as data on:
 - specific waste streams (e.g. household hazardous waste, waste electronic and electric equipment)

- specific waste management operations (in particular landfills/dumpsites). The information collected should not only allow to prepare an inventory, but also to conduct a risk analysis, allowing prioritising the dumpsites on which action should be taken. Besides developing the inventory, a statistical reporting system for keeping the inventory up-to-date could also be developed.
- The roles of the “producers” in the production of waste statistics. In EU countries, a range of waste streams is subjected to Extended Producer Responsibility (EPR). Under EPR schemes, “producers” have often information related responsibilities and must collect and process data to support their claim that they are meeting the legal collection and recycling targets. Policy makers in the countries should take the necessary steps to significantly increase the role of the “producers” in waste management. They should be made responsible for the collection, recovery and disposal of the waste that comes from the products that they put on the market, in line with EU legislation on batteries, end-of-life vehicles, packaging and packaging waste and waste electrical and electronic equipment. EPR related responsibilities would also include the production of statistics by the “producers” to proof that they meet their ERP obligations.
- Good waste management practices in the EU and the role of waste statistics in improving existing practices in the EaP countries.

Waste statistics should support:

- the development of an evidence-based waste policy and the monitoring of the implementation of the waste policy (however, most countries lack a municipal waste policy)
- market development in the waste sector, as investors will want to take investment decisions, based on reliable statistics. Investment promotion may require geo-referenced data.

Statistical offices generally state that the data meet the needs and requirements of the users. However, no evidence has been given for this statement. Waste statistics do not or only partly address the growing demand for waste information.

There is a lack of lack of consultation between the producers and users of waste statistics and thus not enough consideration as to whether the statistics meet the needs of the potential users.

The user’s needs should be identified in a systematic manner. A gap-analysis of existing statistics against policy and investor’s need must be conducted, to ensure that fit for purpose” waste statistics are produced.

- The process of waste management is not fully covered: information on important steps, and in particular on recycling, is missing. There is a need to define the waste management process, from generation of waste to its treatment or final disposal, and to provide the key statistics for each step. A better understanding of proper waste management and of the waste management process from generation to its recovery or

final disposal will support waste statisticians in their efforts to improve the quality of waste statistics.

3.2.2. National training

Target audience: Staff of statistical offices, at national and regional level & institutions that are involved in waste statistics (i.e. data collection or processing).

Potential topics:

- A selection of the topics covered during the short-term missions.
- Presentation of methodologies applied in EU Member States (good practice examples)

3.2.3. Guidance

Target audience: Staff of statistical offices

Potential topics: A selection of the topics covered by the short-term missions.

3.2.4. Regional Workshop

Target audience: Key staff of the national statistical offices, as identified during the Project

Potential topics:

- A selection of the topics covered during the short-term missions.
- Presentation of methodologies applied in EU Member States (good practice examples).
- Not all countries regularly produce the same indicators. A selection of waste indicators that should be minimally produced to align with EU standards and practices / link with the Sustainable Development Indicators and/or the Green Growth Indicators (GGIs) should be agreed with the countries.
- Identification of approaches and concrete actions to promote continued and enhanced cooperation between the countries. Generally, a regional approach is required. Due to the complexity of waste statistics and due to the need for comparability between countries and between the countries and the EU, the issues need to be addressed through cooperation between the countries. Also within the EU, the national statistical offices are cooperating with each other, under the management of Eurostat.

4. Dissemination

Making the results and deliverables of this Project available to the primary stakeholders and to the wider audience is essential for take-up, and take-up is crucial for the success of the Project and for the sustainability of outputs in the long term.

The primary stakeholders, who have a direct interest in the Project's outputs, are:

- the relevant country institutions, which are included in the overview that is included as Annex 1 to this Final Report.
- The European Commission Services, which may consider establishing follow-up activities, in line with the conclusions and recommendations, which are included in Chapter 3 of this Final Report.

The project has used the following methods to disseminate its results:

1. A PowerPoint presentation, which presents the Project and gives an overview of its outputs. The presentation allows all stakeholders to get an understanding of the Project in an efficient and effective manner. This PowerPoint presentation is attached as Annex 9 to this Final Report.
2. Regional Workshops: two regional workshops were organised as described in Section 2.7 of this Report.
3. Website: Eurostat has kindly created a page on the website of the project *ENI SEIS II East- Implementation of the Shared Environmental Information System (SEIS) principles and practices in the ENP East region*, dedicated to the thematic area of waste (<https://eni-seis.eionet.europa.eu/east/areas-of-work/data/waste>).

All Project Report and PowerPoint presentations, that were delivered at the 2nd Regional Project Workshop, will be posted on this webpage, to enhance the dissemination of the Project's results.

4. Sending e-mails: an e-mail with the link to the Project webpage will be sent directly to all stakeholders in the countries that have been involved in the Project.

5. Project Management

Please that sections of this Chapter that relate to the contractual relationship between the Consultant and Eurostat have been deleted to allow for public dissemination of this Final Report.

5.1. Project Management Team

Activities	description	Expert
Day-to-day management	To ensure smooth execution of the planned activities and maintain close dialogue with the relevant partners involved	<ul style="list-style-type: none"> ▪ Technical: Wim Van Breusegem, Team Leader (TL) ▪ Contractual: Arsène François, who replaced (on 16.06.2017) Nils van der Mersch as PM (Project Manager)
Project Steering	Up to 5 Project Meetings with the Project Management Group (PMG), which consists of: TL, Eurostat, DG Near and the EEA.	<ul style="list-style-type: none"> ▪ Eurostat: <ul style="list-style-type: none"> ○ Technical: Karin Blumenthal ○ Contractual: Claudia Junker (until 30.6.2017) James Whitworth (as of 1.7.2017) ▪ EEA: Galina Georgieva ▪ DG Near:
Strategic Steering	The TL has participated in the Project Steering Committee (PSC) meeting at regional level, and will participate in the 2 nd PSC meeting, if requested by Eurostat.	Wim Van Breusegem, Team Leader (TL)
National Steering	The main national contacts for waste statistics will be requested to ensure inter-institutional coordination and cooperation, will support the organisation of the country visits, and organize the commenting of relevant national stakeholders on selected project outputs.	The main national contacts for waste statistics, as confirmed by the countries.

5.2. Final Project Meeting

Participants in the final project meeting included:

- Eurostat: Karin Blumenthal, Veneta Boneva, Jolanta Szczerbinska, Michele Schivazappa
- Consultant: Wim Van Breusegem
- DG Near: Angela Bularga
- EEA: Galina Georgieva, Jasmina Bogdanovic

All comments received at the final project meeting have been appropriately incorporated in this final version of the Report.

The minutes of the final Project Meeting are included as Annex 10 to this Final Report.

Annexes (separate documents)

Annex 1: Overview of waste statistics responsibilities.

Annex 2: Country Factsheet Check-list

Annex3: Country Factsheets

Annex 5: Country Data Validation Reports

Annex 5: Regional Data Validation Report

Annex 6: Mission Brief

Annex 7: Waste Management Glossary

Annex 8: Guidance on the estimation of un-collected waste.

Annex 9: PowerPoint Project Presentation

Annex 10: Final Project Meeting: minutes